

Climate City Contract

2030 Climate Neutrality Action Plan

2030 Climate Neutrality Action Plan of Differdange





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1 Summary

This first iteration of our dynamic and living Action Plan, designed to grow over time is the product of an extensive consultation process with a wide range of stakeholders from within municipal government, as well as external partners. The city supported the drafting of it in collaboration with EVERARD Consulting & Communications.

The Action Plan is focused around 5 central components:

1. Preliminary estimates suggested that base emissions averaged 1,254,721 tons, mainly due to industrial processes, the municipal and citizens' base emissions average around 130,000 tons. Due to the sustainability goals of the city's stakeholders, an estimation of the gap of 20% of current emissions can be made. This leaves a gap of around 200,000 tons after offsetting emissions (say somewhere between 0% and ~20%) to account for reductions that are already in progress with current strategies, plus roughly 0–5 percent more.
2. Module B-1 provides a complete list of strategies to accomplish climate neutrality, shedding light on ways by which the emissions gap can be lessened. These strategies are expressed quantitatively in terms of the projected emissions impact of each action cluster and qualitatively through an articulation between interventions on a sequence from initial outcome to subsequent ones. These strategies compose basic action plan structure for Module B-2.
3. At its core, the Action Plan is a 152-action portfolio designed to dismantle systemic barriers and spur activity in alignment with strategies outlined in Module B-1. This first group of actions is expected to cut emissions by approximately 150,000 tons and could drive even more reductions as additional assessments are carried out. While these fell short of full climate neutrality — which is still the goal for all Amazon operations worldwide by 2040 under The Climate Pledge, there remains more to do through even further expansion. The portfolio also features 152 projects around exploring how to do this at scale along with an array of work.
4. 152 enabling actions that support the portfolio enable strategies to be implemented. Elaborated in Modules C-1 and 2; these actions are related, but aimed primarily at local collaboration within the city boundaries (institutional governance innovations) seeking to catalyze just transitions (social innovation), while internal municipal policy is identified as a critical entry point for them.
5. The Action Plan will be implemented through a structured portfolio management process and refined overtime as we learn more from our work and the world around us. A biennial update of the Action Plan with monitor, record and detail progress.

2 Introduction

Demographically, Differdange was strongly influenced by the waves of Italian and Portuguese migration, which contributed to its predominantly French-speaking character. Geographically, located in the Paris Basin, the city has a mining heritage, characterized by underground and open-pit mining. Economically, the territory of Differdange is divided into three equal parts: natural areas, industrial areas and urbanised areas. Some of the natural areas are protected as nature reserves or Natura 2000 areas, and the city also benefits from drinking water sources. However, its past and current industrial activities have led to problems of air, soil and noise pollution. The urban area is characterized by a developed transport network, significant transit traffic and many buildings built in the 1950s to 1970s. In the face of a shortage of building space, urban densification is becoming a necessity.

The city's goal is to reach 100% net carbon neutrality by 2030. We will take the industry out of our calculations, as we do not have enough opportunities to influence private decision-makers, but we remain in constant contact with them to influence their development in a positive and productive way for the mission. Regular meetings and exchanges are scheduled. Our 2030 target covers the entire administrative territory of the city without exclusion zones. Exclusions (industry) will be addressed after 2030 through ongoing collaboration with Arcelor Mittal and their "Responsible Steel" approach. The market does not regulate itself, if the economic interest does not present itself to the industrial leaders. The city has figures from the three largest companies, because they participate in emissions trading, but for the rest of the industry, these figures do not exist.

The key stakeholders to be involved in achieving the 2030 climate neutrality objective are, for the industry side, Arcelor Mittal, Ceratizit and Ocsial. As regards the Luxembourg State, the Ministry of the Economy, the Ministry of the Environment and the Administration of Nature and Forests, and the Ministry of Spatial Planning. The most important stakeholders at local level are policy makers, citizens and traders and restaurateurs.

The formal procedures and planning frameworks to which the CCC action plan should align in the City of Differdange are the municipal law, the municipal code and the commodo/incommodo.

The CCC Action Plan integrates and complements Differdange's existing Climate Action Plan, including the Klimapakt approach, membership of the Klimabündnis and the creation of the City's Ecological Service.

Our city will use the CCC as an instrument to bring together all existing and future efforts towards climate neutrality by including measures from existing plans such as SUMP (under development) or SECAPs (Climate View) in the portfolio of actions described in Module B-2, and we will then consider all associated emission reductions as part of the emissions gap as defined in the guidance document and in Module A-2 to be addressed by this plan. Other approaches that will be integrated are the waste management concept, the municipal bonus scheme, the Digital Twin approach (under development), participation in the Clima Borough, adherence to the Fairtrade and FSC approaches.

Additional information to be created or obtained for the CCC Action Plan that is not yet covered by existing plans or documents is the SUMP, which is in the creation phase, details on future integration of industry data and details on carbon sinks.

This first version of the CCC Action Plan covers the following objectives:

According to the request for expression of interest (EoI) submitted by the city of Differdange for the Mission of Cities, the city aims to achieve climate neutrality by 2030. This includes climate change adaptation, accessibility, healthcare and equity. To achieve this goal, Differdange plans to increase the use of renewable energy, promote sustainable mobility, improve the energy efficiency of buildings and reduce waste.

The city works closely with private actors, including large industries, even though it has designated them as exclusion sectors. These actors will not be able to achieve climate neutrality by 2030, but they are an integral part of the process. Differdange plans to work closely with all participants and engage in international collaboration to overcome challenges beyond 2030. This underlines the importance of a fair transition that includes everyone.

Differdange plans to put in place a comprehensive climate change adaptation strategy, identifying priority areas for intervention, such as renovation of residential buildings and improved waste management, while strengthening the city's capacity to deal with energy crises. Initiatives to make the city more accessible will also be put in place, including through the promotion of sustainable mobility, the development of green spaces and the improvement of public transport through a Sustainable Urban Mobility Plan (SUMP).

As regards health, the municipality plans to promote healthy lifestyle habits, such as reducing air pollution, promoting physical activity and improving access to green spaces.

Differdange has identified five systemic strategic priorities to achieve climate neutrality by 2030, including focusing on stationary energy and aiming to renovate 50% of buildings to improve their energy efficiency.

The objective is to achieve energy self-sufficiency by producing 100% energy from renewable sources, which implies a transition from fossil fuels to renewables. In addition, it is planned to reduce individual mileage by 20% to meet the mobility challenge, promoting active mobility and improving public transport services.

The recycling rate will be increased to 65% and the total amount of waste reduced by 40%, which will have a significant impact on the reduction of greenhouse gas emissions. To offset CO₂ emissions, 20% of the necessary offsets will be purchased in the form of certificates, and 50% of these offsets will be made on the city's land, potentially through the creation of carbon sinks.

These priorities, which focus on areas of municipal competence, will be key to reducing greenhouse gas emissions and achieving the objective of climate neutrality by 2030.

The next versions of the Action Plan will include the changes that materialise as a result of the CCC's iterative approach. Beyond these changes, LULUCF will be able to play a role in future versions. The LULUCF sector concerns carbon emissions and removals from land use, vegetation and soil organic matter. This sector replaced the former LULUCF category, which focused on land use, land change and forestry. According to the United Nations Framework Convention on Climate Change, human activities on managed land are considered sources of carbon emissions and removals, even if some processes are partially natural. Natural events influenced by human activity, such as fires and storms, are also taken into account.

The areas concerned mainly include forests, rich in carbon, stored in trees, soil and litter; agricultural land, where carbon is mainly stored in the soil; as well as wetlands and peatlands. Carbon flows are mainly affected by land use change, such as afforestation, deforestation, urbanisation and conversion of wetlands to arable land, or by changes in agricultural practices.

The objective of the inventory is to measure emissions and removals from different carbon pools, including living biomass, dead wood, litter and soil organic matter. This inventory takes into account all greenhouse gases associated with the sector, including CO₂, methane (CH₄) and nitrous oxide (N₂O). When the sector absorbs more CO₂ than it emits, it is considered a carbon sink, thus generating negative emissions.

Another point that could be integrated is the IPPU, the "Industrial processes and use of products". The term 'Industrial Processes and Product Use' refers to industrial activities and practices that produce greenhouse gases, as defined by the Intergovernmental Panel on Climate Change (IPCC). This

includes a variety of industrial processes such as the production of cement, lime, steel, adipic acid, nitric acid, aluminium, magnesium, as well as emissions of gases such as sulphur hexafluoride (SF₆) from electrical equipment. It also includes emissions of perfluorocarbons (PFCs), hydrofluorocarbons (HFCs) and SF₆ associated with the production of semiconductors and the use of substitutes for ozone-depleting substances.

Despite the existence of recommendations, good practices for these processes, some activities such as the use of limestone and dolomite, the production of sodium carbonate, ammonia, carbide, as well as the manufacture of various chemicals and metals, are not yet regulated by specific guidelines. The IPCC recommends the application of the general principles of its recommendations to these processes not specifically covered.

3 Work process

Differdange being quite a small city, the team that governed the mission was comprised of two aldermen and representatives of different city-services. The team was lead by M. Luc Arend and coordinated by M. David Everard of the external consultancy EVERARD Consulting & Communication.

The team met weekly and discussed the different steps necessary to create a good action plan and develop overall mission strategy. The city council itself was involved in approving the plan.

EVERARD Consulting & Communication conducted over a dozen internal workshops with the different department heads to elaborate the action plan as you can find it in this document as well as four city-wide civic participation workshops in which Differdange's citizens were called upon to give their point of view and ideas for the action plan at hand.

The financial plan was developed in close collaboration with Max Felten, the city manager and in house economist. This plan was brought to life in 6 internal meetings, led by EVERARD Consulting & Communication in collaboration with M. Luc Arend. Mr. Felten also organized a big stakeholder meeting that brought together the economic sector of the city.

The climate team was briefed as well.

Representatives of the city as well as M. Everard were present at the summer school in Santander and at the spring school in Stockholm.

The work process was greatly hindered by the elections on the local level and on the national level in 2023. Unfortunately, Mr Fred Bertinelli, alderman and part of the CCC-team, passed away in the course of 2024 and had to be replaced in the middle of the works.

Building broad support

The city used its own media channels to create a broad support for the mission by publishing articles in the monthly city journal and on the social media platforms. It also created a landing page dedicated to the mission, that will be turned into a full fledged website in the course of the months to come (www.netzero2030.lu). At a political level, the aldermen were available for interviews with the national press.

Civic participation workshops started in December 2023 and are continuing to this day. The next workshop is scheduled for November 2024 and has the theme of waste management. Other workshops were about living sustainably in Differdange, about energy consumption and mobility.

Representatives of the team also met twice with the municipality-syndicate Pro-Sud, regrouping 9 municipalities of the south of Luxembourg.

Understanding the System

This segment provides a summary of the methodologies applied across various modules in the current phase of the Climate Transition Map:

Module A-1: Greenhouse Gas Emissions Baseline Inventory

- The emissions inventory was defined through consultations with the mission team. It includes partial Scope 3 emissions, specifically waste and construction materials, with plans to comprehensively integrate Scope 3 emissions in subsequent versions of the CCC.
- The emissions data were sourced from various origins, primarily the information collected in the ClimateView program.

Module A-2: Current policies and strategies assessment

- This involved compiling a detailed list and description of policies through desk research and contributions from city staff.
- The assessment was developed with insights from experts and practitioners mainly within the city administration and included guidance from EVERARD Consulting & Communication.

Module A-3: Systemic barriers and opportunities to 2030 climate neutrality

- The understanding of systemic barriers combines existing knowledge with new insights gained throughout the CCC process:
- Insights were obtained from dialogues with practitioners and experts during the CCC process, shaping the portfolio of actions and enriching the systemic barriers overview presented in Module A-3.

Module B-1: Climate neutrality scenarios and impact pathways

- The initial step towards defining a pathway to climate neutrality involved mapping actions from existing plans, such as the Sustainable Urban Mobility Plan (SUMP), the Cities' Energy Plan, the Pacte climat, the Plan national intégré en matière d'énergie et de climat (PNEC), the Plan national de Mobilité 2035 (PNM2035) and the Programme directeur d'aménagement du territoire (PDAT). Actions were organized into clusters within a unified framework, estimating the emissions reduction potential for each, which helped in assessing the necessary scale of reduction to achieve climate neutrality by 2030.
- Alongside the quantitative analysis, an impact framework was developed by defining interventions and identifying changes levers along with early and late outcomes. This was achieved through close collaboration with the portfolio-design process and consultations with domain-specific experts and practitioners in close collaboration with EVERARD Consulting & Communication. Suitable indicators were selected to accompany the identified outcomes and impacts, using both the set provided by NetZeroCities and independently defined indicators.

Co-Designing a Portfolio

The development of the portfolio of actions constituted a significant portion of our efforts, given its pivotal role in the Differdange team's strategy.

We employed a dual-track approach:

Bottom-up track:

This involved cataloging ongoing activities within both the city's infrastructure and the broader ecosystem. For the city, this process included EVERARD gathering heads of services to assess current and planned initiatives. In the broader ecosystem, insights were sourced from heads of service and the citizens during civic participation events. This approach was strategically chosen to build on existing efforts, recognizing the value of current activities as a foundational step for endorsing more extensive, mission-aligned endeavours. The mission was framed not as an additional burden but as an integrative element that enhances ongoing efforts.

Top-down track:

From a strategic perspective, this track focused on outcome-oriented goals, using the established emissions reductions pathways as benchmarks for portfolio composition. This method allowed for an evaluation of potential actions against the required emissions reductions in each domain, helping to pinpoint existing gaps.

The interplay between these tracks gradually shaped the portfolio of actions detailed in Module B-2. Actions were assessed for their potential to initiate breakthroughs in overcoming systemic barriers. To be included in the portfolio, actions had to align with the impact pathways from Module B-1, suggesting a significant direct or indirect impact, while supplementing existing measures. Although adherence to these criteria was a priority, practical adjustments were occasionally made to foster stakeholder engagement and support.

At the portfolio level, our goal was to achieve a representative selection of actions. Our approach recognizes that many upcoming challenges will emerge through a continuous process of discovery and experimentation.

The concept of representativity was also applied in other dimensions of our portfolio, aiming to ensure a balance in terms of geographic coverage, ecosystem involvement, and the activation of systemic levers. These design principles not only shaped our current efforts but will also guide the ongoing management and evolution of the portfolio.

Applying to the pilot cities call

At the outset of the Climate City Contract (CCC) process, Mr. Arend of the Service Écologique and Mr. Everard of EVERARD Consulting & Communication were designated to formulate a proposal for the Call for Pilot Cities. The creation of this proposal reflected the broader dynamics of the CCC and enriched each of the three phases of the Climate Transition Map as outlined:

- Building a strong mandate: The development of the proposal deepened our understanding of the Mission's core principles, such as focusing on systemic barriers and the logic of the impact framework. This experience affirms our ability to adapt these principles to meet our city's specific needs effectively.
- Understanding the system: Crafting the proposal provided a detailed opportunity to identify and map out the obstacles to decarbonizing Differdange's energy systems, the reduction in waste production and the reduction of individual motorized traffic which was the focus of our proposal.
- Co-designing a portfolio: The barrier analysis directly informed the design of pilot activities tailored to the energy systems domain, as well as broader activities applicable across multiple emissions domains. This process laid the groundwork for the preliminary content of our action portfolio, integrating domain-specific and wide-reaching interventions.

4 Part A – Current state of climate action

4.1 Module A-1 Greenhouse Gas Emissions Baseline Inventory

A-1.1: Final energy use by source sectors			
Base year	2022		
Unit	MWh/year		
	Scope 1	Scope 2	Scope 3
Buildings			
Single-family homes and commercial buildings with gas heating	110,988 MWh/year		
Single-family homes and commercial buildings with district heating	0.8 MWh/year		
Multi-family homes with gas heating	46 MWh/year		
Multi-family homes with district heating	4.8 MWh/year		
Public buildings electrical heating		8 MWh/year	
Public buildings with natural gas heating	4 MWh/year		
Public buildings with biomass heating	3.5 MWh/year		
Public buildings with district heating	9.7 MWh/year		
Transport			
Gas cars	103845 MWh/year		
Diesel cars	45588 MWh/year		
Electric cars		141 MWh/year	
Diesel light duty vehicles	26271 MWh/year		

Electric light duty vehicles		31 MWh/year	
Diesel Heavy duty vehicles	69122 MWh/year		
Electric Heavy Duty Vehicles		224 MWh/year	
Electric Rail Passenger Transport		2886 MWh/year	
Electric Rail Freight Transport		159 MWh/year	
Waste	/	/	/
Industrial Process and Product Use (IPPU)	(No public information)		
Agricultural, Forestry and Land Use (AFOLU)	Included in single family homes / transport / waste as the AFOLU activity in Differdange is managed by small family productions		

A-1.2: Emission factors applied

Unit: gCO₂e/kWh

Climateview/ClimateOS

Primary energy¹

Parameter	Value	Unit
Natural gas	247	g CO ₂ e / kWh
Green hydrogen	50	g CO ₂ e / kWh
Methane	2,056.277	g CO ₂ e / kWh
Gasoline	323	g CO ₂ e / kWh
Diesel	326	g CO ₂ e / kWh
Oil	318	g CO ₂ e / kWh
Liquefied petroleum gas (LPG)	230.31	g CO ₂ e / kWh
Marine Diesel	284.84	g CO ₂ e / kWh
Aviation fuel	260.86	g CO ₂ e / kWh
Liquefied Natural Gas (LNG)	204.49	g CO ₂ e / kWh
Liquefied Biogas (LBG)	0.22	g CO ₂ e / kWh
Coal	431	g CO ₂ e / kWh
Biogas	113	g CO ₂ e / kWh
Landfill gas	0.383	g CO ₂ e / kWh
Ethanol	1.416	g CO ₂ e / kWh
Biodiesel	89	g CO ₂ e / kWh
Marine biodiesel	18.029	g CO ₂ e / kWh
Aviation biofuel	18.029	g CO ₂ e / kWh
Biomass	0	g CO ₂ e / kWh
Geothermal heat	0	g CO ₂ e / kWh
Metabolic energy	0	g CO ₂ e / kWh

Secondary energy

Parameter	Value	Unit
District heat imported grid	246	g CO ₂ e / kWh
Electricity imported grid	188	g CO ₂ e / kWh
Solar panel parks	36,100	g CO ₂ e / kWp / lifetime
Hydro reservoir	72,500	g CO ₂ e / kW / lifetime
Solar panel rooftop	36,100	g CO ₂ e / kWp / lifetime
Wind onshore	24,000	g CO ₂ e / kW / lifetime
Wind offshore	24,000	g CO ₂ e / kW / lifetime

¹ The gases are referenced following the IPCC methodology. If indications to gases are missing, the city does not (yet) have the data.

Current grid mix	188	g CO2e / kWh
Future grid mix	0	g CO2e / kWh
District heat	246	g CO2e / kWh
District cold	62	g CO2e / kWh
Residual heat	0	g CO2e / kWh
Solar	0	g CO2e / kWh

Industrial processes and product use

Parameter	Value	Unit
Cement (LCA construction)	414,161	g CO2e/m2
Timber (LCA construction)	157,787	g CO2e/m2
Clinker Production	520,000	g CO2e / metric ton
Lime production	768,000	g CO2e / metric ton

Waste

Parameter	Value	Unit
Waste water	320.055	g CO2e/m3
Sludge	706	g CO2e / kWh
Landfill waste	664,000	g CO2e / metric ton
Solid waste for incineration	1,185,299	g CO2e / metric ton
Waste open burning	487,000	g CO2e / metric ton
Recyclable waste	0	g CO2e / metric ton
Compostable waste	179,520	g CO2e / metric ton
Digestible waste	22,800	g CO2e / metric ton

A-1.3: GHG emissions by source sectors				
Base year	2022			
Unit	tCO ₂ e/year			
	Scope 1	Scope 2	Scope 3	Total
Buildings	45713	9322		55035
Transport	77009			77009
Waste			7642	7642
Industrial Process and Product Use (IPPU)	1123125			1123125
Agricultural, Forestry and Land Use (AFOLU)	Sources (positive emissions)	3500		3500
	Sinks (negative emissions)	-11580		-11580
Total	1237767	9322	7642	1254721

A-1.4: Activity by source sectors.			
Base year: 2022	Unit: tCO ₂ e/year		
	Scope 1	Scope 2	Scope 3
Sector: Buildings (Activity)			
Sector: Transport (Activity)			
Sector: Waste (Activity)			
Sector: Industrial Process and Product Use (IPPU) (Activity)			
Sector: Agricultural, Forestry and Land Use (AFOLU) (Activity)			

Currently the city of Differdange is not in possession of this information, Differdange plans to be able to have this information by Q2 2025.

4.2 Module A-2 Current Policies and Strategies Assessment

A-2.1: List of Relevant Policies, Strategies and Regulations	
Name & title	Description & relevance
Climate Pact	The Climate Pact, supported by Luxembourg's Ministry for the Environment, Climate and Sustainable Development and managed by Klima-Agence, commits municipalities to adopting European Energy Award measures to promote a sustainable energy transition, with state funding for climate consultancy and rewards according to certification levels. Aiming for a 55% reduction in greenhouse gas emissions by 2030 compared to 2005, and carbon neutrality by 2050, the pact involves initiatives in renewable energy, circular economy and air quality, reinforcing the municipal commitment to responsible energy management.
Waste legislation	The law of 21 March 2012 on waste management in Luxembourg, revised in 2022 to incorporate the principles of a circular economy, aims to reduce waste production by aligning national policies with European directives to promote reduction, reuse and recycling. This legislation is reinforced by the national waste and resource management plan adopted in 2018, which sets ambitious targets, particularly for reducing food waste, combating plastic pollution and recovering organic waste.
National Waste and Resource Management Plan (NWRMP)	The National Waste and Resource Management Plan (PNGDR) is a strategic framework aimed at improving waste management in France through reuse, re-use, and recycling, while minimising environmental impacts and promoting a circular economy. Adopted in 2018 and currently under review, the plan aligns local initiatives with national and international directives, with specific measures to reduce waste and protect natural resources.
Naturpakt	The 'Naturpakt' is a collaborative strategy between the State and municipalities to promote biodiversity and natural resource management, with a particular focus on preserving urban, aquatic and forest areas. Cities participating in the pact, which includes a certification system similar to that of the Climate Pact, commit to adopting sustainable environmental measures, in return receiving financial support and expertise to help them achieve these objectives by 2030.
NECP	Luxembourg's National Integrated Energy and Climate Plan (PNEC) is a key strategy that sets out guidelines for achieving ambitious energy and climate goals by 2030, including reducing greenhouse gas emissions by 55%, increasing the share of renewable energy to 25%, and improving energy efficiency by between 40% and 44%. Officially adopted on 20 May 2020 following a public consultation, the NECP has been positively received, guiding the future development of initiatives to ensure its effective implementation between 2020 and 2030.

Ouni Pestiziden	The 'Ouni Pestiziden' initiative has been working for over fifteen years to abolish the use of pesticides in public spaces, private homes and the agricultural sector, by raising awareness and offering technical support to various stakeholders. It has evolved from an initial project into a well-structured campaign, marked by extensive partnerships, educational initiatives such as the 'Week without Pesticides', and legislative successes, including the 2016 ban on pesticides in public spaces, making a significant contribution to preserving quality of life and biodiversity.
National Mobility Plan 2035 – PNM2035	The National Mobility Plan 2035 (PNM2035) is an innovative regional strategy to manage a predicted 40% increase in travel by 2035, in line with the Modu 2.0 strategy for sustainable mobility. The plan includes significant improvements to the transport infrastructure around Differdange and other localities, with developments such as new cycle routes and rail improvements, in addition to the introduction of several park-and-ride facilities to facilitate the use of public transport. These initiatives aim to optimize travel flows, strengthen collaboration between key mobility players, and improve quality of life by promoting more sustainable mobility.
Spatial Planning Master Plan (PDAT2030)	The Master Plan for Spatial Development (PDAT2030), adopted on 21 June 2023, constitutes the national strategic framework for spatial development in Luxembourg up to 2050. It aims to concentrate development in appropriate areas, reduce the artificialization of land, and strengthen cross-border cooperation, while meeting the challenges of climate change, the energy crisis, and the degradation of biodiversity to preserve natural resources and sustain growth. The PDAT aligns its principles with international initiatives such as the EU's Territorial Agenda 2030 and the United Nations' Sustainable Development Goals, while seeking to balance ecological transition with economic and social development.
Communal regulations	Communal regulations in Luxembourg stem from communal autonomy, established by the Constitution and the Communal Law of 1988, allowing communes to manage their own affairs through elected councils. These regulations, governed by principles of legality and subject to state supervision to ensure compliance with national legislation, have a direct impact on local finances and resource management, particularly in the waste sector, where communes do not manage inert, hazardous or industrial waste.
Resource concept	The concept of resources in Differdange focuses on optimizing the use of resources through improved management and integrated recovery, with an emphasis on reducing waste production and improving its quality through selective collection and efficient recycling. This strategic plan aims to reduce environmental impact by transforming waste into useful resources, promoting a circular economy and supporting initiatives to reduce waste at source, which should result in more efficient waste management and a significant reduction in waste sent to landfill.
PAP/PAG	The Plans d'Aménagement Général (PAG) and Plans d'Aménagement Particulier (PAP) are Luxembourg local regulations that structure land use in dedicated areas and detail development for specific sectors respectively, aligned with sustainable development standards. The PAG organizes human activity for the balanced development of municipalities, while the PAP specifies planning rules for specific areas, with tailored

	approaches for new and existing neighbourhoods, aimed at optimizing quality of life and urban sustainability.
Sustainable Urban Mobility Plan (SUMP)	Sustainable Urban Mobility Plans (SUMPs) are an essential part of European policy on urban mobility. The European Commission strongly encourages towns and cities of all sizes to adopt these plans. SUMPs aim to significantly improve quality of life by addressing key urban issues such as congestion, air and noise pollution, climate change, road safety and parking problems. They also provide a framework conducive to innovation and the integration of new mobility services.
Traffic regulations	Covering everything from traffic-restricted zones to parking rules, the regulations are essential for improving the efficiency of the transport network while promoting a more sustainable urban environment.
Energy concept	A concept planning the energy future of Differdange
Outsourcing - Recycling Park	The Differdange recycling centre, located in the Gadderscheier industrial estate, is accessible only to residents and businesses of the town, with an access card required. The centre facilitates the recycling and reintegration into the circular economy of various materials, including hazardous waste, significantly improving the city's waste management and reducing operating costs.
FSC-PEFC	The FSC (Forest Stewardship Council) and the PEFC (Programme for the Endorsement of Forest Certification) are international certifications that attest to the sustainable management of forests, guaranteeing responsible management that respects the environment and biodiversity. These certifications play a crucial role in the conservation of biological diversity, climate regulation and the protection of water resources, while supporting forest management that balances ecological, economic and social aspects.
Fairtrade	Differdange, a designated Fairtrade municipality, meets five criteria of commitment to fair trade, and is part of an international initiative present in 19 countries. Fairtrade Lëtzebuerg, a member of the international Fairtrade network, is an NGO that raises awareness of fair trade and supports companies in their social responsibility initiatives, while managing the Fairtrade/TransFair label in Luxembourg.
European regulations	European directives aim to transform waste management in the European Union, which generates 2.2 billion tonnes of waste annually, by encouraging recycling and limiting landfill to support a circular economy. The directives, which are part of initiatives such as the Green Pact for Europe, impose strict rules on recycling, reusing packaging, reducing the use of hazardous chemicals, and combating programmed obsolescence to promote sustainable practices and reduce environmental impact in key sectors such as plastics, textiles and electronics.
Fusilli	The FUSILLI project, funded by Horizon 2020, aims to transform city food systems into sustainable models in alignment with FOOD2030, bringing together 34 international partners to remove barriers to integrated food policies. This network of 12 cities is developing 'Food 2030 Living Labs' to pilot innovations across the entire food chain, reducing waste and promoting local production, thereby reducing CO2 emissions and supporting the regional economy while improving access to quality food.
European Mobility Week	European Mobility Week, organised by the European Commission, is a major annual awareness-raising campaign

	promoting sustainable urban mobility. Every year, from 16 to 22 September, it encourages people to adopt greener and smarter means of transport, culminating in Car Free Day, encouraging local authorities to test innovations in urban planning and technology while assessing air quality and gathering public feedback.
European Green Deal	A blueprint for transforming Europe into the first climate-neutral continent by 2050

Color	Level
	National
	City of Differdange
	International initiatives
	European Union

A-2.2: Description and Assessment of Policies

DESCRIPTION OF POLICIES

Local Policy

Differdange's local policy is framed by an ambitious master plan, the LSAP-CSV coalition programme. This strategic document outlines the development of the municipality to meet the challenges of sustainable development and climate change. It aims to transform Differdange into a carbon-neutral community by 2030, aligned with targets that are far more aggressive than those of the European Green Deal.

The programme sets out a series of detailed actions across various key areas such as energy, mobility, housing, social cohesion, culture and more, with a particular focus on ecological sustainability. Key initiatives include increased energy efficiency, greater support for renewable energies, the promotion of soft mobility, and thoughtful urban planning that encourages green spaces and biodiversity.

The city has also introduced sectoral plans such as the Sustainable Urban Mobility Plan (SUMP) to improve urban mobility and reduce transport-related emissions. An 'energy' concept has been developed to optimise the use and production of renewable energy, in particular through the installation of photovoltaic panels and the recovery of industrial heat.

In terms of town planning, amendments to the General Development Plan (PAG) and Specific Development Plan (PAP), as well as to the traffic regulations, are designed to strengthen the integration of sustainability principles into the physical development of the town. These measures are designed to encourage ecologically responsible construction and promote sustainable consumption practices among citizens.

The LSAP-CSV coalition programme for Differdange is therefore a detailed roadmap for a sustainable future, implementing innovative policies to improve the quality of life of all Differdange residents while protecting the environment for future generations.

Regional Policy

During the official ceremony to celebrate the 20th anniversary of the Syndicat PRO-SUD, which took place on Friday 21st of April 2023 at the Ariston in Esch-sur-Alzette, the members of the committee of the southern union signed a declaration of intent. This declaration aims to pool efforts to implement a net-zero biosphere reserve.

The member municipalities of PRO-SUD thus declare their intention to work together to define a regional "climate neutral" approach. The 11 municipalities (Bettembourg, Differdange, Dudelange, Esch-sur-Alzette, Käerjeng, Kayl, Mondercange, Pétange, Rumelange, Sanem and Schifflange) will work together with all actors (private and public), building on the tools, programs and initiatives already launched, while improving the quality of life of citizens.

"To achieve the energy transition, we cannot act alone, without support. Most of the carbon emissions, 40%, come from mobility problems, and you can't solve this type of problem by being a municipality alone. It is at least a regional problem, if not national and cross-border," said Georges Mischo, President of the Syndicat PRO-SUD, at the ceremony Friday evening.

Claude Turmes, Minister of Energy and Spatial Planning, emphasised that “close and concerted cooperation between the different levels of governance, in the sense of a multi-level and multi-sectoral territorial governance, is the guarantee of an effective integrated implementation of the objectives of the government’s climate and energy policy and the objectives of sustainable spatial planning.”

The municipalities wish to strengthen their strategic cooperation by committing themselves at the local and regional level to provide the necessary means to the Syndicat PRO-SUD to support the 11 municipalities in their efforts and according to their priority areas.

National Policy

In Luxembourg, the national strategy to achieve carbon neutrality is built around several key plans and programmes, each addressing key aspects of sustainable development and environmental conservation.

The National Waste and Resource Management Plan (PNGDR), revised in 2018, is a central pillar of this policy. It aims to minimize the environmental impact of waste by promoting reuse, recycling and environmentally friendly disposal. The plan emphasises the need for careful resource management, in line with the principles of a circular economy, to ensure the sustainable use of natural resources.

At the same time, the Nature Pact, similar to the Climate Pact, encourages municipal initiatives to preserve and restore biodiversity. This pact covers a range of environments, from urban areas to aquatic environments, and promotes actions such as the creation of green zones and the restoration of natural habitats. The aim is to strengthen biodiversity and ensure the resilience of ecosystems in the face of climate change.

The National Integrated Energy and Climate Plan (PNEC) sets ambitious targets for 2030, aiming for a significant reduction in greenhouse gas emissions and an increase in the share of renewable energies. The plan also guides the development of policies and projects to improve energy efficiency across the country.

On the mobility front, the National Mobility Plan 2035 (PNM 2035) envisages proactive management of future transport needs, based on collaboration between the State, municipalities and citizens. This plan aims to optimise the flow of people and modes of transport, thereby reducing congestion and promoting more sustainable mobility.

Finally, the Master Plan for Territorial Development (PDAT) provides a strategic framework for territorial development up to 2050. This programme focuses on the balanced management of spatial planning, the reduction of land artificialisation and cross-border cooperation. It incorporates far-reaching ecological considerations to ensure the best possible quality of life while meeting today’s environmental challenges.

ASSESSMENT OF POLICIES

Local Policy: Overall Assessment

Examining the local policy framework and the progression of climate initiatives in Differdange, it is evident that several critical points emerge. Initially, it is apparent that while emissions have declined, the rate of reduction is insufficient. Despite no increase in emissions amidst ongoing economic and demographic expansion, significant efforts are still required to alter the current trajectory.

A further observation highlights that although Differdange has ambitious environmental targets, actual progress has been slower than anticipated. This shortfall can be attributed to multiple factors. Primarily, the existing political climate has not been conducive enough to foster rapid advancements towards achieving net-zero emissions. In this regard, enhanced legislative and regulatory support from the national government could substantially benefit the city's environmental strategies. Additionally, resource limitations have impeded progress, as increases in scope and scale of environmental ambitions have not been met with corresponding improvements in staffing or financial investment—issues further aggravated by recent economic pressures such as inflation and the energy crisis. Political barriers also play a role in widening the gap between goals and their realization.

Finally, there is an increasing recognition of the necessity for enhanced collaboration across various sectors and departments within the city's governance framework and the broader community. To effectively address this implementation gap, it is essential to embed climate considerations across diverse policy areas comprehensively. This would involve a more integrated approach to climate action within all municipal departments, promoting robust inter-departmental cooperation. Such strategic alignment forms a key component of Differdange's participation in the Pilot Cities Programme.

Moreover, the need for a stronger alignment of efforts and the catalyzation of collective actions among all relevant stakeholders is clear. Although Differdange benefits from a robust governance model, exemplified by its established platform for structured cooperation aimed at expediting the net-zero transition, the urgency for stakeholders to shift from general promises to specific, actionable commitments has become more pronounced. The Climate Contract of the City of Differdange is designed as a pivotal measure in this context, marking the commencement of a phased strategy to enhance both ambition and accountability incrementally.

Local policy: Assessment by emissions domain

1. Energy efficiency and decarbonization

Differdange's approach to energy efficiency and decarbonization is ambitious, leveraging renovations, heating system updates, and increased renewable energy production. The city's initiatives to retrofit existing buildings significantly contribute to reducing the overall energy demand, aligning with the sustainability goals outlined in the local policy framework. However, while efforts to decarbonize heating systems by shifting from fossil fuels to renewable sources like biomass and geothermal energy are in place, the pace of implementation has been affected by resource constraints and the need for enhanced regulatory support.

Expanding the production of renewable energies, particularly solar and wind, is a cornerstone of Differdange's strategy to replace fossil fuel-based electricity. This transition is crucial for the city's ambitious target to become carbon-neutral by 2030. Complementary energy-saving measures, such as the adoption of LED lighting and optimization of heating networks, though beneficial, require accelerated deployment and broader integration into the city's infrastructure to meet the set objectives.

The overarching challenge in this domain is ensuring that the high ambitions set forth in the policy documents translate into equally strong execution on the ground. Despite a robust policy framework, the actual reduction in emissions and energy consumption necessitates a more cohesive and supported effort across all sectors involved, highlighting the gap between policy aspirations and practical achievements.

2. Waste management and circular economy

In the realm of waste management and circular economy, Differdange has implemented strategies focusing on reducing food waste and enhancing recycling. The introduction of intelligent waste management systems and local food production initiatives significantly contributes to reducing methane emissions from landfills. Educational programs aim to raise public awareness and participation in waste reduction, which are vital in fostering a community-wide shift towards sustainability.

Efforts to improve recycling rates and reduce packaging waste are commendable and align with the broader objectives of minimizing waste and emissions inherent to the circular economy. However, the effectiveness of these initiatives often hinges on public engagement and the adequacy of resources allocated to these programs. Enhanced recycling infrastructure and more rigorous waste reduction policies could further propel Differdange towards its environmental targets.

Despite these efforts, there remains a need for a more integrated approach in the implementation of circular economy principles. This would involve not only improving waste management practices but also embedding sustainability into the lifecycle management of products and encouraging the use of environmentally friendly materials across all sectors of the economy.

3. Transportation and mobility

Differdange has made significant strides in enhancing public transport and promoting electric mobility, crucial steps towards reducing the city's transport-related emissions. Modernizing public transport and expanding electric vehicle use are central to the city's strategy, yet the full potential of these initiatives

is yet to be realized, primarily due to challenges in comprehensive adoption and support from all stakeholders.

Active mobility is another key area where Differdange aims to make substantial improvements. By promoting non-motorized forms of transport such as walking, cycling, and scooters, the city hopes to reduce reliance on private vehicles, thereby decreasing overall emissions. However, for these measures to be more effective, they must be supported by appropriate urban infrastructure, such as safe cycling paths and pedestrian-friendly zones.

Overall, while there are clear policies and actions in place to transform the mobility landscape in Differdange, the success of these measures largely depends on overcoming existing implementation gaps and ensuring that mobility management strategies like car-sharing and traffic reduction are embraced more widely by the community. This requires not only policy and infrastructure development but also a cultural shift towards sustainable mobility practices.

4. Urban planning and green spaces

In Differdange, urban planning and the development of green spaces are integral to achieving environmental sustainability and enhancing urban resilience. The strategic implementation of green roofs and facades, alongside other urban cooling measures, are commendable efforts towards adapting to climate change. These initiatives not only reduce urban heat island effects but also improve the overall urban ecosystem. Enhancing natural public spaces further supports carbon sequestration and boosts the quality of life for the city's residents. However, the scope and scale of these projects need to be expanded to meet the city's carbon neutrality goals comprehensively.

Encouraging sustainable private development is another critical aspect of Differdange's environmental strategy. By promoting green infrastructure and sustainable building practices, the city aims to embed long-term climate goals into its urban fabric. These measures are designed to ensure that new developments contribute positively to the city's environmental targets. However, aligning these ambitious plans with actual building practices requires robust regulatory frameworks and incentives to encourage developers to adopt sustainable practices.

The city faces challenges in fully realizing the potential of its green urban planning initiatives. Despite a strong policy framework, the actual implementation of these green measures across all development projects can be uneven. Enhanced collaboration between the government, developers, and the community is essential to ensure that urban planning and green spaces contribute effectively to the city's climate resilience and sustainability goals.

5. Carbon offset and compensation

Differdange is actively pursuing carbon offset and compensation strategies to meet its climate targets. Local initiatives, such as the development of green facades and the expansion of urban forestry projects, play a vital role in offsetting carbon emissions locally. These efforts not only help mitigate the impact of remaining emissions but also enhance the urban landscape. Furthermore, the city is investing in regional and international carbon capture and storage projects to provide further offsetting capabilities, which are crucial for meeting the more stringent aspects of its climate commitments.

The effectiveness of these offset measures depends significantly on the scale and continuity of the projects. While local initiatives are impactful, the broader adoption and integration of international carbon offset projects could accelerate Differdange's progress towards its net-zero ambitions. However,

these international efforts must be carefully chosen to ensure they align with global sustainability standards and deliver tangible benefits.

Challenges in carbon offset and compensation include ensuring that these initiatives are not seen merely as a quick fix but are part of a comprehensive strategy that includes significant reductions in actual emissions. Transparency in the selection and management of offset projects is crucial to maintaining public trust and ensuring that these efforts have genuine environmental benefits.

6. Citizen engagement and education

Differdange places a strong emphasis on citizen engagement and education as pivotal elements of its climate action strategy. Through workshops, surveys, and various communication channels, the city actively seeks to involve citizens in its climate initiatives, enhancing public awareness and fostering a collaborative approach to environmental challenges. This commitment is crucial for building a community that is knowledgeable and supportive of sustainability efforts.

However, while these educational initiatives are valuable, there is room for improvement in their reach and depth. Expanding these programs to encompass more of the community and integrating climate education into schools and businesses can further enhance public participation. Effective communication strategies that leverage modern media can play a pivotal role in keeping the community informed and engaged.

To bridge the gap between awareness and action, Differdange could benefit from more targeted engagement strategies that not only inform but also empower citizens to take concrete actions. This includes providing more opportunities for community-led projects and increasing accessibility to sustainability resources.

7. Innovation and research

In the realm of innovation and research, Differdange is exploring forward-thinking approaches like agroforestry and advanced carbon storage techniques to support its long-term carbon management strategy. These innovative practices are crucial for developing new methods of capturing and storing carbon, potentially revolutionizing how the city addresses its emission reduction targets.

While these research initiatives are promising, their success hinges on comprehensive implementation, sufficient funding, and robust stakeholder coordination. Continuous monitoring and evaluation are also critical to ensure these innovative projects deliver expected outcomes and contribute effectively to the city's climate goals.

Furthermore, alongside these mitigation efforts, Differdange recognizes the importance of adaptation strategies. Developing resilience against the already evident impacts of climate change is as crucial as mitigation. This dual approach ensures that the city not only reduces its carbon footprint but also protects its community and infrastructure from the adverse effects of climate change.

Each of these domains represents a critical area of focus for Differdange as it strives to meet its ambitious climate goals. While the city has laid a solid foundation with its current policies and initiatives, the true test will lie in its ability to enhance execution, expand collaborative efforts, and ensure that all sectors of the community are actively involved in the climate action framework.

Local policy: Assessment by systemic lever

Waste management

1. Waste management and reduction

- Campaigns and Awareness: The local policy incorporates awareness campaigns to encourage waste reduction and recycling among citizens. Educational initiatives and public awareness programmes, similar to those described in the LSAP-CSV coalition roadmap, help to strengthen ecological awareness and promote sustainable consumption practices.
- Technological innovations: The energy plan referred to in the local policy could include the adoption of innovative waste management technologies, such as bin level sensors, which would enable more efficient collection and reduce unnecessary waste.
- Recycling and Reuse: Amendments to the General Development Plan and Specific Development Plan seek to incorporate sustainable construction practices that encourage the reuse of materials and recycling, thereby reducing construction waste and supporting the circular economy.

2. Improving local production

- Local food production: Local policies support local food production as a means of reducing food transport emissions. Encouraging local vegetable production and working with Limpach's local cannery can be directly linked to the town's sustainability initiatives.
- Education and civic engagement: Educational workshops for children and citizens on the origin of food and respect for production are reinforced by local policies that promote environmental education and community engagement, as outlined in the LSAP-CSV coalition programme.
- Infrastructure and urban services: The development of local infrastructures, notably through the energy renovation of public buildings and the installation of photovoltaic panels, encourages cleaner energy production and supports the city's strategy to become carbon neutral.

3. Cooperation and strategic partnerships

- Intersectoral collaboration: The local policy emphasises the importance of collaboration between various sectors and departments in order to integrate climate action across the board. This is in line with the systemic levers that require structured cooperation to accelerate the transition to net zero, as demonstrated by Differdange's robust governance model.
- Political engagement: Differdange's political representatives play a key role in trade unions and other decision-making platforms to influence regional and national policies in favour of waste management practices and renewable energy, reinforcing local efforts for wider impact.
- Community engagement: The policy strongly encourages citizen engagement and community participation through forums and workshops, aligning the municipality's efforts with the needs and aspirations of residents, which is crucial to the success of environmental initiatives.

4. Infrastructure and urban services:

- Infrastructure improvements: Differdange's local initiatives, such as the adaptation of the recycling park, illustrates a practical commitment to improving waste management infrastructure. These improvements are essential to strengthen the city's capacity to treat and reduce waste in an environmentally responsible manner, in line with the objectives set out in the LSAP-CSV coalition plan.

- Development of standards and policies: The active participation of Differdange's political representatives in trade unions and national decision-making forums demonstrates a proactive approach to influencing and adapting waste management policies at a higher level. This strategic presence aims to align local standards with regional and national guidelines, ensuring consistent and effective waste management.
- Political and Regulatory Engagement: By being represented on key decision-making bodies, Differdange can not only monitor but also drive changes in environmental legislation that directly benefit its local sustainability policies. This allows the city to remain at the forefront of best practice in sustainable development and resource management.

5. Cooperation and strategic partnerships:

- Intersectoral collaborations: Differdange implements an intersectoral cooperation approach by participating in cross-border projects such as the INTERREG project. These collaborations enable the sharing of resources, knowledge and technologies, strengthening the city's capacity to achieve its carbon neutrality objectives while benefiting from regional and international support.
- Networks and partnerships: The city uses its involvement in legislative and technical discussions at various levels to forge strategic alliances that facilitate the adoption of innovative and sustainable practices. These networks are vital in synchronising local actions with global trends and new regulations, ensuring that Differdange remains compliant and influential.
- Involvement in multilateral initiatives: Differdange's involvement in initiatives such as the IDELUX waste management programme and cooperative projects with foreign cities highlights the importance of strategic partnerships for sustainable urban development. These joint efforts aim to pool resources and expertise to accelerate the achievement of shared environmental objectives and improve the quality of urban life.

Energy

Systemic levers:

- VDD Project: This lever is mentioned several times, indicating a series of projects led or influenced by the City of Differdange (VDD), often in collaboration with partners such as Klima Agency or SudEnergie.
- VDD Project Idea: Several project proposals are in the ideation phase, often awaiting partnership or funding.
- INTERREG project: Mention of cross-border projects, highlighting international cooperation.
- Collaboration with SudEnergie: Specifically for the decarbonisation of heating systems, showing a targeted approach towards renewable energies.

1. Urban infrastructure and services

- Infrastructure improvements: Differdange has taken significant steps to enhance its infrastructural capabilities to support environmental goals. The adaptation of the recycling park and upgrades in waste management services directly align with the city's ambitions to improve its resource efficiency and waste handling, which are crucial components of the LSAP-CSV coalition program.

- Development of standards and policies: The city's active participation in regulatory bodies and efforts to influence policy directions demonstrate a strategic approach to embedding sustainability into local governance. By placing representatives in decision-making positions, Differdange ensures that its sustainability principles are advocated at higher levels of governance, potentially impacting regional and national policies.
- Adaptation and synergy: Amendments to the General Development Plan (PAG) and Specific Development Plan (PAP), as well as adjustments to traffic regulations, illustrates Differdange's commitment to integrating sustainability into the urban fabric. These actions create a conducive environment for the sustainable evolution of the city, fostering ecological construction and urban development practices that are aligned with carbon-neutral objectives.

2. Cooperation and strategic partnerships

- Intersectoral collaborations: Differdange's engagement in regional and international projects, such as INTERREG, underscores its commitment to cooperative and strategic partnerships. These collaborations not only enhance the city's capabilities in terms of resources and knowledge exchange but also strengthen its position in broader environmental and sustainability discussions.
- Influence on policies: By actively participating in legislative and technical discussions through platforms like INTERREG and other collaborative ventures, Differdange influences environmental policies beyond its borders. This strategic lever is critical in shaping policies that support the city's aggressive carbon neutrality targets.
- Resource mobilization: The city's initiative to integrate stakeholders from various sectors including political, industrial, and educational institutions into the sustainability dialogue exemplifies its holistic approach to governance. This aligns with the broader policy framework that seeks to unify different sectors towards common environmental goals.

Urban planning

Development of specific projects:

- The LSAP-CSV coalition program prioritizes ecological sustainability in urban planning, leading to the implementation of projects that integrate green spaces and biodiversity. This aligns with implementing urban projects that incorporate sustainable technologies and principles.
- Amendments to the General Development Plan (PAG) and Specific Development Plan (PAP) in Differdange emphasize adopting sustainability principles, ensuring new urban developments are designed with ecological considerations at the forefront.
- The focus on thoughtful urban planning facilitates the creation of infrastructures like green roofs and walls, directly contributing to urban cooling and enhancing overall urban resilience.

Political participation and influence:

- Differdange's active political participation in setting ambitious targets for carbon neutrality by 2030 influences local and potentially national urban planning policies by prioritizing sustainability.
- The involvement of municipal representatives in decision-making committees helps steer urban development policies towards more sustainable practices, ensuring that the town's development aligns with broader environmental goals.
- This political engagement fosters strategic partnerships and aligns local urban development policies with regional and international sustainability standards.

Strategic cooperation:

- Differdange's policies promote collaborations with regional and international partners to integrate best practices in sustainable urban development.
- Through projects like the Sustainable Urban Mobility Plan (SUMP), the city leverages cross-border and intercommunal cooperation to enhance its urban mobility infrastructure.
- Strategic partnerships enable the city to implement innovative urban development projects that are sustainable and can serve as a model for other municipalities.

Mobility

Improvement of transport services:

- The Sustainable Urban Mobility Plan (SUMP) introduced by Differdange aims to modernize and make public transport systems more efficient and eco-friendly, directly impacting the systemic lever of enhancing transport services.
- Initiatives to improve public transport are complemented by infrastructure developments that support electric vehicles and non-motorized transport modes, promoting a reduction in urban emissions.
- Enhancing public transport services aligns with the city's goal to reduce transport-related emissions and increase the accessibility and attractiveness of public transport options.

Sustainable mobility initiatives:

- Differdange's commitment to soft mobility, such as promoting cycling and walking, supports systemic levers that encourages sustainable mobility practices.
- The city's efforts to develop infrastructure for cyclists and pedestrians, and promote electric vehicles, reflect a comprehensive approach to reducing reliance on fossil-fuel-dependent transport.
- These initiatives not only reduce emissions but also enhance the quality of urban life, making Differdange a more livable and environmentally responsible community.

Community engagement and education:

- Differdange actively engages its citizens in sustainable mobility practices through educational programs and workshops, raising awareness about the benefits of eco-friendly transport options.
- The city uses various media to communicate the importance of sustainable mobility and to encourage community participation in initiatives like car-sharing and the use of public transport.
- By educating and engaging the community, Differdange ensures that its policies are supported by the residents, fostering a collective approach to achieving its mobility and environmental goals.

Compensation

- Local and regional offsets: Differdange's local policy supports the planting of urban trees and the creation of green façades as part of its broader strategy to offset carbon emissions, aligning with the systemic lever of implementing local offsets.
- International offsets: The city's environmental policies include participating in international carbon capture and storage projects, which complements its local efforts to achieve carbon neutrality, reflecting the systemic lever of international cooperation for compensation.

Climate Adaptation

- Infrastructure adaptations: The city's policies for adapting infrastructure to climate impacts are seen in the modifications to urban planning and building regulations, supporting the systemic lever of infrastructure adaptations.
- Policy development: Differdange's development of policies that facilitate climate adaptation strategies is evident in its comprehensive approach to integrating climate resilience into urban and spatial planning.

Social innovation

- Innovative social programs: Differdange fosters social cohesion through environmental projects like community gardens, aligning with the systemic lever of promoting innovative social programs that integrate environmental and social goals.
- Stakeholder engagement: The city's strong governance model facilitates stakeholder engagement by encouraging diverse community participation in environmental initiatives, thus enhancing social innovation and broad-based support for sustainability.

Opportunities:

In the context of the City of Differdange's coalition contract and the ambitious objectives of the Net Zero Cities mission, the opportunities identified offer strategic levers that can significantly transform the urban landscape, mobility, and energy and waste management. These opportunities are examined in detail below, with a view to determining how they can contribute to achieving the City's environmental and sustainable development objectives.

Population growth and urban management

Differdange's demographic growth represents a double opportunity. On the one hand, it requires careful management to ensure that the town's expansion is sustainable. On the other hand, it offers a chance to integrate ecological principles into the development of new neighbourhoods and the renovation of existing structures. These actions would significantly reduce carbon emissions while improving the quality of urban life.

Architectural heritage and modernization

The presence of old buildings in the city is a boon for renovation projects focusing on energy efficiency and the use of sustainable materials. Retrofitting these buildings with modern technologies such as thermal insulation and the installation of energy-efficient heating and cooling systems can significantly reduce energy consumption.

Exploiting our natural and geological heritage

Differdange's geological location, which is favourable to geothermal energy, offers a unique opportunity to develop local renewable energy sources. Exploiting this resource can significantly reduce dependence on fossil fuels, bringing the town into line with the energy transition objectives advocated by Net Zero Cities.

A dynamic young population and cultural diversity

The cultural diversity and youthfulness of Differdange's population are valuable assets for promoting innovative sustainability initiatives. These demographic groups are often more open to change and can become ambassadors for soft mobility and sustainable consumption practices.

Valuing political courage and grassroots policies

The political courage shown by Differdange's leaders makes it easier to adopt measures that are sometimes difficult but necessary to achieve carbon neutrality. The policy of short circuits, in particular, not only supports the local economy but also encourages responsible consumption and reduces emissions linked to the transport of consumer goods.

Promoting soft mobility

A commitment to soft mobility, supported by appropriate infrastructure, can transform people's travel habits, reducing greenhouse gas emissions and improving public health. Expanding networks of cycle paths and footpaths encourages residents to opt for greener alternatives to motorised transport.

Optimised network infrastructure

The city's high-performance networks, including broadband internet, gas, district heating and electricity, provide a solid foundation for integrating advanced technological solutions into the day-to-day management of the city. These infrastructures enable the efficient implementation of intelligent energy and waste management systems.

Public-private partnerships and investment

Public-private partnerships (PPPs) and private investment offer financial resources and technical expertise that can accelerate the deployment of sustainable infrastructure projects. These collaborations can also introduce innovations in waste management, building energy efficiency and public transport systems.

In conclusion, the combination of these opportunities with a coherent strategy and a clear vision can enable Differdange not only to achieve but to surpass the objectives of the Net Zero Cities mission. However, this requires meticulous coordination, strong commitment from all stakeholders and continued investment in green technologies and infrastructure. By actively engaging its population in this transformation process, Differdange can become a model of sustainable urban development.

Global strategy that integrates various means of communication and engagement - Ways of achieving collective understanding

To achieve the ambitious objectives of the City of Differdange's coalition contract and the Net Zero Cities mission, it is essential to deploy a global strategy that integrates various means of communication and engagement. The use of all media channels, citizen participation, education, culture, clubs, events, as well as the application of taxes and the granting of subsidies, are all levers that can transform society and encourage sustainable changes in the areas of mobility, energy, waste management and urban planning.

Using all media channels

The use of all media channels is crucial to raising awareness and mobilising the population around the challenges of sustainable development and the energy transition. Whether through information campaigns on social networks, educational television programmes, radio broadcasts or press articles, each platform can reach a different audience and complement awareness-raising efforts. This media strategy makes it possible to spread clear and engaging messages about the importance of reducing CO2 emissions, recycling waste, and promoting soft mobility and green urban planning.

Citizen Participation

Citizen participation is fundamental to co-constructing public policies with residents, which increases their acceptability and effectiveness. Open forums, public consultations and participatory workshops enable residents to contribute directly to the decisions that affect their daily environment. This encourages the adoption of sustainable practices and strengthens community commitment to carbon neutrality objectives.

Education, schools, Life Long Learning

Education is a cornerstone of social transformation. By integrating programmes on sustainable development, renewable energy and resource efficiency into school curricula and through lifelong learning initiatives, Differdange can cultivate a generation that is aware of and prepared to support the city's ambitions. These educational efforts must be accompanied by practical projects such as the creation of school gardens or student-led recycling programmes.

Culture, Clubs, Events

Culture, clubs and events play a dynamic role in spreading the values of sustainability. Through eco-festivals, renewable energy exhibitions, and soft mobility sports competitions, the city can engage various segments of the population. These cultural and recreational initiatives reinforce the message that sustainable development is not only necessary, but also enriching and inclusive.

Taxes and subsidies

Financial instruments such as environmental taxes and subsidies for clean technologies encourage individuals and businesses to adopt greener practices. Taxes can discourage behaviour that is harmful to the environment, while subsidies reduce the economic barriers to adopting sustainable solutions such as insulating buildings, installing solar panels or buying electric vehicles.

Projects and changes

Specific projects such as the development of new public transport infrastructure, the energy renovation of public buildings, or the creation of innovative sorting centres are essential to achieving Differdange's

vision. These projects must be designed to maximize their environmental and social impact, and managed with total transparency to maintain public confidence.

In conclusion, the combination of these different means constitutes a holistic and integrated approach necessary to achieve Differdange's sustainability objectives. By acting simultaneously on several fronts, the city can accelerate its transition to a net-zero society, while ensuring the well-being of its residents and the protection of its natural environment. These efforts must be constantly evaluated and adjusted to ensure their effectiveness and relevance, with a view to creating a sustainable and inclusive future.

To fully achieve Differdange's objectives, it is essential that all the levers are not only activated but also harmonised. The role of governance is crucial in this process, as it ensures coherence and synergy between initiatives. For example, urban planning projects must be coordinated with mobility policies to ensure that new infrastructure supports sustainable modes of transport and that urban development promotes accessibility and the reduction of emissions.

Similarly, education and citizen participation initiatives must be aligned with concrete actions on the ground. This means providing citizens with the knowledge and skills they need to make an effective contribution to their city's environmental objectives. For example, informing residents about the benefits of renewable energy and involving them in the planning of urban green spaces will increase the chances of success of these initiatives.

Subsidies and tax incentives should be used strategically to encourage investment in green technologies and sustainable practices. These financial measures must be designed to be fair and equitable, ensuring that they do not place a disproportionate burden on the less well-off while encouraging businesses and industries to reduce their carbon footprint.

In addition, strengthening high-performance networks such as the internet and electricity can catalyze the adoption of intelligent, interconnected solutions, such as home automation to optimize energy use or intelligent waste management systems. These technologies can significantly increase the effectiveness of conservation and resource management measures, while offering citizens a better quality of life.

Community involvement is also vital. Projects must be designed with a strong consultation and participation component to ensure that they meet the real needs of citizens and enjoy broad popular support. This can include online platforms for feedback, regular public meetings and the creation of working groups involving residents in monitoring projects.

Finally, it is crucial that Differdange continues to take a proactive and preventative approach to managing environmental and social risks. This includes putting in place robust systems for monitoring, evaluating and continually adjusting the policies and actions in place. By being attentive to changes in the global environment and remaining flexible and responsive, Differdange can not only achieve its carbon neutrality objectives, but also serve as a model for other cities around the world.

So, by fully exploiting these opportunities, focusing on systemic levers, and implementing strategies based on an integrated and participatory approach, Differdange can realize its vision of a sustainable and resilient city for current and future generations.

Monitoring

As part of Differdange's ambitious mission to achieve carbon neutrality by 2030, as set out in the city's coalition contract and aligned with the objectives of the Net Zero Cities mission, a series of systematic monitoring strategies is essential to evaluate, adjust and optimize sustainable development efforts in the areas of mobility, energy, waste management and urban planning. These strategies will not only monitor progress but also ensure that the city makes effective progress towards its ambitious targets.

Counting

Metering in the areas of transport, water and electricity are crucial tools for assessing the effectiveness of the policies put in place. By accurately measuring resource use and mobility flows, Differdange can optimize its infrastructure and services to reduce unnecessary consumption and improve sustainability. For example, data from transport counts can help to readjust public transport timetables and improve cycle path networks to better meet users' needs, thereby reducing CO2 emissions.

Surveys and questionnaires

Surveys and questionnaires can be used to gather crucial data on people's attitudes and behaviour towards environmental initiatives. This form of feedback is essential for understanding the obstacles to public participation and adjusting awareness campaigns. For example, a study into the acceptability of renewable energy technologies may reveal cultural resistance that could then be addressed through targeted educational programs.

Air and water quality measurements

Monitoring air and water quality provides essential data on the environmental impact of urban policies. These measurements help to identify sources of pollution and assess the effectiveness of existing regulations. For example, a measurable improvement in air quality following the installation of low-emission zones can justify the expansion of these zones.

Citizen Participation

Citizen participation is fundamental to the success of environmental initiatives. By actively involving citizens in the monitoring and evaluation of projects, the city can not only strengthen transparency and trust, but also take advantage of local knowledge to improve urban management. Participatory workshops and online forums are effective ways of engaging citizens in the ongoing monitoring of sustainable development projects.

Budget and Finance

Budget and finance monitoring helps to ensure that investments in infrastructure and green technologies are made in an efficient and responsible manner. It also helps to identify additional funding needs and adjust budget allocations to maximize the environmental impact of public spending.

Stakeholder engagement

The involvement of stakeholders, including local businesses, non-governmental organisations and academic institutions, enriches the monitoring process with diverse expertise. These collaborations can lead to innovations in environmental monitoring and reporting, such as the development of key performance indicators specific to Differdange.

Number of projects completed

Tracking the number of projects completed provides a quantifiable view of progress towards sustainable development goals. This not only allows us to celebrate successes but also to identify areas requiring further attention.

Invoices and waste management

Analysis of waste-related invoices can provide insights into consumption and recycling trends. This data is crucial for adjusting waste management policies and promoting more sustainable consumption behaviour in the community.

Using ClimateView software

The adoption of ClimateView software enables integrated visualisation and management of data relating to carbon emissions and reduction efforts. This tool can help Differdange centralizes its environmental monitoring data, making it easier to analyze and communicate progress towards carbon neutrality. By highlighting areas where progress is insufficient or where interventions are most effective, the tool supports strategic and targeted decision-making.

Together, these monitoring methods, in synergy with the systemic levers identified in the areas of mobility, energy, waste management and urban planning, create a robust framework for Differdange to achieve its ambitious targets. Each of these strategies contributes to building a solid data infrastructure, which is essential for steering sustainable development initiatives in an informed and responsive way.

In summary, the adoption of rigorous and diversified monitoring practices enables Differdange to:

Optimise resources and infrastructure: With a better understanding of traffic flows, energy consumption and waste production, the city can optimize the use of existing infrastructure and effectively plan new construction or renovations to maximize their sustainability and energy efficiency.

Improving accountability and transparency: By making the results of environmental measures public and regularly engaging the community in review and feedback processes, Differdange is strengthening the confidence of citizens and investors in its environmental approach, while stimulating a culture of collective responsibility.

Encouraging innovation and adaptation: Continuous monitoring of environmental trends and the results of initiatives enables the city to adapt quickly to changes and emerging challenges. This responsiveness is crucial in a context of rapid climate change and constant technological innovation.

Monitoring strategies are not just tools for measuring progress, but catalysts for continuous improvement. They allow gaps to be identified, successes to be highlighted, and resources to be strategically redirected to reinforce the positive impacts of environmental policies. As a result, Differdange, armed with these tools and approaches, is better equipped to transform its environmental challenges into opportunities for sustainable development, while moving resolutely towards achieving the objectives of its ambitious carbon neutrality plan.



a-2.3: Gap Emissions											
	(1) Baseline emissions	(2) Emissions Reduction Target 2030		(3) Emission reduction through other Action Plans		(4) Gap Emissions		(5) Emissions reduction through the CCC Action Plan to address the Gap		(6) Residual emissions	
	Baseline emissions (ideally not older than 2018) - referring to the inventory used for target setting	The emissions reduction target for 2030 ideally achieves a minimum 80% reduction from the baseline, as reported in Section 2 of the Commitments document of the CCC. The overall target should be absolute or net-zero (i.e. including the compensation of any residual emissions).		These are the emissions reductions that would be achieved through existing policies, and plans, outlined in Section A-2.1. Those actions are by definition not part of the action portfolio in section B. If they are fully or partially incorporated in module B- 2, their associated reduction potential should be referenced in column (5) and not be included here. WARNING if the baseline is a BAU scenario: If the BAU modelling includes any of these existing measures, please also do not include the associated emissions reduction in this column as otherwise it would be double counted.		(4) = (2) – (3)		This column is used to present the already quantified emission reduction associated with the action portfolios outlined in module B-2. Ideally, this equals the gap. If the there is a difference between the reduction potential of the actions specified in module B-2 (for instance because their reduction potential has not been fully estimated or because additional measures will be identified in future iterations), the CCC AP should be explicit about this difference and explain how the difference will be closed. In principle, as long as the difference has not been addressed, it would be considered as part of the residual emissions.		(6) = (1) – (2)	
	(absolute) (specify units)	(absolute)	(%)	(absolute)	(%)	(absolute)	(%)	(absolute)	(%)	(absolute)	(%)
Buildings											
Transport											
Waste											



Industrial Process and Product Use (IPPU)											
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95% of our emissions are emitted by our industrial complexes, we cannot estimate a gap.

4.3 Module A-3 Systemic Barriers and Opportunities to 2030 Climate Neutrality

A-3.1: Description of urban systems, systemic barriers, and opportunities Emissions domain waste systems

	Stakeholders	Interest	Influence
A – Citizens	Households		
A1 – Civil society	Civil society	4	3
	TNT (Territoire Naturel Transfrontalier de la Chiers et de l'Alzette)	2	2
	Federation Saint-Hubert des Chasseurs Luxembourgeois (FSHCL)	2	2
B – Business	HORESCA	4	4
	Differdange Traders Association (ACOMM)	3	4
	Hospitals and doctors (CHEM; number of doctors)	2	3
C – Knowledge institutions	Luxembourg Institute of Science and Technology (LIST)	5	3
	LUNEX, University of Miami	3	2
	Schools and Highschools	3	3
	Science Center	2	1
D – Local government	Mayor and Aldermen of Differdange	5	5
E – (Semi-) Public governments	Ministry of Environment, Climate and Biodiversity	5	5
	The Environmental Administration – AEV	5	5
	Nature and Forestry Administration – ANF	5	5
	Water Management Administration - AGE	5	5
	The Ministry of Agriculture, Food and Viticulture	4	4
	Inter-municipal trade unions	5	5
	Luxembourg Chamber of Agriculture	3	4

Interest: 1-5, 1 being lowest, 5 being highest level of interest

Influence: 1-5, 1 being lowest, 5 being highest level of influence

Emissions domain energy systems

	Stakeholders	Interest	Influence
A – Citizens	Households	4	3
A1 – Civil society	Civil society	2	2
	Federation Saint-Hubert des Chasseurs Luxembourgeois (FSHCL)	1	1
B – Business	Arcelor Mittal	4	4
	Differdange Traders Association (ACOMM)	3	4
	SUDenergie	5	4
	LUXENERGY	5	4
C – Knowledge institutions	Luxembourg Institute of Science and Technology (LIST)	5	3
	LUNEX, University of Miami	3	2
	Schools and Highschools	3	3
	Science Center	2	1
D – Local government	Mayor and Aldermen of Differdange	5	5
E – (Semi-) Public governments	Ministry of Environment, Climate and Biodiversity	5	5
	The Environmental Administration – AEV	5	5
	Ministry of Economy	5	5
	The Ministry of Mobility and Public Works	5	5
	The Ministry of Agriculture, Food and Viticulture	4	4
	Inter-municipal trade unions	5	5
	Luxembourg Chamber of Agriculture	2	3
	Klima Agency	4	3
	Creos	5	5

Interest: 1-5, 1 being lowest, 5 being highest level of interest

Influence: 1-5, 1 being lowest, 5 being highest level of influence

Emissions domain mobility systems

	Stakeholders	Interest	Influence
A – Citizens	Households	4	3
	Through traffic	4	2
A1 – Civil society	Civil society	4	3
	Road safety	4	2
	Automobile Club du Luxembourg (ACL)	5	3
B – Business	Arcelor Mittal	4	4
	Differdange Traders Association (ACOMM)	3	4
	SUDenergie	5	4
	LUXENERGY	5	4
C – Knowledge institutions	Luxembourg Institute of Science and Technology (LIST)	5	3
	LUNEX, University of Miami	3	2
	Schools and Highschools	3	3
	Science Center	2	1
D – Local government	Mayor and Aldermen of Differdange	5	5
E – (Semi-) Public governments	Ministry of Economy	5	5
	The Ministry of Mobility and Public Works	5	5
	Public Transport Administration (ATP)	5	5
	Administration of bridges and carriageways	4	5
	General Road Transport Regime (RGTR)	4	4
	Inter-municipal passenger transport in the canton of Esch-sur-Alzette (TICE)	5	4
	Luxembourg National Railway Company (CFL)	5	5
	Inter-municipal trade unions		
	Chamber of Trades Luxembourg	5	5
	POST Luxembourg	2	2
		5	5

Interest: 1-5, 1 being lowest, 5 being highest level of interest

Influence: 1-5, 1 being lowest, 5 being highest level of influence

Emissions domain city planning (green infrastructure and nature-based solutions) systems

	Stakeholders	Interest	Influence
A – Citizens	Households	3	2
A1 – Civil society	Civil society	2	2
B – Business	All businesses	4	3
	Differdange Traders Association (ACOMM)	3	3
C – Knowledge institutions	Luxembourg Institute of Science and Technology (LIST)	5	2
D – Local government	Mayor and Aldermen of Differdange	5	5
E – (Semi-) Public governments	Ministry of Economy	5	5
	The Ministry of Mobility and Public Works	5	5
	Public Transport Administration (ATP)	2	5
	Inter-municipal trade unions	5	2

Interest: 1-5, 1 being lowest, 5 being highest level of interest

Influence: 1-5, 1 being lowest, 5 being highest level of influence

Throughout the development of the Climate City Contract (CCC), Differdange reached out to various stakeholders for their input and potential commitment. Many expressed a preference to review the finalized document before confirming their involvement. Despite this, the city remains confident in gaining the necessary support from these stakeholders. To formalize this, a significant event is planned for 2025, where all key stakeholders will be invited to officially sign the CCC.

A-3.2: Description of Systemic Barriers and Opportunities – Textual Elements

Energy systems	
Barrier	Description
Lack of manpower in the craft sector:	This can directly affect the implementation of energy projects, especially in the fields of energy renovation and the installation of renewable energy systems.
Legislation and administrative procedures that complicate the process or prevent it:	This barrier can directly impact the deployment of energy infrastructure, such as wind or solar farms, or the energy renovation of buildings due to the complexity of the approvals required.
There is an international shortage of materials and rising prices:	This directly affects the energy sector, particularly for construction or renovation projects aimed at improving energy efficiency or installing renewable technologies.
Substantial delay in 2023 due to national and local elections:	This delay indirectly affected the progress within the mission in the energy field by slowing down the adoption and implementation of essential new energy policies or reforms, including transitions to renewable energy sources or improvements in energy efficiency.
Siloing:	The siloing of different departments or sectors can limit the coordination and integration of energy initiatives with other urban development, mobility or infrastructure policies. This can slow progress towards more integrated and optimised energy management.
The collective mindset is not yet ready to accept the necessary changes:	This can indirectly affect energy initiatives by limiting the population's receptiveness to new technologies or practices, such as adopting greener heating systems or installing solar panels. Resistance to change can hamper energy transition efforts.
Different political interests complicate the process:	Conflicting interests between different political groups can delay or derail energy initiatives, particularly those that require consensus or compromised to move forward, such as major energy infrastructure projects or energy policy reforms.
Economic interests at odds with the mission:	Economic interests that are not aligned with energy sustainability goals can prevent or slow down the implementation of environmentally friendly energy policies, such as support for renewable energies or investments in energy efficiency.
Environmental protection and climate protection sometimes conflict:	Sometimes, environmental protection strategies can come into conflict with climate protection measures, especially in the energy context, where certain solutions may benefit the climate but be less favourable to the local environment (e.g. certain forms of biomass).

Waste management systems	
Barrier	Description
Siloing:	Operating in silos can make it difficult to coordinate the various municipal departments responsible for waste management, recycling and urban planning. This can hamper the effectiveness of waste management initiatives, as an integrated approach is often needed to optimize recycling and waste reduction systems.
Lack of manpower in the craft sector:	This deficit can affect the city's ability to implement construction or renovation projects that incorporate effective waste management practices, such as recycling construction materials and reducing waste on building sites.
Legislation and administrative procedures that complicate or prevent the process:	Rigid regulations or cumbersome administrative procedures can slow down the adoption of new waste management technologies or practices, such as the introduction of advanced sorting systems or innovative composting technologies.
The collective mentality is not yet ready to accept the necessary changes:	Cultural resistance or a lack of awareness of the benefits of recycling and waste reduction can limit the adoption of sustainable behaviour by citizens.
Different political interests complicate the process:	Differences between political parties or within government can hamper the implementation of coherent waste management policies, especially if they require significant investment or major legislative changes.
Constraints linked to the implementation of PPPs (Public-Private Partnerships) hampers the implementation of projects:	Challenges related to financing and public market requirements in PPPs can limit the city's ability to launch or expand innovative waste management projects that require collaboration between the public and private sectors.

Mobility systems	
Barrier	Description
Substantial delay in 2023 due to national and local elections:	These delays can have a direct impact on mobility projects by delaying decisions and the allocation of funds needed to improve transport infrastructure.
Siloing:	This phenomenon can hamper an integrated and effective approach to mobility policies, limiting the capacity for coordination between different departments (public transport, urban planning, environment).
Lack of skilled labour:	A lack of skilled labour can slow down transport infrastructure projects, such as the construction of new public transport lines or the renovation of existing systems.
Legislation and administrative procedures that complicate or prevent the process:	Strict regulations can limit the adoption of new mobility technologies or delay the implementation of innovative transport plans.
The collective mentality is not yet ready to accept the necessary changes:	The siloing of different departments or sectors can limit the coordination and integration of energy initiatives with other urban development, mobility or infrastructure policies. This can slow progress towards more integrated and optimised energy management.
Different political interests complicate the process:	Resistance to change can limit the adoption of more sustainable modes of transport, such as public transport or cycling.
We are facing two-speed development - we are losing the majority of the population as we move forward:	This divergence can create inequalities in access to mobility solutions and reduce the effectiveness of public policies.
The mobility network is dense and difficult to change:	The existence of old and heavy infrastructure can complicate projects to renovate or extend transport networks, requiring major investment and complex planning.
There is an international shortage of materials and rising prices:	This can affect the construction or maintenance of transport infrastructure, as well as the transition to EVs, increasing costs and delaying projects.

City planning systems	
Barrier	Description
Substantial delay in 2023 due to national and local elections:	These delays can affect the implementation of sustainable urban projects, as changes in administrations can lead to revisions or pauses in the planning and execution of initiatives.
Siloing:	Siloed operations between different departments can hinder the integration of green infrastructure into urban planning projects, limiting the ability to create coherent, multifunctional urban spaces.
Legislation and administrative procedures that complicate or prevent the process:	Complex or restrictive regulations can delay the adoption of green building standards and the implementation of green infrastructure projects.
The collective mentality is not yet ready to accept the necessary changes:	Resistance to change can limit acceptance of new urban developments that promote sustainability, such as green roofs or pedestrianised zones.
Different political interests complicate the process:	Differing interests among political players can lead to conflicts that delay or distort urban planning for sustainability.
The habit of thinking in terms of legislative periods rather than long-term missions complicates the approach:	This short-term vision can hinder the planning and implementation of urban projects that require long-term commitments.
We have reached a plateau where change becomes more difficult or stagnant:	Reaching a level of saturation in urban planning innovations or improvements can make it difficult to make further progress without renewed efforts or new approaches.
The city is partly made up of old buildings:	Integrating green infrastructure into existing structures can be complicated and costly, requiring creative and adaptive solutions.
Limited public space:	The scarcity of space available for new green developments or for the ecological renovation of existing spaces can limit the options for expanding green infrastructure.

A-3.3: Description or Visualisation of Participatory Model for the City Climate Neutrality

The City of Differdange has made a serious commitment to adopt a participatory model to achieve climate neutrality, working closely with EVERARD Consulting & Communication to prepare, organize and implement various community workshops. This strategic partnership has made it possible to structure effective thematic workshops focusing on key issues such as energy, mobility, waste management and environmental education, among others.

Workshop approach

The Differdange workshops were designed to maximize citizen participation and facilitate constructive exchange. For example, the 'Living sustainably in Differdange' workshop used thematic round tables to allow participants to discuss in small groups, encouraging richer and more intimate interaction. Each table addressed a different aspect of sustainability, ensuring that a range of topics were covered comprehensively.

Short resume of the workshops that were already organised and helped the city complete the action plan:

Summary of the report on the 'Living sustainably in Differdange' workshop

The 'Living sustainably in Differdange' workshop, held on 9 December 2023, inaugurated a series of initiatives to integrate the community into the 'Net Zero Differdange 2030' project. Thirty participants explored dimensions of urban sustainability such as energy, waste management and education, in the presence of the city's aldermen. The discussions generated recommendations such as improving infrastructure for soft mobility, moving away from fossil fuels, and strengthening education on the circular economy. The workshop also highlighted the importance of communication and awareness-raising in achieving sustainability goals.

Summary of the report on the 'Towards net zero energy together' workshop

This workshop, held on 20 April 2024, brought together citizens and experts to discuss the energy transition in Differdange. Participants examined initiatives such as the decarbonisation of SudEnergie and the development of a 'smart grid' by Creos. Discussions focused on the move away from fossil fuels, the challenges of the transition, and the importance of building renovation for energy efficiency. Obstacles identified included cumbersome administrative procedures and delays in reimbursing subsidies. Suggestions for improving acceptance of energy measures include offering free advice and financial incentives.

Summary of the report on the 'Together for net-zero mobility' workshop

The third workshop, on 8 June 2024, focused on urban mobility. Participants used an interactive map to identify and discuss critical mobility issues in Differdange. They identified a number of problems, such as the lack of safe cycle paths and the need for better coordination of public transport. The discussions led to proposals to improve safety for pedestrians and cyclists and to reduce dependence

on private vehicles. The workshop also looked at ways of encouraging the use of public transport and integrating soft mobility more effectively into urban planning.

Effects on systemic levers and impact pathways

Infrastructure and Energy:

The workshops highlighted the need to improve infrastructure to support sustainable mobility and renewable energy. For example, the discussion on energy revealed a strong desire for solutions such as geothermal energy and photovoltaic panels, underlining the need to invest in these technologies to reduce dependence on fossil fuels.

Education and awareness:

In terms of education, the workshops reinforced the need to integrate sustainability education into school curricula and to raise awareness among the general public through informative campaigns. This was identified as essential for changing behaviour in the long term.

Waste management:

Discussions on waste management led to recommendations to improve recycling and reduce waste production. This includes initiatives such as improving sorting infrastructure and promoting community composting.

Sustainable mobility:

The focus on mobility demonstrated the importance of developing alternatives to individual motorised transport, such as strengthening public transport networks and developing safe cycle paths.

In summary, the participatory workshops in Differdange played a crucial role in developing strategies to achieve climate neutrality. Serious collaboration with EVERARD Consulting & Communication not only facilitated a fruitful dialogue, but also helped to align the town's actions with the aspirations of its citizens. These initiatives, if well implemented, could serve as a model for other cities seeking to become more sustainable communities.

5 Part B – Pathways towards Climate Neutrality by 2030

5.1 Module B-1 Climate Neutrality Scenarios and Impact Pathways

The city of Differdange has identified these Impact Pathways / Fields of action:

Waste management and circular economy	(WM)
Energy management	(MS)
Urban planning - improving quality of life	(UP)
Mobility and transport	(MT)
Co2 Offsetting	(CO)
Climate adaptation	(CA)
Social innovation	(SI)

Within these Fields of Action, the city defined several themes, that help categorize the different approaches and systemic levers.

WM	1	Reducing food waste
WM	2	Reducing the volume of waste
WM	3	Improving the efficiency of waste processing
WM	4	Circular economy
WM	5	Organisational Optimisation
WM	6	Littering
MS	1	Home improvements
MS	2	Decarbonisation
MS	3	Energy production
MS	4	Energy savings
UP	1	Architecture - public buildings
UP	2	Urban spaces
UP	3	Architecture - private buildings
MT	1	Public transport - bus
MT	2	Public transport - rails
MT	3	Motorised transport - reduction
MT	4	Motorised transport - electrification
MT	5	Soft mobility – empowering walkability
MT	6	Soft mobility – empowering soft mobility
MT	7	Logistics
CO	1	Local offsetting (40% of remaining emissions)
CO	2	Regional offsetting
CO	3	International ofsetting
CO	4	Purchase of international offset certificates (maximum 20% of remaining emissions)
CA	1	Urban development - mineral public squares
CA	2	Urban development - natural public squares
CA	3	Private developments
SI	1	Civic participation
SI	2	Awareness Raising
SI	3	Communication
SI	4	EU projects

B-1.1: Impact Pathways					
Fields of action	Systemic levers	Early changes (1-2 years)	Late outcomes (3-4 years)	Direct impacts (Emission reductions)	Indirect impacts (co-benefits)
Waste management and circular economy	WM 1. Reducing food waste	<p>In Differdange, efforts to reduce food waste over the first couple of years have focused on enhancing citizen engagement and optimizing waste management with AI-enhanced smart bins. A local startup has shown that reducing kitchen waste by up to 50% is achievable through data-driven strategies. Additionally, the city has increased its commitment to local produce and organic farming, supplementing these efforts with educational initiatives to foster a community-wide commitment to sustainability.</p>	<p>Differdange aims to solidify food waste initiatives into lasting practices. An advisory council could formalize, enhancing the role of food systems in policy discussions and securing pilot projects as permanent strategies. Expected outcomes include a doubling of local food production and improved storage facilities, fostering longer-lasting, quality food supplies. Moreover, a shift towards "rescued food" is anticipated to alter public attitudes and behaviors, significantly increasing the use of seasonal vegetables in public dining facilities, reflecting a broader commitment to sustainable consumption.</p>	<p>The systemic approach to reducing food waste in Differdange has enabled substantial environmental improvements, achieving up to a 50% reduction in waste. By prioritizing local production, the city minimizes greenhouse gas emissions associated with imported goods and enhances local product preservation. Bulk purchasing and efficient energy use further decrease carbon footprints. These efforts result in significant reductions in organic waste and indirect emissions (scope 2), although the exact greenhouse gas reductions are not quantifiable.</p>	<p>As part of the reduction of food waste (WM 1.1.), Differdange encourages a holistic approach to achieve significant indirect impacts. Food advice stimulates policies for GHG reductions, strengthening commitment at all levels, from kitchen to policy. Increased awareness, coupled with improved nutrition through greater use of local and seasonal produce, boosts public health and saves citizens money. These combined efforts not only improve food quality, but also raise overall environmental awareness.</p>



B-1.1: Impact Pathways

Fields of action	Systemic levers	Early changes (1-2 years)	Late outcomes (3-4 years)	Direct impacts (Emission reductions)	Indirect impacts (co-benefits)
Waste management and circular economy	WM 2. Reducing the volume of waste	Early changes include a change in mentality as well as the implementation of offers and services helping citizens to repair and reuse items. A second approach will be the use of measures pushing the citizens and businesses to generate less waste, by imposing taxes or intelligent locks on bins. The city itself could profit by installing waste compressing wastebins on public places and sensors that inform on the level of waste contains in the bins.	In subsequent years, Differdange will adjust waste taxes to reflect the new standards, potentially by taxing previously untaxed waste. The quality and sorting of waste collected will improve, reducing undervalued construction waste for recycling. Initiatives will encourage longer-lasting products and greater social cohesion. Packaging waste will be significantly reduced through repeated reforms and logistical optimisation of collections, reducing costs and increasing savings for citizens and management services. These changes will bring about a change in mentality, favouring both the economy and the environment.	Direct changes include a significant reduction in the overall mass of waste and an improvement in the quality of waste processed at the recycling park. This will result in a corresponding reduction in greenhouse gas (GHG) emissions associated with waste production and treatment. The reduction in the volume of waste will also make it possible to reduce the frequency of collections, thereby further reducing GHG emissions. The reduction in packaging waste will also contribute to these positive results.	Reductions in waste collection rounds could reduce greenhouse gas emissions from lorries, while posing a risk of littering if surveillance is inadequate. Better channelling of construction waste to specialist recycling centres is planned, improving the service for citizens while reducing professional waste. Education on product repair will promote social cohesion and reduce consumption. Finally, more accurate data on waste production will enable awareness campaigns to be targeted more effectively, and reducing the materials used during festivities and the mileage of collection lorries will also contribute to a more sustainable environment.

B-1.1: Impact Pathways



Fields of action	Systemic levers	Early changes (1-2 years)	Late outcomes (3-4 years)	Direct impacts (Emission reductions)	Indirect impacts (co-benefits)
Waste management and circular economy	WM 3. Improving the efficiency of waste processing	Differdange plans to initiate various investments and feasibility studies to optimise waste management and the production of recyclable materials, while integrating new adapted machinery. A significant increase in the recycling rate for waste, particularly construction waste, is planned, with a particular focus on improving sorting in residential buildings. Redirected waste will benefit from a better quality of treatment. Efforts to raise awareness of recycling and reuse through education and the sharing of best practice are also envisaged, notably through targeted campaigns and the recovery of green waste to create areas of biodiversity, thereby reducing greenhouse gas emissions and logistical costs.	<p>In the near future, Differdange is moving towards a significant increase in the production of thermal and electrical energy, strengthening its position as a leader in the local energy transition. Politicians will actively promote this project, aiming for a significant increase in the rate of recycling of problematic waste. A review of the recycling system is planned to reduce the weight of packaging and redesign it.</p> <p>Improving biogas and compost management will also be a priority, along with a strategy to reduce methane emissions.</p> <p>A new local resale point for second-hand products will help to enrich the circular economy. The recycling park will evolve into an awareness centre, improving waste management through the adoption of environmentally friendly practices.</p>	<p>As part of its transition to more sustainable practices, the city will reduce its reliance on imported energy, encouraging the use of local renewable sources. This shift will lead to a significant drop in greenhouse gas emissions, mainly through reduced methane emissions and enhanced recycling efforts that will lower the carbon footprint. Moreover, reductions in packaging use and the optimization of logistics are expected to result in substantial savings in fuel and materials. The city will also increase its production of carbon-neutral energy and enhance the circularity of its resources, reducing the need for new materials and contributing to overall savings on transport and fossil fuels.</p>	<p>Differdange will focus on looking at greener alternatives on a national scale, while raising awareness of the importance of recycling and waste reduction, aiming for significant savings. Through these actions, the town will strengthen its reputation and stimulate local employment, notably by developing natural resources. It will also improve the quality of the Chier's water and extend its district heating system, reinforcing its commitment to an energy transition, including the use of hydrogen from Arcelor. Recycling will become less costly thanks to optimised channels, and the recycling park will evolve into a social hub for initiatives such as Repair Cafés.</p>

B-1.1: Impact Pathways

Fields of action	Systemic levers	Early changes (1-2 years)	Late outcomes (3-4 years)	Direct impacts (Emission reductions)	Indirect impacts (co-benefits)
Waste management and circular economy	WM 4. Circular economy	<p>The marketing of second-hand products, including bicycles, furniture and children's items such as clothes and toys, will be expanded, promoting sustainable consumption. At the same time, the city will adjust the specifications for future tenders, establishing strict constraints aligned with the VDD's sustainability objectives. These adjustments will also be supported by an improved cultural offering and the active promotion of green projects. In addition, the establishment of a local social network will strengthen cohesion and citizenship by encouraging exchanges between residents.</p>	<p>As part of the move towards a circular economy, the VDD has stepped up its efforts to promote the reuse of clothing and toys, as well as the refurbishment of furniture. A precise inventory of usable materials and reusable resources has been drawn up to optimize building renovation and demolition operations. By following strict guidelines, the VDD aims to meet the essential conditions for achieving its waste management objectives, ensuring that resources are used intelligently, economically and sustainably. In addition, the emphasis has been placed on access to culture and improving literacy. A platform for exchanging services and products has also been set up, facilitating the organisation of events and the dissemination of information, thereby helping to beautify the neighbourhoods.</p>	<p>As part of an emerging circular economy, avoiding the production of furniture and other goods by reintegrating them from resources already in circulation can significantly reduce greenhouse gas (GHG) emissions, thanks to the reduction in transport distances and associated logistics. Minimising the production of construction materials and reducing waste, particularly packaging waste, also helps to adapt urban infrastructures to ecological imperatives. The exchange of goods encourages a change in mentality and supports ecological initiatives, thereby multiplying the environmental benefits, while optimised management of green waste and other logistical reductions consolidates the overall reduction in greenhouse gases.</p>	<p>Through the circular economy initiative, job creation and targeted training are helping people back into work, while changing attitudes are encouraging the purchase of repairable and sustainable products. Design offices and architects are adopting these principles right from the project planning stage, helping to reduce construction costs. This transition towards sustainability is also helping to enrich general culture, strengthen social cohesion and beautify neighbourhoods, testifying to the positive societal impact of these changes.</p>

B-1.1: Impact Pathways

Fields of action	Systemic levers	Early changes (1-2 years)	Late outcomes (3-4 years)	Direct impacts (Emission reductions)	Indirect impacts (co-benefits)
Waste management and circular economy	WM 5. Organisational Optimisation	<p>The marketing of second-hand products, including bicycles, furniture and children's items such as clothes and toys, will be expanded, promoting sustainable consumption. At the same time, the city will adjust the specifications for future tenders, establishing strict constraints aligned with the VDD's sustainability objectives. These adjustments will also be supported by an improved cultural offering and the active promotion of green projects. In addition, the establishment of a local social network will strengthen cohesion and citizenship by encouraging exchanges between residents.</p>	<p>As part of the move towards a circular economy, the VDD has stepped up its efforts to promote the reuse of clothing and toys, as well as the refurbishment of furniture. A precise inventory of usable materials and reusable resources has been drawn up to optimize building renovation and demolition operations. By following strict guidelines, the VDD aims to meet the essential conditions for achieving its waste management objectives, ensuring that resources are used intelligently, economically and sustainably. In addition, the emphasis has been placed on access to culture and improving literacy. A platform for exchanging services and products has also been set up, facilitating the organisation of events and the dissemination of information, thereby helping to beautify the neighbourhoods.</p>	<p>As part of an emerging circular economy, avoiding the production of furniture and other goods by reintegrating them from resources already in circulation can significantly reduce greenhouse gas (GHG) emissions, thanks to the reduction in transport distances and associated logistics. Minimising the production of construction materials and reducing waste, particularly packaging waste, also helps to adapt urban infrastructures to ecological imperatives. The exchange of goods encourages a change in mentality and supports ecological initiatives, thereby multiplying the environmental benefits, while optimised management of green waste and other logistical reductions consolidates the overall reduction in greenhouse gases.</p>	<p>Through the circular economy initiative, job creation and targeted training are helping people back into work, while changing attitudes are encouraging the purchase of repairable and sustainable products. Design offices and architects are adopting these principles right from the project planning stage, helping to reduce construction costs. This transition towards sustainability is also helping to enrich general culture, strengthen social cohesion and beautify neighbourhoods, testifying to the positive societal impact of these changes.</p>



B-1.1: Impact Pathways

Fields of action	Systemic levers	Early changes (1-2 years)	Late outcomes (3-4 years)	Direct impacts (Emission reductions)	Indirect impacts (co-benefits)
Waste management and circular economy	WM 6. Organisational Optimisation	The city aims to change the citizens' mentality by organising in situ clean-up events in the adjacent forests and in the city itself that involve interested inhabitants. Differdange also plans to draw up an inventory of the current situation and of littering hotspots.	The later outcomes should be a significant reduction of littering as well as an optimization of the cleaning tours and consequently a heightened efficiency.	The immediate impacts are a reduction of waste in the open through the cleaning events and a reduction of the cleaning costs for the city.	The indirect benefits are a reduction of harmful products accumulating in nature as well as less littering in the city itself.



B-1.1: Impact Pathways

Fields of action	Systemic levers	Early changes (1-2 years)	Late outcomes (3-4 years)	Direct impacts (Emission reductions)	Indirect impacts (co-benefits)
Waste management and circular economy	MS 1. Home improvements	In Differdange, the home improvement program envisages partial or complete renovations for around 4,150 single-family homes. Annually, 6.6% of these units, or around 300 homes, could undergo renovations, reducing gas consumption by around 741 m ³ per unit. Over two years, between 80 and 100 homes could benefit from these improvements. Of these homes, 227 are rated between A and D in terms of energy efficiency, and 910 require renovations. It is anticipated that 10 homes per year will undergo renovations, which would represent up to 70 homes renovated over an annual period, with a forecast of 20 units in the first two years.	Potential of 300 units per year, so 600 units. Each renovation is directly dependent on state subsidies. For the residencies, Differdange aims for 20 buildings.	This action reduces gas consumption by: 1,556,100 m ³ /year in the case of 300 units/year.	Improved quality of life and a degree of independence from fossil fuels.

B-1.1: Impact Pathways

Fields of action	Systemic levers	Early changes (1-2 years)	Late outcomes (3-4 years)	Direct impacts (Emission reductions)	Indirect impacts (co-benefits)
Waste management and circular economy	MS 2. Decarbonisation	<p>Currently, there are 361 single-family homes potentially convertible to heat pumps among new buildings, with projections for annual renovations impacting an additional 300 homes. This totals about 3,061 units, with an anticipated 17% (approximately 500 units) transitioning to heat pump technology. Additionally, the city plans to expand urban heating connections across five networks, totaling 275 units.</p> <p>Roughly 300 residences annually could see a 30% transition to heat pump technology, translating to 10-12 conversions per year. The first phase involves developing a geothermal energy concept for existing urban heating networks in Oberkorn.</p>	<p>As part of the decarbonisation approach, the City of Differdange anticipates a significant change in heating systems, affecting around 17% of the total, or 500 units, which will be equipped with heat pumps. In addition, around 90 units will be connected to district heating networks in five separate areas, while 10 to 12 homes will make the switch each year.</p> <p>The second phase of the project will include the implementation of an energy concept designed to be economically viable, based on the results of the first phase. This will lead to the installation of advanced systems for the decarbonisation of the district heating network in Oberkorn. This phase will also include the actual installation of connections and the gradual replacement of maintenance equipment such as hedge trimmers, lawnmowers and</p>	<p>In Differdange, a major decarbonisation initiative aims to achieve a substantial reduction in gas consumption, with estimated savings of 2.6 million m3 annually for 50% of the 3,061 targeted residential units. In addition, the connection of 275 homes to district heating would save 350,000 m3 of gas each year. The heat pumps installed could reduce gas consumption by 500,000 m3 annually. Together, these measures would contribute to a significant reduction in greenhouse gas emissions, estimated at 1 million m3 of gas saved. In addition, the energy efficiency of the district heating network would be improved by reducing the use of biomass, and a reduction in greenhouse gas emissions would be achieved by reducing dependence on imported fossil fuels.</p>	<p>The city of Differdange's decarbonization efforts are set to enhance residents' quality of life and foster a degree of independence from fossil fuels. Through innovative agreements with Sudenergie, the replacement of traditional heating systems with heat pumps will be facilitated without requiring individual investment, furthering the city's transition to sustainable energy sources. These measures not only promised a quieter urban environment but also significant reductions in energy consumption, aligning with broader environmental goals.</p>

			chainsaws, to further reduce the carbon footprint.		
B-1.1: Impact Pathways					
Fields of action	Systemic levers	Early changes (1-2 years)	Late outcomes (3-4 years)	Direct impacts (Emission reductions)	Indirect impacts (co-benefits)
Waste management and circular economy	MS 3. Energy production	<p>Concerning energy production through solar panels on public buildings, Differdange plans studies and aims for a realisation of 50% of the potential.</p> <p>The installation of the first wind turbine awaits authorisation from public authorities.</p> <p>Differdange is planning the implementation of pellet heating for the project "Aalt Spidol" by decommissioning five gas boilers and replacing them with a pellet boiler in the form of a container, purchased by the municipality.</p>	<p>Differdange aims for the remaining 50% of potential to be realised, concerning energy production through solar panels on public buildings and for implementing the wind turbine project.</p> <p>In Niederkorn, a pellet plant district heating for the public service site and future shopping centre will be implemented. The project "Aalt Spidol" should be widened to allow the development of an energy concept for the entire site, including the use of mine water.</p>	<p>Reducing greenhouse gas emissions by saving imported fossil fuels.</p>	<p>Local production of renewable energy.</p>

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Fields of action	Systemic levers	Early changes (1-2 years)	Late outcomes (3-4 years)	Direct impacts (Emission reductions)	Indirect impacts (co-benefits)
Waste management and circular economy	MS 4. Energy savings	<p>Building renovations and the decarbonization of heating systems are underway. Differdange is working with a partner to optimize its district heating networks.</p> <p>The town will be carrying out feasibility studies for the development of agro-photovoltaics and will be upgrading all its urban lighting to LEDs. This will incorporate LED lighting for sports facilities.</p>	<p>The objectives set in the early outcomes should come to terms in the late outcomes.</p>	<p>Differdange is targeting substantial energy savings thanks to a number of initiatives. Firstly, a significant reduction in greenhouse gases is estimated at 80,000 m3 of gas saved annually. The city is also encouraging households to connect to the district heating network, thereby reducing dependence on imported fossil fuels and further cutting greenhouse gas emissions. The use of LEDs for urban lighting, with options for modulating intensity after midnight, contributes to a reduction in CO2. Taken together, these measures aim to achieve a significant reduction in energy consumption.</p>	<p>The City of Differdange's 'Energy Savings' approach aims to significantly improve citizens' quality of life while increasing their independence from fossil fuels. This initiative makes district heating networks more attractive and encourages synergies with agroforestry projects. In the medium term, we expect to see a significant reduction in maintenance costs, expenditure on equipment, in particular the replacement of lighting units, and general operating costs. In addition, this strategy encourages easier and more flexible use of energy resources, thereby optimizing the city's overall energy efficiency.</p>

B-1.1: Impact Pathways

Fields of action	Systemic levers	Early changes (1-2 years)	Late outcomes (3-4 years)	Direct impacts (Emission reductions)	Indirect impacts (co-benefits)
Waste management and circular economy	UP 1. Architecture – Public buildings	<p>Differdange is planning to revise its Urban Development Plan (PDU). This initiative aims to significantly transform the urban planning and architecture of public buildings to improve the quality of life of its residents. The first stages will include detailed planning and in-depth studies to ensure that future developments are both environmentally sustainable and adapted to the needs of the community.</p> <p>By placing particular emphasis on sustainable construction and infrastructure, Differdange hopes not only to reduce its carbon footprint but also to create more pleasant and functional urban spaces. These changes are likely to include the renovation of existing buildings, the construction of new energy-efficient public buildings, and the creation of green areas.</p>	The objectives set in the early outcomes should come to terms in the late outcomes.	The direct impacts aimed for are a reduction of GHG emissions.	The indirect impacts would be a better quality of life for the citizens.

B-1.1: Impact Pathways

Fields of action	Systemic levers	Early changes (1-2 years)	Late outcomes (3-4 years)	Direct impacts (Emission reductions)	Indirect impacts (co-benefits)
Waste management and circular economy	UP 2. Urban Spacespaces	<p>In the first 1-2 years of the Sustainable Urban Spaces initiative, the town of Differdange could start by reconfiguring small public spaces to incorporate green areas and benches that encourages relaxation and social interaction. This could include the installation of new planting and improved lighting to increase the use and safety of spaces after sunset. Awareness-raising campaigns could also be launched to encourage community involvement in maintaining and enhancing the renovated spaces.</p>	<p>Within 3 to 4 years, the late changes under the 'Espaces Urbains Durables' project in Differdange could include a significant increase in urban biodiversity thanks to the increased greening of public spaces. The redeveloped areas could become active social hubs, improving community cohesion and quality of life. There could also be a reduction in urban heat islands, contributing to more pleasant ambient temperatures in the city during the summer months. In addition, the expansion of pedestrian areas and cycle lanes could encourage more sustainable mobility, reducing dependence on motor vehicles and the associated CO2 emissions.</p>	<p>Significant increase in urban biodiversity thanks to the increased greening of public spaces. The redeveloped areas could become active social hubs, improving community cohesion and quality of life. There could also be a reduction in urban heat islands, contributing to more pleasant ambient temperatures in the city during the summer months. In addition, the expansion of pedestrian areas and cycle lanes could encourage more sustainable mobility, reducing dependence on motor vehicles and the associated CO2 emissions.</p>	<p>Enriching community interaction through better public spaces, enhancing social cohesion. This urban revitalization is also poised to boost the local economy by attracting businesses and tourists, while increased greenery and reduced pollution promised significant health benefits. Property values may rise due to the improved attractiveness of the area, which in turn could increase municipal revenues.</p>



B-1.1: Impact Pathways

Fields of action	Systemic levers	Early changes (1-2 years)	Late outcomes (3-4 years)	Direct impacts (Emission reductions)	Indirect impacts (co-benefits)
Waste management and circular economy	UP 3. Architecture – Private buildings	Differdange is planning to revise its building regulations (PAG). The rules in place define the prohibition of certain materials and the percentage of spaces that can be saddled.	Tightening the rules, becoming more restrictive.	No direct impact.	Encourages more sustainable construction and renovation of existing buildings.



B-1.1: Impact Pathways

Fields of action	Systemic levers				
		Early changes (1-2 years)	Late outcomes (3-4 years)	Direct impacts (Emission reductions)	Indirect impacts (co-benefits)



Mobility and transport	MT 1 - Public transport - bus	<p>The existing project aims to adapt and improve the transport network to enhance its performance through an iterative approach. The goal is to increase the use of electric buses, reduce individual motorized mobility, and collaborate with RGTR, TICE, CFL, and VDL to optimize the service offering.</p> <p>The project includes the electrification of the network, in line with the UN Agenda 2030, with specific targets to electrify 77 lines and 500 buses by the end of 2023. By 2024, the network will feature 374 electric buses and 100 electrified lines. The VDD seeks to electrify RGTR lines passing through its territory and participating in future pilot projects. Specific actions include purchasing a new electric bus and updating 4 to 8 stops per year, with a pilot phase adding 5 more stops annually. A political decision will determine the level of participation in the project.</p>	<p>The goal is to maintain attractiveness and increase regular use of the transport network. Planning has begun, focusing on adapting the network for 2030 through coordination between TICE (Southern region) and RGTR (National Road Transport Network) to improve the overall system.</p> <p>Initial steps include deploying electric buses and installing necessary infrastructure, with a broader aim of national network electrification and expanding the serviced territory. The project includes the electrification of the bus fleet and active participation. It also involves updating 4 to 8 stops annually and installing digital systems across the entire area.</p>	<p>The initiative focuses on reducing greenhouse gas (GHG) emissions by decreasing individual motorized mobility through the use of electric buses.</p> <p>By replacing diesel buses with electric ones, the project aims to make public transport more attractive while significantly lowering GHG emissions. The transition to electric buses will contribute to a substantial reduction in emissions tied to individual car use.</p>	<p>The project aims to improve citizens' quality of life by enhancing public services and fostering better collaboration between entities during future planning.</p> <p>It focuses on improving air quality, reducing noise, and creating a more positive image for the city. Additionally, it seeks to free up parking spaces, enhance road safety, and promote a healthier, quieter environment, contributing to a better living experience for residents.</p>

B-1.1: Impact Pathways

Fields of action	Systemic levers	Early changes (1-2 years)	Late outcomes (3-4 years)	Direct impacts (Emission reductions)	Indirect impacts (co-benefits)

<p>Mobility and transport</p>	<p>MT 2- Public transport – train</p>	<p>The project involves updating the platforms at the Niederkorn stop and intensifying studies for connecting Line 60 to Line 70 within the railway triangle between Bascharage and Niederkorn.</p> <p>It includes political advocacy for a tram system in the southern municipalities, raising awareness and generating interest, along with ongoing lobbying efforts</p>	<p>The project involves upgrading the platforms at Differdange station to ensure compliance.</p> <p>It includes connecting the Differdange line (line 60) with line 70 (Pétange-Rodange), which will result in significant time savings. This initiative is part of the PNM 2035 plan and may involve further studies.</p>	<p>The project aims to increase train usage by significantly reducing travel time to the capital. This will have a major impact on decreasing car trips between urban centers.</p>	<p>Improving quality of life.</p>
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B-1.1: Impact Pathways

Fields of action	Systemic levers	Early changes (1-2 years)	Late outcomes (3-4 years)	Direct impacts (Emission reductions)	Indirect impacts (co-benefits)
Mobility and transport	MT 3 Public transport – motorized transport	<p>The project involves advocating for a car-sharing system in southern municipalities, raising awareness, and generating interest through lobbying. It includes narrowing public roads at key city entry points and developing a traffic calming concept in alignment with SUMP reflections. The plan features increasing service frequency, supporting PARKing Day, and starting related construction. It also includes upgrading the existing guidance system to be more efficient, progressively replacing cars with electric vehicles, enhancing employee awareness of transport options, and decarbonizing the fleet. The overall goal is to improve traffic management and promote sustainable transport solutions.</p>	<p>The project involves conducting studies and iteratively selecting traffic calming measures. Initial steps include implementing these measures and identifying areas suitable for car-free zones.</p> <p>Results and citizen feedback will be evaluated to adjust the use of public space. The project will be executed and put into service, with the system adaptively updated to new realities. It aims to progressively replace cars with electric vehicles, promote cycling and scooters among municipal employees, and decarbonize the fleet. Initial measures will be established and refined over time.</p>	<p>The project aims to significantly reduce the number of vehicles between urban centres by providing electric cars and increasing passage difficulties, which will decrease overall car traffic.</p> <p>It will also reduce the number of stationary vehicles in public spaces by cutting down temporary and permanent parking areas and minimize the traffic searching for parking. The use of electric or hydrogen vehicles will cut greenhouse gas emissions, with noticeable reductions occurring with each trip until the entire fleet is electric. The project focuses on reducing car traffic and emissions through these measures.</p>	<p>The project focuses on enhancing quality of life and road safety while increasing the attractiveness of urban spaces. It aims to save time by redirecting traffic to city-designated parking areas, reduce fuel consumption and maintenance costs, and improve the city's image.</p> <p>The initiative will also improve air quality, reduce noise, boost employee morale, and promote health through a smaller car fleet. Overall, it seeks to create a positive impact on the environment and community well-being.</p>

B-1.1: Impact Pathways

Fields of action	Systemic levers	Early changes (1-2 years)	Late outcomes (3-4 years)	Direct impacts (Emission reductions)	Indirect impacts (co-benefits)
Mobility and transport	MT 5 Soft mobility	Expand the existing network and integrate new sites. Implement a pilot project for a pedibus. Develop a "green network" with walkways and connections between neighborhoods at different levels to facilitate active mobility and inter-neighborhood connectivity.	Iterative adaptation of the system. Expansion of the pedibus service. Continuous refinement and adjustment of the system	Reduction of motorized traffic, including decreasing "parent taxi" traffic in front of schools.	Positive impact on health and increased awareness of pedestrian mobility, including educating young people about sustainable transport options.



B-1.1: Impact Pathways

Fields of action	Systemic levers	Early changes (1-2 years)	Late outcomes (3-4 years)	Direct impacts (Emission reductions)	Indirect impacts (co-benefits)
Mobility and transport	MT 7 Logistics	Feasibility and planning studies are conducted to evaluate and prepare for the project's implementation.	<p>Establishing hubs and changes in urban logistics focus on creating centralized hubs to improve logistics efficiency within cities.</p> <p>This approach aims to optimize the movement of goods and reduce traffic congestion, enhancing urban transport and delivery systems.</p>	<p>Reduction of greenhouse gases in the city by decreasing the number of semi-trucks refers to lowering emissions in urban areas by reducing the presence of large trucks.</p> <p>This strategy helps cut down pollution and improve air quality within the city.</p>	<p>Improvement of air quality and noise reduction focuses on enhancing environmental conditions by reducing pollution and noise levels.</p> <p>It also involves freeing up public spaces used for deliveries and optimizing storage areas within buildings.</p>



B-1.1: Impact Pathways

Fields of action	Systemic levers	Early changes (1-2 years)	Late outcomes (3-4 years)	Direct impacts (Emission reductions)	Indirect impacts (co-benefits)
Compensation	CO 1.1 Local offsetting (40% of remaining emissions)	<p>The project is part of DiffPrimes, with initial implementations underway. It focuses on increasing the number of fruit trees in the city and includes feasibility studies and field tests with hybrid Paulownia trees.</p> <p>The project involves informational evenings, motivating farmers, supporting marketing efforts, and creating an information and sales platform. There are collaborations with the Agricultural Technical School and ArcelorMittal, along with geological feasibility studies.</p> <p>The project also includes adapting guidelines and catalogs, and compiling existing and planned CO2 storage projects for detailed development and registration.</p>	<p>The project aims to promote green facades for 500 buildings. It focuses on capturing greenhouse gases through tree growth and establishing a recognized supply chain for green products, with both national and international recognition.</p> <p>It includes geological feasibility studies and collaboration with ArcelorMittal. The project also involves systemic changes in road and path renovations, ensuring all new concrete constructions use carbon-captured concrete (CCU) and all new wooden constructions use CCU wood.</p> <p>Additionally, it aims to increase carbon compensation in construction, sell certificates, and monitor compliance.</p>	<p>The project focuses on capturing greenhouse gases (GHG) through the use of deciduous plants, tree growth, and the growth of insulating materials.</p> <p>While it aims to store GHG effectively, it does not have any direct impact in other areas.</p>	<p>The project aims to enhance the city's climate by creating visually pleasing green spaces that improve conditions for insect populations and reduce the need for air conditioning through cooling effects.</p> <p>It includes using wood for furniture and other products to sequester CO2, establishing green corridors, and creating microclimates for agricultural areas. Additionally, it provides drilling for livestock, helps absorb excess fertilizers, and combats insect population decline. The project focuses on building a sustainable economic sector, creating jobs, and clarifying feasibility. It also emphasizes CO2 emission compensation and local business accountability.</p>

B-1.1: Impact Pathways

Fields of action	Systemic levers	Early changes (1-2 years)	Late outcomes (3-4 years)	Direct impacts (Emission reductions)	Indirect impacts (co-benefits)
Compensation	CO2.1. Regional offsetting	<p>Raising political awareness among the municipalities of ProSud about the need for collaboration within the CCS (Community Climate Strategy) is crucial.</p> <p>This initiative aims to foster greater cooperation among member communities to address climate challenges effectively. By emphasizing the importance of working together, the goal is strengthening collective efforts, sharing resources, and implementing cohesive strategies to achieve shared environmental goals.</p>	<p>Finding synergies with other member municipalities involves identifying and leveraging opportunities for collaboration to enhance mutual benefits.</p> <p>This approach focuses on pooling resources, sharing best practices, and coordinating efforts to address common challenges more effectively. Municipalities can optimize their strategies, achieve greater impact, and foster a more cohesive and efficient network for addressing regional issues by working together.</p>	<p>"Direct impact not observed" indicates that there are no immediate or apparent effects resulting from the action or initiative in question. While the intervention may be planned or underway, its outcomes or benefits have not yet been visibly realized or measured.</p>	<p>"Compensation of our CO2 emissions" involves taking measures to offset the carbon dioxide emissions produced by our activities.</p> <p>This can be achieved by investing in carbon reduction projects, supporting renewable energy initiatives, or purchasing carbon credits.</p> <p>The goal is to balance out the emissions generated and contribute to overall climate sustainability by mitigating the environmental impact of our operations.</p>



B-1.1: Impact Pathways

Fields of action	Systemic levers	Early changes (1-2 years)	Late outcomes (3-4 years)	Direct impacts (Emission reductions)	Indirect impacts (co-benefits)
Compensation	CO3.1 International offsetting	<p>The project involves lobbying the government to formalize national and international legislation for Carbon Capture and Storage (CCS) and Carbon Capture and Utilization (CCU).</p> <p>It also includes reaching out to European cities seeking investors for these initiatives.</p>	<p>The project includes establishing contracts with international Carbon Capture and Storage (CCS) projects, such as those in the Netherlands or Norway.</p> <p>It involves cooperation agreements and calculations for CO₂eq compensation benefits.</p>	No direct impact.	<p>The focus is on compensating for our CO₂ emissions through various measures and strategies.</p>



B-1.1: Impact Pathways

Fields of action	Systemic levers	Early changes (1-2 years)	Late outcomes (3-4 years)	Direct impacts (Emission reductions)	Indirect impacts (co-benefits)
Compensation	CO4.1 Purchase of international offset certificates (maximum 20% of remaining emissions)	<p>The goal is not to rely on this method as a solution that merely uses money to solve problems.</p> <p>However, it does provide a degree of flexibility in calculations. This approach allows adaptability in managing and addressing issues, but it should not be seen as a primary or sole solution.</p>	/	No direct impact.	The focus is on compensating for our CO2 emissions through various measures and strategies.



B-1.1: Impact Pathways

Fields of action	Systemic levers	Early changes (1-2 years)	Late outcomes (3-4 years)	Direct impacts (Emission reductions)	Indirect impacts (co-benefits)
Climate adaptation	CA 1.1. Urban development - mineral public squares	The plan involves conducting studies and planning, with the goal of purchasing 5 devices per year.	Implementation of proposed measures includes reducing the temperature of mineralized public spaces.	Tree planting can reduce CO ₂ , with each device compensating 80 kg of CO ₂ eq per year.	Improving quality of life.



B-1.1: Impact Pathways

Fields of action	Systemic levers	Early changes (1-2 years)	Late outcomes (3-4 years)	Direct impacts (Emission reductions)	Indirect impacts (co-benefits)
Climate adaptation	CA 2.1. Urban development - natural public squares	<p>Planning and studies focus on increasing green spaces and adapting existing areas to climate change.</p> <p>This involves evaluating and developing strategies to expand urban greenery and modify current spaces to withstand and mitigate climate change's effects.</p> <p>The goal is to enhance environmental resilience, improve quality of life, and promote sustainable urban development.</p>	Implementation of proposed measures, including tiny forests, green corridors, and water fountains.	Possible reduction of CO2 through tree planting.	Improvement in quality of life.



B-1.1: Impact Pathways

Fields of action	Systemic levers	Early changes (1-2 years)	Late outcomes (3-4 years)	Direct impacts (Emission reductions)	Indirect impacts (co-benefits)
Climate adaptation	CA 3.1. Private developments				

B-1.1: Impact Pathways

Fields of action	Systemic levers	Early changes (1-2 years)	Late outcomes (3-4 years)	Direct impacts (Emission reductions)	Indirect impacts (co-benefits)
Social innovation	SI 1.1. Civic participation	<p>The project creates awareness about the topic and the mission, generates public interest, and encourages citizen participation. It educates participants on issues and challenges through collaborative workshops that stimulate ideas.</p> <p>It develops a deep understanding of the subject, engages in qualitative discussions, and works in groups to find solutions. It involves all population groups in targeted workshops to integrate citizens into the mission and establish networks with key influencers.</p>	<p>Differdange aims to boost citizen engagement in sustainability, increasing participation in local initiatives and integrating eco-friendly practices into daily life.</p> <p>The city will adopt new standards for sustainable mobility, enhance waste reduction and recycling, and establish strong partnerships for carbon offset projects.</p> <p>Over the next three to four years, Differdange will focus on implementing green mobility solutions, improving urban quality of life, and advancing towards carbon neutrality with significant improvements in planning and management.</p>	<p>Differdange is set to promoting sustainable behaviour among citizens, including increased use of public transport, carpooling, and energy efficiency improvements in homes and businesses. The city will cut greenhouse gas emissions through renewable technologies and enhanced energy efficiency in buildings, while boosting local green energy production. Measures include reducing motor traffic, expanding electric vehicle infrastructure, and promoting bike and car-sharing systems. Improved waste management and recycling efforts will decrease reliance on raw materials and fossil fuels. Carbon offset programs will help align Differdange with its 2030 carbon neutrality goals, supported by new mobility policies and community projects aimed at reducing emissions and traffic congestion.</p>	<p>Differdange will see improved quality of life and public health through reduced air and noise pollution.</p> <p>Community commitment will strengthen social cohesion, while local energy resilience and reduced costs will enhance sustainability. Urban revitalization will make neighborhoods safer and more pleasant, boosting local economy. Enhanced cleanliness, recycling initiatives, and increased environmental awareness will further support a healthier and more resilient community.</p>



B-1.1: Impact Pathways

Fields of action	Systemic levers	Early changes (1-2 years)	Late outcomes (3-4 years)	Direct impacts (Emission reductions)	Indirect impacts (co-benefits)
Social innovation	SI 2.1. Awareness Raising	This is a one-time, time-limited action to raise awareness about waste management issues during the back-to-school period and inform citizens about the participatory workshop scheduled for October 2024.	/	We are raising citizens' awareness about the issue.	The project is increasing the city's reputation for waste management.

B-1.1: Impact Pathways

Fields of action	Systemic levers	Early changes (1-2 years)	Late outcomes (3-4 years)	Direct impacts (Emission reductions)	Indirect impacts (co-benefits)
Social innovation	SI 3.1. Communication	<p>A landing page will be created to centralize information and engage the public with regular updates and educational resources on the Net Zero mission.</p> <p>A dedicated website will be developed to provide detailed information on all Net Zero projects, serving as a platform for public education and engagement. Social media accounts of the city will be used for outreach, with no plans to create separate accounts for the mission. Coordination of communications and messaging will ensure consistency and clarity.</p>	<p>Transition to a comprehensive website featuring interactive functionalities, progress reports, and a central hub for all project-related initiatives, enhancing long-term engagement and visibility.</p> <p>The site will become a key resource for the community, decision-makers, and partners, facilitating collaboration and transparency about ongoing initiatives and successes. Links to the full site will be provided</p>	<p>The website aims to increase the adoption of recommended sustainable practices, leading to reduced emissions through improved information and awareness.</p> <p>Enhanced project coordination and effective implementation, supported by access to best practices and shared technologies, will also lower emissions.</p> <p>While the city's website initially has a broader reach than the dedicated site, it will raise awareness about the mission and the city's challenges. The goal is to build the mission's image, boost local awareness, and engage citizens in sustainability issues.</p>	<p>Strengthening community awareness and education on climate change, improving access to information, and stimulating local innovation through a shared platform.</p> <p>Fostering a culture of sustainability and societal resilience within the community, enhancing local capacities, and encouraging social innovation through the interactivity and collaboration facilitated by the site</p>



B-1.1: Impact Pathways

Fields of action	Systemic levers	Early changes (1-2 years)	Late outcomes (3-4 years)	Direct impacts (Emission reductions)	Indirect impacts (co-benefits)
Social innovation	SI 4.2.EU Projects	<p>Implementation of the mobile app will be followed by an analysis of the city's heating energy situation.</p> <p>This includes exploring a new approach to district heating networks in Differdange.</p>	<p>There will be an increase in local energy production projects, such as energy communities and opportunities to attract third-party investors.</p> <p>Additionally, an overview and planning of a new approach to heating within the city will be undertaken.</p>	<p>The focus is on the decarbonization of energy production and heating systems. Efforts will include raising public awareness about these issues.</p>	<p>The focus is on enhancing community spirit and fostering new collaborations.</p>

The different systemic levers and actions can be found underneath in a detailed form.

Systemic levers and actions:

Here are the various measures taken within this framework.

WM 1:

WM 1.1 Fusilli

Differdange has implemented a comprehensive approach to addressing local food issues through the establishment of the Food Council, the first of its kind in Luxembourg. This council engages civil society representatives to focus specifically on reducing food waste. Key initiatives include the installation of smart bins in public kitchens, which help analyze and cut down on unnecessary waste. In tandem with these efforts, the local production and distribution of vegetables are being ramped up, with 3 tonnes distributed in 2023 and a target set to increase this to 4 tonnes by 2024, dedicating 20% of the produce to local schools.

Moreover, the city promotes food preservation and sharing through collaboration with a local cannery and the installation of shared underground refrigerators that help keep food fresh for longer periods. Complementing these practical measures are educational campaigns run in the local magazine, alongside workshops for children that teach them about the origins of food and the importance of respecting our food sources. Through these multifaceted efforts, Differdange is actively working towards a more sustainable and conscious approach to food consumption and waste.

WM 2:

WM 2.1 Governance measures

Differdange is taking significant steps to minimize environmental impact through economic and infrastructural strategies aimed at better waste management. The introduction of waste taxes is a key move designed to incentivize less polluting production practices among businesses and individuals alike. This economic measure is intended to reduce waste generation and encourages more sustainable consumption patterns across the community.

In parallel, the city is also adapting its recycling infrastructures to enhance the management of food waste specifically. Adjustments to recycling facilities are being made to ensure that they are well-equipped to handle and process food waste more efficiently. This not only helps in reducing the environmental footprint but also supports the broader goal of sustainable waste management within the city. Together, these measures represent a proactive approach to waste reduction and resource conservation in Differdange.

WM 2.2 Promote reuse

Differdange is fostering a culture of sustainability through community-driven initiatives like Repair Cafés and a Sharing Platform. These programs are designed to extend the life of objects and reduce waste by promoting repair and reuse. Repair Cafés offer a space where residents can bring items in need of repair and work together to fix them, guided by skilled volunteers. This not only saves items from landfill but also encourages a hands-on approach to sustainability.

The Sharing Platform complements this by providing a virtual space where individuals can lend, borrow, or exchange goods instead of purchasing new ones. This initiative helps to reduce the demand for new products and minimizes waste, supporting a circular economy where resources are used more efficiently and sustainably. Together, these initiatives significantly contribute to waste reduction in Differdange.

WM 2.3 Reduce packaging waste

Differdange is actively working to minimize packaging waste through targeted awareness campaigns and practical initiatives in collaboration with national institutions. These efforts are designed to educate the community about the environmental impacts of packaging waste and promote sustainable practices. To directly reduce single-use packaging, Differdange has initiated the distribution of reusable bowls, napkins, and crockery to all its residents. This initiative not only cuts down on waste but also encourages residents to make sustainable choices in their daily lives. Additionally, the city has implemented a deposit system to further reduce waste at public events and in the catering sector. This system encourages the return and reuse of containers, thereby decreasing the disposal of single-use items and promoting a cycle of reuse that supports a cleaner, waste-reduced environment. Together, these measures foster a community-oriented approach to waste reduction, highlighting Differdange's commitment to sustainability and responsible resource management.

WM 2.4 Pilot projects

Differdange is innovating waste management through several impactful initiatives. The introduction of waste locks in residential areas enhances the control and separation of waste at the source, aiding in more efficient recycling processes. The city has also deployed waste compactors which reduce the volume of waste, making storage and transport more efficient. Additionally, embracing a blend of tradition and environmental consciousness, Differdange has implemented horse-drawn waste collection tours, which not only reduce carbon emissions but also re-connect the community with traditional practices.

Complementing these waste management strategies, Differdange promotes reuse through a second-hand shop located within the recycling park. This shop encourages the community to buy and sell used goods, thereby reducing the need for new products and extending the life cycle of existing items. This initiative not only helps in waste reduction but also fosters a culture of sustainability and responsible consumption within the community. Together, these

measures showcase Differdange's commitment to innovative and sustainable waste management practices.

WM 3:

WM 3.1 Sidor Engagement:

Differdange has representatives in the Sidor board, and they love to influence the syndicate's decisions towards more efficient waste management practices.

WM 3.2 Hydrogen Station Initiative:

A proposal to establish a hydrogen station adjacent to the incineration site is under consideration to leverage energy from waste.

WM 3.3 SuperDrecksKëscht:

This program focuses on the management of problematic waste, ensuring hazardous materials are handled with care and efficiency.

WM 3.4 Valorlux:

As a non-profit organization appointed by the state, Valorlux is responsible for managing packaging waste and cigarette butts, promoting recycling and proper disposal.

WM 3.5 Minett Kompost:

This composting center optimizes the processing of organic waste and has been operational since 1997, after a successful pilot project initiated in 1994.

WM 3.6 Deposit System for Packaging:

Introduction of a deposit system on packaging to encourage recycling and reduce waste.

WM 3.7 Béckléck Project:

Utilizes trees felled by storms that would otherwise decompose in the forest, turning potential waste into resources.

WM 3.8 SIACH Involvement:

The Intercommunal Syndicate for the Sanitation of the Chiers Basin focuses on the proper treatment and disposal of wastewater and related waste products.

WM 3.9 Ecotrel:

Authorized by the Ministry of Environment, Ecotrel manages the recycling of electrical and electronic equipment under the laws of Luxembourg.

WM 3.10 Metal Recycling via Arcelor Mittal:

This initiative focuses on the recycling of metals like scrap iron, tires, and aluminum, promoting the circular economy.

WM 3.11 EcoTec Wood Recycling:

EcoTec partners with Kronospan to recycle wood, reducing landfill use and promoting resource recovery.

WM 3.12 EcoTec Bulky Waste Sorting:

Aims to improve the sorting of bulky waste, facilitating more effective recycling and disposal.

WM 3.13 EcoTec Recycling Park Management:

Manages the local recycling facility, ensuring efficient operation and maximum material recovery.

WM 3.14 Benjeshecken Project:

This involves the creation of hedgerows from pruning waste, which provides habitat for wildlife and aids in seed dispersal, enhancing local biodiversity.

WM 4:

WM 4.1 CIGL — Vélosbuttek:

This initiative, managed by the non-profit CIGL (Centre d'Initiative et de Gestion Local), offers a bike shop that employs individuals looking for work, providing them with job training and opportunities. It reflects the city's goal of combining social support with sustainable transport solutions.

WM 4.2 CIGL — Butzebutikk:

A second-hand clothing store for children, this project supports waste reduction by promoting the reuse of garments and providing affordable clothing options for families.

WM 4.3 CIGL — Occasionsbutikk:

This second-hand store further exemplifies Differdange's approach to reducing waste through the resale and reuse of goods, extending the lifecycle of products and minimizing landfill use.

WM 4.4 Circular Economy in Construction — BIM Software:

This approach uses Building Information Modeling (BIM) software to ensure efficiency and resource management in construction, promoting the reuse and recycling of materials.

WM 4.5 Circular Economy in Construction — Bauleitfaden Use:

Similar to the BIM initiative, this strategy involves the use of Bauleitfaden, a guiding document for construction that aids in the implementation of circular practices at the construction sites.

WM 4.6 Bicherschief:

Public bookcases installed around the city offer residents the chance to share and read books for free, encouraging the circulation of knowledge without the need for new resources.

WM 4.7 HOPLR:

Hoplr is a social network focused on fostering local community engagement by providing neighbors a platform to connect and share resources such as material, knowledge, time, volunteers, and infrastructure. Founded in 2014, it emphasizes positive interactions and supports social cohesion through online connections that lead to offline community involvement. Hoplr caters specifically to neighborhoods, ensuring privacy and community-specific sharing without external advertisements. This service is particularly appealing to local governments for civic engagement and neighborhood-oriented communication.

WM 4.8 Circular Project for Plant Bulbs:

This innovative project focuses on the reuse and sharing of plant bulbs used by the municipality, facilitating community gardening efforts and promoting green spaces.

WM 5:

WM 5.1. Gedeco - Association of Municipal Waste Managers:

This association is pivotal in uniting waste management professionals across the municipality to share best practices and coordinate efforts efficiently, ensuring a unified approach towards waste management.

WM 5.2. Central Purchasing Idea:

Implementing a central purchasing system can streamline procurement processes and allow for the bulk buying of goods and services, which not only reduces costs but also enhances the ability to negotiate better terms with suppliers, focusing on environmentally friendly products.

WM 5.3. Generalization of Green Events Idea:

This initiative aims to expand the number of 'Green Events' organized within the city, promoting sustainability through events that minimize environmental impact by utilizing waste reduction practices, recycling, and eco-friendly materials. This approach encourages community participation and awareness regarding environmental conservation.

WM 6:

WM 6.1. Bëschbotz:

This initiative involves community-driven forest clean-up events. Residents are encouraged to participate in cleaning the local forests, fostering a sense of responsibility and community spirit towards the environment.

WM 6.2. CleanChallenge:

Similar to Bëschbotz, this program focuses on urban spaces, organizing street cleaning events with local citizens. These events are designed to engage residents directly in the beautification and upkeep of their streets, promoting a litter-free environment through active participation.

WM 6.3. Littering monitoring using an intelligent recognition system:

This idea proposes the use of advanced technology to monitor littering. The system would use intelligent recognition technologies to identify and manage litter in public areas, thus allowing for a more efficient and data-driven approach to tackling litter issues.

MS	1	Home improvements
MS	2	Decarbonisation
MS	3	Energy production
MS	4	Energy savings

MS 1:

MS 1.1. Zesumme Renovéieren project:

This initiative focuses on the energy renovation of existing single-family homes. It is a collaborative effort with support from national ministries including Energy and Spatial Planning, Environment, Climate and Sustainable Development, Klima-Agence, and INPA. The project aims to encourage renovations that reduce energy consumption and CO2 emissions, targeting a renovation rate increase in the most suitable neighborhoods. Differdange's participation in the European "NetZeroCities" project underpins these efforts, as the city aims for CO2 neutrality by 2030. The renovation of approximately 4,000 existing buildings in the city is key to achieving this ambitious goal, with intensive support provided to homeowners throughout the renovation process.

MS 1.2. Energy renovation of residences:

This aspect of the initiative identifies 910 residences that require refurbishment to meet energy efficiency standards. This plan is part of a broader strategy to enhance the overall sustainability and livability of residential buildings within the community.

MS 2:

MS 2.1. Decarbonisation of heating systems in single-family homes

The town of Differdange, in collaboration with the Klima Agency, aims to obtain state subsidies to help single-family homes switch to less carbon-intensive heating systems. This initiative supports the transition to sustainable heating technologies by reducing dependence on fossil fuels.

MS 2.2. Transition to district heating using pellets or biomass

The project to connect residential units to district heating fuelled by pellets or biomass is a major step towards reducing CO2 emissions. The aim is to replace individual heating systems with a more environmentally-friendly centralised solution.

MS 2.3. Replacement of heating systems in collective residences

Differdange plans to replace fossil-fuel heating systems in collective residences with renewable energy alternatives, such as geothermal or biomass, to further reduce greenhouse gas emissions.

MS 2.4. Decarbonisation of the Oberkorn district heating network

The modernisation of the Oberkorn district heating network with the introduction of geothermal energy is replacing traditional cogeneration. This approach makes it possible to use renewable energy sources to heat urban areas in a more sustainable way.

MS 2.5. Use of Arcelor Mittal's residual energy

Differdange plans to connect key infrastructures such as the funicular platform, the blast furnace and CreativeHub 1535 to Arcelor Mittal's energy recovery network. Waste energy from the steel industry will be used to supply heat and reduce fossil fuel consumption.

MS 2.6. Decarbonisation of small maintenance equipment

A proposal has been made to decarbonise small maintenance equipment, suggesting a switch to equipment running on alternative energies to minimise emissions in daily maintenance and servicing operations.

MS 3:

MS 3.1. Solar energy production:

The city plans to install solar panels on VDD heritage buildings. This project will seek the support of private partners to finance, build and operate the installations, enabling optimum use of municipal buildings for the production of renewable energy.

MS 3.2. Wind energy production:

With the commitment of citizens, Differdange plans to develop a wind farm. This community project will not only produce clean energy, but will also strengthen citizen participation in the management of energy resources.

MS 3.3. Niederkorn pellet plant:

A district heating system will be set up in Niederkorn, supplying public buildings and a future shopping centre with energy produced from pellets. This demonstrates the town's commitment to using renewable resources for its major energy needs.

MS 3.4. Pellet boiler house at Aalt Spidol:

The former Aalt Spidol hospital will be equipped with a pellet boiler house, using renewable energy sources to provide efficient and environmentally-friendly heating, thereby reducing dependence on fossil fuels.

MS 4:

MS 4.1: Improving Building Efficiency

Differdange aims to enhance the energy efficiency of its municipal buildings by renovating and replacing old heating systems with decarbonized alternatives. This initiative focuses on reducing carbon footprints and enhancing energy performance across the city's property assets.

MS 4.2: Optimizing Urban Heating Networks

In partnership with private sector entities, the city seeks to expand and enhance the efficiency of its urban heating networks. This involves upgrading existing infrastructure to ensure more sustainable and economical thermal energy distribution.

MS 4.3: Solar Energy on Agricultural Lands

The city plans to deploy solar energy projects on agricultural lands owned by the municipal development department (VDD). These projects aim to increase renewable energy production, backed by private funding and state collaborations to ensure successful implementation and operation.

MS 4.4: Smart LED Street Lighting

A transition to smart LED street lighting is underway, involving a comprehensive strategy to apply for state subsidies and launching a global tender to upgrade all municipal lighting to intelligent LEDs. This measure is expected to significantly reduce electricity consumption and maintenance costs.

MS 4.5: Sports Field Lighting Upgrade

Differdange is also upgrading lighting systems in sports facilities, replacing halogen lamps with LED fixtures to cut down on energy use and improve lighting quality, enhancing both athlete performance and spectator experience.

UP	2	Urban spaces
UP	3	Architecture - private buildings

UP 1:

UP 1.1: Urban Development Plan (PDU)

Differdange has drawn up an Urban Development Plan which guides the architecture of public buildings. This plan aims to harmonise the development of new infrastructures while respecting the needs of the community and enhancing urban aesthetics. The UDP guides architectural choices, the materials used, and the environmental technologies integrated to promote sustainable development.

UP 2:

UP 2.1: Redevelopment of urban spaces

The renovation and improvement of urban spaces is at the heart of Differdange's strategy to revitalise neighbourhoods and create attractive and functional places to live. This includes transforming public squares, parks and avenues to make them more accessible, safe and pleasant for all citizens.

UP 3:

UP 3.1: PAG, building regulations for private buildings

With regard to the architecture of private buildings, the city relies on the PAG (General Development Plan), which sets out strict rules on the use of authorised materials and restrictions on building density. These regulations aim to preserve the aesthetic character of the town while controlling the environmental impact of new construction.

MT	1	Public transport - bus
MT	2	Public transport - rails
MT	3	Motorised transport - reduction
MT	4	Motorised transport - electrification
MT	5	Soft mobility – empowering walkability
MT	6	Soft mobility – empowering soft mobility
MT	7	Logistics

MT 1:

Differdange takes a proactive approach to public transport management, integrating various initiatives to improve the accessibility and sustainability of urban transport. The DiffBus project is a perfect example of this initiative, offering a free electric bus service linking various districts to key infrastructures, operating every working day. At the same time, the city is developing a general public transport concept, although its role remains advisory to the Ministry of Mobility.

In terms of representation, Differdange plays an active role on the TICE board of directors, aiming to positively influence the direction of the regional public transport network. Similarly for the RGTR network, although the town only plays an advisory role, it remains committed to improving transport services.

Other specific services, such as Dinola, offer adapted transport on request for senior citizens, while Adapto provides transport on demand for people with reduced mobility. The NightLifeBus and Nightrider complete the range of night-time services, guaranteeing safe travel at weekends.

Finally, Differdange is committed to modernising and digitalising bus stops, improving the user experience and the efficiency of the public transport service, demonstrating its commitment to modern and inclusive urban planning.

MT 2:

In Differdange, the enhancement of public rail transport involves strategic initiatives focused on improving connectivity and infrastructure. The city collaborates with Chemins de Fer Luxembourgeois (CFL), where it serves in a consultative role to the Ministry of Mobility and Public Transport, particularly to ensure the platforms at Niederkorn station meet contemporary safety and accessibility standards. Additionally, intensive studies are underway for the triangle railway connecting Bascharage and Niederkorn, specifically aimed at linking line 60 with line 70 to optimize regional rail services. Moreover, Differdange is actively advocating for the expansion of tram services to the southern municipalities through LuxTram S.A., employing public awareness and lobbying strategies to generate support and interest for this modern transport solution.

MT 3:

Differdange is actively committed to reducing individual motorised transport through the adoption of a number of initiatives aimed at promoting more sustainable modes of transport and improving the quality of urban life. The town encourages car-sharing to reduce dependence on individual vehicles. Changes have been made to the main entrances to the city to discourage the use of private cars and encourage the use of alternative means of transport. The city centre has been redeveloped to make it more attractive to pedestrians and cyclists, contributing to a more pleasant urban atmosphere.

Specific events, such as Car Free Day on 22 September and PARKING Day on 20 September, encourage residents to re-evaluate the use of public space, which is often dominated by cars, to consider alternative uses that promote social interaction and sustainable mobility.

In addition, the city plans to provide more cycle parking spaces when the new City car park at the entrance to Differdange is built, to further reduce motorised traffic in the city centre. A guidance system is also being introduced to channel vehicle flows to the public car parks, helping to reduce congestion and emissions in the busiest areas.

MT 4:

In Differdange, the focus on modernizing the city's transport system through electrification is integral to reducing carbon emissions and enhancing urban mobility. The initiative includes several key aspects. The municipal fleet is transitioning to cleaner, sustainable energy sources, with an emphasis on electric and hydrogen-powered vehicles. This change also extends to two-wheeled transport options, providing city employees with electric bikes and scooters, which supports the adoption of green mobility practices within the urban core. For utility vehicles, efforts are being made to adopt lower-emission models as they become available, aligning with the overall goal of reducing the municipal operations' carbon footprint.

Furthermore, the city is reconfiguring vehicle flows to limit traffic into the center, aiming to create a more pedestrian-friendly environment. This strategy is complemented by the redevelopment of the city center, which is being redesigned to encourage the use of alternative transport methods, thereby improving urban living quality and diminishing reliance on individual motorized transport. Through these comprehensive measures, Differdange is committed to a broad modernization of its transport infrastructure, fostering a more sustainable and livable urban environment.

MT 5:

Differdange is dedicated to enhancing pedestrian mobility through several innovative strategies aimed at making the city more walkable and reducing reliance on motorized transport. To guide pedestrians more effectively, the city is implementing a pedestrian navigation system that directs foot traffic efficiently through urban spaces. Additionally, the 'Pedibus' initiative has been introduced to increase the number of children walking to school. This initiative promotes walking as a safe, environmentally friendly way to travel, reducing traffic congestion around schools and fostering early education on road safety and environmental awareness. The concept of 'Séchère Schoulwee' focuses on creating safe roads to schools to further ensure the security of children commuting on foot.

Moreover, Differdange is enhancing the infrastructure for pedestrians with improved lighting at pedestrian crossings, making it safer to navigate the city, especially during low-light conditions. Comprehensive urban planning measures are also being implemented to favour pedestrian mobility, thus making the cityscape more attractive to alternative modes of transport and subsequently elevating the quality of life for its residents by transforming public spaces into more pedestrian-friendly environments.

MT 6:

Differdange is determined to promote soft mobility by integrating various initiatives aimed at facilitating and encouraging non-motorised travel. The town has developed extensive cycle

paths to ensure safe and efficient journeys for cyclists. In addition, the Vël'OK program provides self-service bicycles, increasing accessibility to environmentally-friendly transport options. Bike Boxes offer secure parking solutions for bicycles, facilitating the transition between different modes of transport and reducing the risk of theft.

The adaptation of the General Development Plan (PAG) includes measures to integrate dedicated bicycle storage spaces into new residential and commercial construction. This initiative ensures that the new urban infrastructure actively supports sustainable mobility. For those who prefer scooters, the city has introduced dedicated racks, making the use of scooters more practical and accessible.

SurvCoin, an innovative initiative, raises awareness of active mobility by rewarding citizens for their environmentally-friendly transport choices. The programme uses a digital currency that rewards behaviour that reduces the carbon footprint, encouraging greater community involvement in sustainable mobility.

In addition, European Mobility Week and various citizen workshops are organised to educate and engage residents on the benefits of soft mobility, reinforcing the culture of sustainable travel within the community of Differdange.

MT 7:

Differdange aims to modernise its urban logistics by creating decentralised hubs at the city's entrances. This initiative involves working with major players such as Post and CFL to set up and manage these hubs. The main aim is to decarbonise last-mile logistics, by promoting solutions such as cargobikes and other eco-responsible transport alternatives. These hubs will serve as collection and distribution points to optimise transport flows and reduce associated emissions, as part of a wider vision of sustainable mobility and reducing the city's carbon footprint.

CO	1	Local offsetting (40% of remaining emissions)
CO	2	Regional offsetting
CO	3	International offsetting
CO	4	Purchase of international offset certificates (maximum 20% of remaining emissions)

CO 1:

CO 1.1. Citizen Compensation:

The city offers subsidies for green facades and roofs, providing fruit trees to residents, and subsidies for demolishing stone gardens. These initiatives encourage residents to participate in urban greening efforts, enhancing local biodiversity and reducing urban heat island effects.

CO 1.2. Building Regulation Adaptation:

There is a push to integrate photovoltaic carports and green roofs through regulatory adaptations. Adjustments to building regulations promote the incorporation of green infrastructure in private and commercial developments, fostering sustainable building practices.

CO 1.3. Agroforestry (CCU):

In collaboration with the Luxembourg Institute for Science and Technology (LIST), the city supports local farmers in developing a supply chain for natural insulators like hemp, straw, and elephant grass. This not only aids in sequestering carbon but also supports the local economy and sustainable agriculture practices.

CO 1.4. Carbon Storage:

Differdange is implementing direct CO₂ storage solutions, such as carbon capture installations and pilot projects that incorporate CO₂ into road tarmac and concrete (CCU). The city plans to set standards in municipal tender documents that require the use of CO₂-infused concrete and FSC/PEFC certified timber for construction, supporting carbon sequestration in building materials.

CO 1.5. Municipal Compensation Certificates:

The establishment of a local system for selling carbon offset certificates to private entities enabling the city to generate revenue from its greening efforts, which can be reinvested in further sustainability initiatives.

CO 2:

CO 2.1. Regional planning:

Differdange is working with the ProSud/TNT (Transboundary Natural Territory) region to plan and execute projects to offset CO₂ emissions. These initiatives include the restoration and preservation of natural habitats as well as support for reforestation and sustainable agriculture projects.

Scalability of actions: The city plans to scale up these offsetting actions to a larger scale by 2050, integrating more regional partners and increasing the scope and impact of existing projects.

Long-term support: Differdange's commitment goes beyond immediate actions, with a plan to continually support and expand offset efforts in the ProSud region, to create a lasting impact on the local climate and environment.

CO 3:

CO 3.1. International offsetting:

Differdange is actively engaging in international carbon offsetting as part of its CO₂ offset strategy, specifically under the action point CO 3.1. The city is leveraging collaborations with cities that are part of the 100% Net Zero Carbon (100NZC) initiative, focusing on investing in Carbon Capture Storage (CCS) and Carbon Capture Utilization (CCU) projects across Europe, notably in the Netherlands and Norway. These projects are central to the strategy not only for their direct environmental benefits but also for the financial and technical synergies they can foster. Differdange is particularly interested in partnering with other pilot cities that, while maybe financially constrained, are rich in territorial capacity, aiming to build a network that enhances the overall effectiveness and reach of their carbon offset efforts. These international cooperations are envisioned to develop substantial, sustainable practices that contribute to the broader global efforts in reducing carbon footprints and achieving climate goals.

CO 4:

CO 4.1. Acquisition of international CO₂ offsetting certificates

Differdange is considering a proactive approach to the acquisition of international CO₂ offsetting certificates, in order to supplement up to 20% of its residual emissions. This strategy consists of keeping an open option for the purchase of international certificates, with a particular focus on financing equivalent CO₂ offset projects in countries not associated with the European Union. This approach allows Differdange to actively participate in global emissions reduction initiatives, while ensuring that offsetting efforts are well aligned with the city's long-term sustainability objectives.

CA	1	Urban development - mineral public squares
CA	2	Urban development - natural public squares
CA	3	Private developments

CA 1:

CA 1.1. Urban planning - Mineral public squares:

Improving adaptation to the climate and quality of life is achieved by cooling mineral public squares using advanced technical solutions. This approach seeks not only to reduce the effects of the urban heat island but also to make these spaces more pleasant for the public.

AC 2:

CA 2.1. Urban planning - Natural public squares:

At the same time, the city is integrating natural elements into its public squares to enhance biodiversity and provide areas of natural coolness, thereby contributing to better climate adaptation and a significant improvement in the quality of urban life.

AC 3:

CA 3.1. Adaptation of the Building Regulations:

Differdange has amended its building regulations to encourage more sustainable building practices. In particular, these rules allow owners who incorporate environmentally-friendly solutions, such as green facades, to benefit from specific advantages, such as the right to add extra storeys to their buildings. This is intended to encourage owners and developers to adopt practices that support both climate adaptation and energy efficiency.

CA 3.2. Promotion of Natural Spaces:

The city actively promotes forest bathing and water play on footpaths. These initiatives aim to encourage residents to interact more meaningfully with their natural environment, thereby contributing to public health and well-being, while incorporating elements of sustainable stormwater management and urban heat reduction.

CA 3.3. Cool Neighbourhoods - European Interreg project:

In partnership with the European Interreg project, Differdange is developing the 'Cool Neighbourhoods' concept. This project aims to transform neighbourhoods into model areas of sustainability, integrating green technologies and community practices that promote climate resilience and improve citizens' quality of life.

SI	1	Civic participation
SI	2	Awareness Raising
SI	3	Communication
SI	4	EU projects

SI 1:

SI 1.1. Thematic Workshops:

These workshops engage citizens on various aspects of sustainability, aiming to collectively shape the city's future. In 2023, a workshop titled "Benchmark: Living Sustainably in Differdange" will initiate discussions. Subsequent workshops in 2024 will focus on "Energy: Together Towards Net Zero!" and "Mobility: Together Towards Net Zero!" targeting zero-net solutions in energy and transport. The theme continues with "Waste: Together Towards Net Zero Waste Management!" Additionally, a 2025 workshop "Compensation: How, Why,

When? Achieving Net Zero in Differdange by 2030" will delve into compensation strategies for reaching net-zero emissions. "Mobility II: Reinventing Mobility!" and "Zukunftswerkstatt - Workshop of the Future: Together Towards a Net Zero Future!" scheduled for 2025-2026, are designed to revisit and innovate mobility strategies and broader sustainability goals.

SI 1.2. Online Mobility Survey (2024):

This survey will gather insights from residents about their transport needs and preferences, providing data to inform future mobility strategies.

SI 2:

SI 2.1. On-Site Waste Awareness (2024):

This targeted action aims to enhance public understanding of waste management challenges during the back-to-school season, culminating in an interactive workshop in October 2024. This effort seeks to engage the community directly on the ground, making them active participants in local sustainability efforts.

SI 2.2. Waste Museum (2024):

The establishment of a Waste Museum, managed by the Luxembourg Center for Circular Economy, will serve as a center for education and the promotion of circular economy principles. This museum is designed to be more than just an exhibition space; it will actively involve teaching the "Cradle to Cradle" methodology and fostering innovative practices in product and service development that adhere to circular economy standards.

SI 2.3. Participatory Budgets:

Differdange allocates participatory budgets specifically for citizen-led projects that align with the city's mission to achieve Net Zero. This initiative empowers residents to propose and vote on projects that contribute directly to the city's sustainability goals, promoting a deeply integrated approach to community involvement in environmental stewardship.

SI 3:

SI 3.1 Online communication:

Differdange has put in place a digital strategy including the creation of a specific landing page for the Net Zero 2030 project (www.netzero2030.lu) planned for 2024, designed to centralise all information and progress related to this project. A dedicated website covering all the projects in the action plan for 2024-2025 will also be developed. At the same time, the city is regularly updating its official website (www.differdange.lu) with content relating to the various municipal initiatives. In addition, social media, especially Facebook and Instagram, are actively used to disseminate information and engage the local community.

SI 3.2 Press articles:

The city also communicates through traditional media by sending out regular press releases and arranging interviews with journalists. These efforts aim to keep the public informed and engaged, and to ensure widespread media coverage of developments related to its social innovation projects.

SI 3.3 DiffMag Magazine:

Differdange also benefits from its monthly magazine 'DiffMag', which includes detailed articles on the Net Zero mission in each edition. The magazine serves as an essential resource for residents, providing updates and insights on the progress of the city's environmental and social initiatives.

SI 4:

SI 4.1 ClimaBorough:

This initiative aims to streamline investments in renewable energies, making it simpler and more attractive for stakeholders to commit to sustainable practices.

Additionally, the ClimaBorough project involves the development and implementation of a mobile application that will facilitate real-time energy management and promote energy-saving practices among residents.

SI 4.2 Heat bridge:

As part of the "Life" European project, Differdange is conducting a thorough analysis of its current heating energy situation to identify inefficiencies and areas for improvement.

The project aims to redesign the city's heating networks, implementing innovative solutions to enhance the sustainability and efficiency of the city's heating infrastructure.

Module B-2 Climate Neutrality Portfolio Design

B-2.1: Description of Action Portfolios – Textual or visual		
Fields of action	List of actions	Description
Waste management and circular economy		
WM 1 Fusilli		
1	Food Council (governance)	Citizen participation, Premier CF in Luxembourg. Civil society representatives – the main results are the pilot project on food waste.
2	Intelligent waste bins in public kitchens.	Pilot projects on Food waste – (Orbisk)
3	Production of local vegetables	Distribution over 2 km. 3 tonnes of food in 2023. Target for 2024: 4 tons. 20% vegetables for local schools.
4	Idea: Category: Conservatories	Cooperation with the local Limpach cannery and conservation information
5	Idea: Ground fridge	Groundfridge is a modern take on the traditional root cellar, designed to keep produce fresh without using electricity. It serves as a practical solution for those looking to store fresh produce sustainably, offering a convenient, movable setup that can be placed wherever needed.
6	Idea: Food sharing fridge	A food sharing fridge is an innovative community-based solution that allows individuals to share surplus food. It is designed for those committed to reducing food waste and fostering communal support by providing a space where anyone can leave or take food. This initiative not only helps in minimizing food waste but also assists in strengthening local connections through shared resources. Ideal for urban environments, it acts as a communal pantry accessible to all, promoting sustainability and mutual aid within communities.
7	What food when? - Campaign	Communication campaign in the DiffMag on the foods to consume during this month.

8	Workshops on food waste	Workshops on food waste with SOS Faim and MicroTarians once a month
9	Where does the food come from?	Summer workshops with children – Learning to respect production and food (150 children in 2023).
WM 2 Reducing the volume of waste		
10	Taxes on waste	Waste taxation is a proactive and transparent approach to encouraging waste reduction within communities. This measure encourages citizens to adopt more environmentally friendly behaviour, by making them aware of the direct financial impact linked to the generation of waste. The prior announcement of an increase in these taxes if the volumes of waste do not decrease is intended to motivate a change in behaviour upstream, offering citizens the opportunity to change their habits before the additional costs are applied. This pricing system encourages greater individual and collective accountability, while increasing the transparency of waste management policy.
11	Adaptation of the recycling park	The revision of the recycling park aims to optimize the separation and reduction of waste. By upgrading facilities and improving sorting processes, the city can significantly reduce the amount of waste sent to landfills, thus promoting a more sustainable and responsible material life cycle. Redirection of waste to waste collectors from professional sites. The service at the recycling park is expected to improve for citizens by reducing professional waste.
12	Repair Cafés	The concept of "Repair Café" effectively contributes to waste reduction by encouraging the repair of used items rather than their replacement. These community workshops, where volunteers help repair household items, electronics and more, extend the life of products and raise awareness of the importance of recycling and conserving resources.
13	Idea: Sharing platform	Online sharing platforms effectively reduce waste by promoting the shared use of goods rather than their individual acquisition. By connecting individuals willing to lend or borrow items, these platforms extend the life of products and reduce the need to produce new goods.

		This process not only helps to reduce waste but also raises awareness among users of more responsible and sustainable consumption.
14	Awareness-raising campaigns in close collaboration with national institutions.	Increase in the granularity of waste generation data on the territory of the city and possibility of conducting targeted campaigns in these neighborhoods.
15	Distribution of scales, towels and the reusable dish to each inhabitant	Reduction of materials needed for the festivities.
16	Implementation of a deposit system in the gastronomy sector and public festivities at ProSud level	The implementation of a deposit system in the gastronomy sector and public festivities at ProSud encourages an eco-responsible approach by reusing packaging. This system allows participants to return their containers in exchange for a deposit, reducing waste and promoting recycling. This initiative also supports the circular economy by minimizing the need for resources for new products.
17	Idea: Waste locks in residential buildings.	Immediate impact on the quantity of waste, on the organisation of waste collection towers. Active top-down governance that proves the will of the City to reduce the amount of waste in a radical, politically courageous way.
18	Idea: Waste compactors	The use of waste compactors in public garbage cans is an effective approach to increase waste storage capacity and reduce collection frequency. These devices make it possible to compress waste on site, reducing its volume and minimizing the visual impact of accumulated waste. As a result, public spaces remain cleaner and more enjoyable for the community, while optimizing resources devoted to waste management.
19	Idea: Garbage fill level sensors	The establishment of a second-hand store within the Differdange recycling park offers an innovative solution to reuse objects instead of throwing them away. This initiative encourages responsible consumption, reduces waste and supports the local economy by offering products at a lower cost. It is also a place of awareness where citizens can learn about the importance of recycling and reuse for sustainable development.

20	Second-hand store in the recycling park	<p>Establishing a second-hand shop within Differdange's recycling park could significantly contribute to waste reduction and support the city's objectives under the 100 Net Zero Cities mission. By facilitating the reuse of items, the shop would directly decrease the volume of waste heading to landfills and incinerators, promoting a more circular economy. This initiative would not only extend the life cycle of products but also reduce the demand for new resources, lowering the overall carbon footprint associated with production, transport, and disposal.</p> <p>Moreover, such a shop would raise community awareness about sustainable consumption practices. It could serve as an educational platform, illustrating the practical benefits of reuse and recycling. This aligns with the broader mission goals by fostering a local culture of sustainability and encouraging residents to make environmentally conscious choices. By reducing waste and promoting reuse, the second-hand shop would play a pivotal role in helping Differdange achieve its net-zero targets, making the city a model of sustainable urban development.</p>
WM 3 Improving the efficiency of waste processing		
22	Sidor	<p>The city of Differdange, politically represented in the SIDOR trade union, seeks to influence management to invest in new technologies or at least carry out a feasibility study. The objective is to increase the energy efficiency of waste incineration, thus optimizing the production of thermal and electrical energy. This approach is part of a vision of continuous improvement of the union's environmental performance.</p>
23	Idea: Sidor — installation of a hydrogen station next to the incineration site	<p>The City, politically represented in the union's office, strives to influence management to support its initiatives. Emphasis is placed on carrying out a feasibility study and lobbying efforts. The ultimate objective is to obtain a political decision favourable to the project. This approach aims to strengthen the City's commitment to supporting and developing projects of common interest.</p>

24	SuperDrecksKëscht – problematic waste management	VDD plays a purely advisory role by providing feedback and developing ideas and projects in collaboration with SDK. It also benefits from the services offered. The short-term goal is to increase the recycling rate of problematic waste, focusing on solutions for residential buildings and integrating SDK guidelines. The goal is to increase the recycling rate of problematic waste and change attitudes towards the purchase of problematic products upstream.
25	Valorlux – a non-profit association entrusted by the State with the management of packaging waste (PMC) and cigarette butts	The role is purely advisory, with the task of identifying blue waste collection bags for effective monitoring. The first changes aim to identify local opportunities to reduce sorting residues and redirect waste from grey bins to Valorlux recycling bags. A re-evaluation of the recycling system will be considered, exploring approaches such as the gradual reduction of packaging weights or the re-evaluation of the types of packaging used.
26	Minett Kompost – Optimisation	The City, with its representatives in the union office, will seek to direct decisions towards investments in machinery, first carrying out a feasibility study within 1 to 2 years. These actions are expected to improve compost and biogas production, while reducing methane leakage.
27	Introduce a system of instructions on packaging	The City could publicly commit to supporting this initiative at national or even European level in the next 1-2 years. The City could become a pilot city for this innovative project.
28	Béckléck – use of trees felled by storms and condemned to decay in the forest.	The trees will be extracted from the forest with Ardennes horses to be crushed for local production of pellets, from the first 1 to 2 years. This promotes the use of local energy resources.
29	SIACH	The City, with its representatives in the union office, will try to influence management to direct decisions toward investments in facilities. A feasibility study will be launched to assess these investments. This should improve the quality of treated water, identify sustainable solutions for sewage sludge disposal and reduce methane leakage.
30	Ecotrel	The City could strengthen its commitment to the national "Social ReUse" initiative by developing local approaches. In the short term, it would be

		possible to request the opening of a local resale point, instead of Helmsange. This would establish a local point of sale, expand the supply of second-hand products, and thus strengthen the local circular economy.
31	Recycling through Arcelor Mittal – e.g. scrap, tyres, aluminium	Due to the co-dependency between the City and Arcelor Mittal, the City has significant bargaining room. A regular, institutionalised working group could be set up to address carbon neutrality issues, although any immediate improvement would mainly concern Arcelor's internal processes. Public-private partnerships (PPPs) could be established, improving internal processes and strengthening collaboration to achieve sustainability goals.
32	EcoTec – Wood recycling through Kronospan	The VDD, as a contracting entity, is entitled to express its needs. The aim is to improve the quality of sorting in order to achieve higher recycling rates. In the medium term, we aim to achieve this objective by ensuring a significant and measurable improvement in the quality of sorting, thus contributing to optimized recycling rates.
33	EcoTec - Cumbersome waste sorting	The VDD, as a procuring entity, is able to express its needs. Over the next 1 to 2 years, we plan to increase the supply of waste treatment channels, such as PVC. These actions should lead to a significant improvement in the quality of sorting and a significant increase in the recycling rate.
34	EcoTec — Management of the recycling park	As a procuring entity, the VDD is able to define its needs. We will aim to increase the recycling rate and improve waste sorting. In the medium term, in 3 to 4 years, we expect not only a continuous improvement in the quality of sorting and recycling rate, but also the development of the recycling park as an awareness center for waste management and recycling.
35	Benjeshecken – Recovery of green waste in situ	This involves the creation of hedgerows from pruning waste, which provides habitat for wildlife and aids in seed dispersal, enhancing local biodiversity.
WM 4 – Circular economy		

36	CIGL — Vélosbuttek	The VDD will launch second-hand bicycles on the market. This project will contribute to the increase in services offered by the VDD and promote an increased culture of bicycle use.
37	CIGL — Butzebutikk	The VDD will market children's products, mainly clothing and toys. In the medium term, this project will aim to expand the services offered by the City and promote a culture of reuse of clothing and toys.
38	CIGL — Occasionsbutikk	The VDD will bring second-hand furniture to the market. In the medium term, this project will aim to expand the City's services and strengthen the culture of reuse of refurbished furniture.
39	Idea: Circular economy in the construction sector – use of BIM software	As a contracting entity, the VDD provides for the integration of the BIM software and the creation of a passport of the materials used. We will adapt the specifications for future submissions, defining the necessary constraints. Later, we will aim to establish a detailed inventory of reusable materials and resources when repurposing or demolishing buildings.
40	Circular economy in the construction sector – use of Bauleitfaden	As a contracting entity, the VDD is committed to respect the Bauleitfaden. We will adapt the specifications for future submissions, defining the necessary constraints. These guidelines will enable the VDD to achieve its objectives in waste management, directing implementation towards strict compliance with the necessary conditions, while promoting intelligent, rational, economical and eco-efficient use of resources.
41	Bicherschief	The City will focus on improving the cultural offer and promoting the project. In the medium term, we will aim to increase accessibility to culture and improve cultural literacy.
42	HOPLR	A local social network will be set up to strengthen citizenship and foster exchanges between citizens. In the medium term, we will develop an integrated platform for services, product exchange, event organisation and information dissemination.
43	Idea: Plant bulb circularity project	The City proposes the reuse of perennial plants by distributing bulbs to citizens at the end of each season. This project will aim to reduce green waste, increase citizen satisfaction and increase biodiversity.

WM 5 – Organisational Optimisation		
44	Gedeco — Association of Municipal Waste Managers	The VDD participates in the discussion of legislative and technical texts, while advising the national government. We are considering joining the European association Municipal Waste Europe (MWE). We aim to integrate Gedeco's ideas into future Grand Ducal regulations, thus establishing a stronger link between legislators and local (municipal) implementers.
45	Idea: Purchasing centre	As a sponsor, the VDD initiates a project to establish an eco-responsible purchasing policy. A guideline will be put in place to guide this policy. Suppliers will be selected based on their compliance with eco-responsible criteria, thus ensuring that the purchasing choices of the VDD support sustainable and environmentally friendly practices.
46	Idea: Generalization of Green vents	The national initiative aims to promote green events across the country. A memo will be issued to encourage the widespread use of Green Events. Ultimately, this initiative should result in widespread adoption of Green Events, thus contributing to a more sustainable and environmentally friendly culture.
WM 6 - Littering		
47	Bëschbotz	The VDD project aims to change citizens' perceptions of littering. Efforts will be focused on awareness campaigns and educational initiatives to change attitudes towards waste management. After 3 to 4 years, these mentality changes should lead to a significant reduction in littering behaviors, illustrating an improvement in environmental awareness and cleanliness practices among the population.
48	CleanChallenge	The VDD project focuses on sensitizing high school students to the challenges of littering. The focus will be on initiatives to change the mindset of young people on this subject, through educational campaigns and awareness-raising programmes. In the longer term, this shift in mentality is expected to result in a significant decrease in littering

		behaviours, reflecting increased awareness and commitment to cleanliness and waste management.
49	Monitoring Littering with an Intelligent Reconciliation System	The City aims to address littering by starting with an in-depth analysis. During the first 1-2 years, the focus will be on developing an inventory and identifying problem areas, or "hotspots", for littering. This diagnosis will help target cleaning efforts more effectively. The objective is to improve the efficiency of cleaning operations, by optimizing the interventions of sweepers and responsible teams, in order to significantly reduce littering problems in the identified areas.
Energy management		
MS 1 – Home improvements		
50	Zesumme renovéieren project Energy renovation of existing single-family homes	The project aims to clean up up to 4,150 units of single-family homes. Approximately 300 units per year will benefit from remediation, reducing gas emissions by 741 m3 per unit and reducing average consumption to 1,729 m3 per unit. The potential for these first two years is estimated at 80-100 units. We could achieve a sanitation of 600 units (300 per year), each renovation being conditioned by state subsidies.
51	Idea: Energy renovation of residences The residences in need of sanitation are: 910 units	The project targets the remediation of residences with an energy class of A to D (227 units) and those requiring intervention (910 units). We plan to remediate up to 20 units per year, for a total of 40 units. In the medium term, we aim to reach 20 units per year, for a total of 80 rehabilitated units.
MS 2 - Decarbonisation		
52	Decarbonization of heating systems in single-family homes Request for subsidies from the State in collaboration with the Klima Agency	In collaboration with SudEnergie, we aim to decarbonize heating systems. In 2021, 13 units were connected to district heating, with a projected total of 1,315 units by 2030, of which 451 in Mathendal and about 300 in Woiwer. We plan to install heat pumps in about 10-12

		residences per year, representing 30% of the potential of the 300 units. We will continue to install 10-12 residences per year.
53	Switch to pellet district heating or biomass of dwelling-house units Connecting dwelling-houses to district heating	The objective is to increase the connection of homes to district heating in 5 networks, with 90 new units planned in the short term. In total, 275 units will be connected in the coming years, increasing the use of district heating.
54	Decarbonisation of residential heating systems Replace fossil heating systems with renewable energy fuel systems	In collaboration with SudEnergie, the project aims to decarbonize heating systems. In 2021, the district heating network had 13 units in Peschkopp, 156 in Plateau Funicular, 451 in Mathendal, and about 300 in Woiwer, totaling 1315 units connected by 2030. The first changes will include the evaluation of 300 homes potentially compatible with a heat pump, with an installation target of 10 to 12 units per year. The results will aim to achieve the installation of 10 to 12 residences per year.
55	Decarbonisation of the district heating network Oberkorn Decarbonisation with geothermal energy as a replacement for cogeneration (BHKW)	The VDD project aims to decarbonise the district heating network in Oberkorn. The first changes include the development of an energy concept based on geothermal energy. If the drilling is accepted by the Water Management Authority, it will determine the results of this first phase. In case of refusal, an economically viable alternative concept will be developed for decarbonisation. The results foresee the implementation of a viable energy concept from phase 1, with the necessary technical installation for the decarbonisation of the grid.
56	Connection of funicular tray, blast furnace and CreativeHub 1535 to Arcelor Mittal energy recovery Use of residual energy from the steel industry.	The joint project of VDD, LuxEnergie and Arcelor Mittal foresees in-depth studies to assess the technical feasibility. Late results will aim to implement the connection based on the findings of these studies.
57	Idea: Decarbonisation of small maintenance equipment	A political decision has been taken to upgrade maintenance equipment. In the long term, this will lead to the gradual replacement of appliances such as hedge trimmers, mowers and chainsaws, favouring more environmentally friendly alternatives.
MS 3 – Energy production		

58	Production of solar energy on the real estate assets of the VDD Find private partners to finance, carry out and operate the implementation of the project.	The project foresees the carrying out of studies and the execution of 50% of the potential in the first years. The ultimate goal is to complete the remaining 50%, thus ensuring full implementation.
59	Wind energy production Establishment of a wind farm with citizen participation.	The project, in collaboration with SolarPower, is currently awaiting permissions from public authorities. Ultimately, the implementation of this initiative will increase the use of renewable energy.
60	Central Pellet Niederkorn District Heating Site Controlled Service and Future Shopping Centre	The VDD begins the implementation of the project in the short term. In the longer term, the extension of the mall will be completed, thus increasing the commercial offer and services for the inhabitants.
61	Pellet heating in the project "Aalt Spidol" (Former hospital)	The first changes include the installation of a pellet heater by replacing five gas boilers with a pellet boiler in the form of a container, purchased by the municipality. In the long term, the project envisages the development of a global energy concept for the site, including the integration of mineral waters.
MS 4 – Energy savings		
62	Improving the efficiency of the building stock of the City of Differdange Idea: Renovation of the City's heritage and replacement of heating systems (decarbonization).	The VDD is undertaking an in-depth study to identify renovation needs. In the short term, renovations are already underway in an ongoing process. In the long term, the renovations will be gradually finalised, thus improving the relevant infrastructure.
63	Optimization of district heating networks in collaboration with a private partner Find a private partner to expand, optimize and operate district heating networks in the City's territory.	VDD is working to technically optimize the existing network, while negotiating with a private partner to support this approach. In the short term, studies will be carried out on optimisation. Within 3-4 years, the implementation of the improvements will be carried out to increase the efficiency of the network.
64	Idea: Solar energy production on agricultural land/areas of the VDD Find private partners to finance, carry out and operate the implementation of the project in collaboration with the competent state authorities.	The VDD initiates a project with the objective of assessing the feasibility of the planned actions. The first years will be dedicated to carrying out feasibility studies. In the longer term, the first concrete steps will be taken to ensure the success of the project.

65	Urban lighting - transition to smart LED lighting Apply for a grant from the State and establish a global tender to convert all light points into smart LEDs.	The VDD aims to modernise street lighting by integrating smart LEDs. The goal is to plan the transition to this technology. Ultimately, the VDD aims to equip its entire network with smart LEDs, thus enabling a more economical and sustainable management of urban lighting.
66	Lighting of sports fields - replacement of halogenic headlights with LED headlights.	The first changes are aimed at preparing the transition to smart LEDs. The goal is to achieve this complete transition to smart LEDs within 3 to 4 years, with full implementation of this advanced technology by this time.
Urban planning - improving quality of life		
UP 1 - Architecture - public buildings		
67	Urban Development Plan (UDP)	The City is initiating a project to integrate more green facades into the urban space. The focus will be on the planning and studies needed to define the best approaches. The aim is to see a significant increase in green facades, thus contributing to the beautification and sustainability of the urban space.
UP 2 – Urban spaces		
68	Rearranging urban spaces	
UP 1 - Architecture - private buildings		
69	PAG, building regulations	The VDD, as a regulatory entity, puts in place rules prohibiting certain materials and defining the percentage of spaces that can be sealed. These measures are intended to provide a framework for current practices. In the medium term, the VDD plans to tighten these rules to make them more restrictive, thus strengthening environmental and regulatory standards.
Mobility and transport		
MT 1 - Public transport - bus		

70	DiffBus - VDD project	This project foresees an adaptation of the transmission network to improve its performance. This iterative approach aims to increase use by citizens and reduce individual motorised mobility by promoting electric buses. The aim is to maintain the attractiveness of the network and encourage regular use, thus consolidating the environmental and social benefits of this initiative.
71	General concept of public transport - Advisory role only to the MMTP.	The advisory role to the MMTP involves in the first 1 to 2 years the demand and the proposal of collaboration to optimize the integration of the RGTR, TICE, CFL and VDL networks, aimed at improving the transport offer. This initiative will result in the start of concrete planning to implement the proposed improvements.
72	CTBT - The City has political representatives in the union office and will try to influence management in this direction.	The City, politically represented in the union office, will seek to influence management to optimize the transportation system. The focus will be on adapting the network to improve performance. In the medium term, preparation will be initiated for full adaptation by 2030, aiming at better coordination between the CTBT (Southern Region) and the RGTR (General Road Transport Network - National) to improve the network overall.
73	RGTR - Advisory role only to the MMTP.	The role of the VDD in the MMTP is exclusively advisory. The focus will be on electrification of the grid, in line with the UN 2030 Agenda. The RGTR's goal is to electrify 77 routes with 500 buses by the end of 2023. In 2024, the situation foresees 374 electric buses and 100 electrified lines. The VDD wishes to prioritize the electrification of the RGTR lines crossing its territory and participate in future pilot projects. In the long term, the goal is the complete electrification of the national grid.
74	Dinola - VDD Project. Address-to-address transport service on request.	The VDD project provides for the establishment of an address-to-address service on request. The project will start with the purchase of a new electric bus. The service will be expanded to cover a wider territory, responding to growing demand and improving mobility in the region.
75	Adapto - Advisory role only to the MMTP.	The VDD's advisory role to the MMTP focuses on promoting the electrification of the bus fleet serving the territory of Differdange. The VDD will actively seek the electrification of these buses. The objective is

		to have implemented the complete electrification of this park, thus contributing to a more sustainable mobility in the region.
76	NightLifeBus - VDD is a potential participant in the service.	The VDD, as a potential participant, will begin with a political decision on her participation in the project in the first 1-2 years. Within 3 to 4 years, the VDD should formalize its participation, thus fully committing to the planned service.
77	Nightrider - A service offered through VDD	Nightrider is an existing service offered by the VDD, aimed at reducing greenhouse gas emissions by reducing individual motorized mobility through the use of electric buses. This service contributes directly to the reduction of GHG emissions.
78	Modernisation of bus stops - Compliance	The compliance project will start with the compliance of 4-8 stops per year. The results will continue with the compliance of 4 to 8 stops per year, ensuring a gradual and continuous improvement of the network.
MT 2 - Public transport - rails		
79	CFL - Advisory role only to the MMTP.	As a purely advisory role to the MMTP, the initial changes will focus on bringing docks into compliance with the Niederkorn ruling. In the long term, the results will aim to extend this compliance to the Differdange docks, thus contributing to continuous infrastructure improvement.
80	CFL – Niederkorn judgment	The role of the MMTP is advisory only. The first changes (1-2 years) are to ensure that the platforms comply with the Niederkorn judgment. In the longer term, in 3-4 years, the objective will be to bring the platforms into line with the Differdange judgment.
81	Luxtram - Advisory role only to Luxtram.	As a purely advisory role to Luxtram, the first changes include a political positioning favourable to the extension of the tram to southern municipalities, as well as awareness-raising and lobbying efforts to arouse interest and desire around the project. In the longer term, the results could include the possible launch of feasibility studies for this extension.
MT 3 - Motorised transport - reduction		
82	Idea: Car sharing - Reduction of individual motorized transport	For the idea of car sharing , the first changes will consist in a political positioning in favor of the establishment of a car sharing system for the southern municipalities, accompanied by a campaign of

		awareness and creation of desire around the concept. This lobbying work aims to prepare the ground for the adoption of this mobility solution. In the longer term, the results could include possible feasibility studies for the project.
83	Adaptation of the public road at the entrance to the main roads of the city - Discouraging individual motorised transport	For the adaptation of the public road to the entrance of the main axes of the city, the first changes will include the narrowing of the public road at these entry points. In the longer term, the results will focus on the implementation of traffic calming measures, chosen iteratively to optimize traffic flow and safety.
84	Redevelopment of the city centre through measures in the field of urban planning to make it more attractive to alternative modes of transport and subsequently increase the quality of life for citizens.	The redevelopment of the city centre aims to make it more attractive for alternative modes of transport, thus increasing the quality of life of citizens. The first changes will include the development of a traffic calming concept and the development of projects in line with SUMP's thinking. Late results will consist in putting in place the first measures to improve urban space and encourage more sustainable modes of transport.
85	Day without cars 22 September	The Car-Free Day, scheduled for September 22, aims to increase the frequency of this event. The late results will aim to define specific areas of the city that could be transformed into car-free areas, in order to promote sustainable transport alternatives and improve urban air quality.
86	PARKing Day, 20 September - Reimagining public space	PARKing Day, scheduled for 20 September, will be actively supported by the City in the first 1-2 years. Late results will include an assessment of citizens' outcomes and feedback to reassess and potentially redesign the use of public space, aiming to optimise its use for similar initiatives in the future.
87	Provision of bicycle spaces during the construction of the new City car park at the entrance to the city. Reduce motorised traffic within the city	During the construction of the new City Parking at the entrance of the city, bicycle spaces will be integrated. Plans will be developed and work could begin. In the long term, the project will be completed and the bicycle spaces will be put into operation, promoting safe access for cyclists.

88	Channel and reduce flows through the guidance system to public car parks.	Adaptation of the existing guidance system to a more efficient system. Iterative adaptation of the system to new realities. Reduced traffic in search of a parking space.
MT 4 – Motorised transport – electrification		
89	Municipal fleet - service vehicles - Fleet specific to the VDD. Fleet electrification or switch to hydrogen.	The City is implementing a fully electrified two-wheeled mobility fleet, with use left to the discretion of the municipality's employees. An awareness-raising effort will be carried out to encourage the use of this fleet among employees. The objective is that the bicycle or scooter becomes the preferred mode of transport for employees for their travel.
90	Municipal fleet - bicycles and service scooters - The VDD provides an electrified two-wheeled mobility fleet. The decision on use remains specific to the employees of the municipality.	The VDD is committed to electrifying its fleet according to the availability of adapted vehicles. The priority will be to start electrifying the fleet wherever possible and the supply of vehicles. In the medium term, the objective will be to continue this approach, making sure to maintain a fleet mainly electrified according to the available vehicles.
91	Municipal fleet - commercial vehicles - Fleet specific to the VDD. Decarbonisation of the fleet to the extent possible and of the supply of suitable vehicles.	The VDD is committed to electrifying its fleet depending on the availability of suitable vehicles. The priority will be to start electrifying the fleet as far as possible and as far as vehicles are available. In the medium term, the aim will be to continue with this approach, taking care to maintain a predominantly electrified fleet depending on the availability of vehicles.
92	Interrupt part of the flows and connections to the centre with a view to calming individual motorised transport.	The redevelopment of the city centre aims to make it more attractive for alternative modes of transport, thus improving the quality of life of citizens. The first changes include the development of a traffic calming concept and the development of projects in line with SUMP's thinking. The implementation of the first concrete measures will make it possible to achieve these objectives.
93	Redevelopment of the city centre through measures in the field of urban planning to make it more attractive to alternative modes of transport and subsequently increase the quality of life for citizens.	Development of a traffic calming concept. Development of projects in line with SUMP's thinking.
MT 5 - Soft mobility – empowering walkability		
94	Pedestrian guidance system	To improve urban accessibility, the pedestrian guidance system project plans to expand the existing network and incorporate new sites.



		Expected results will include an iterative adaptation of the system to refine and optimize guidance based on feedback and user needs.
95	Increase in the percentage of children walking to school: Pedibus	To encourage more sustainable mobility, the project aims to increase the percentage of children walking to school through the Pedibus programme. The first changes include the launch of a pilot project to test the Pedibus system. The expected results will be the expansion of the Pedibus offer, in order to make this pedestrian transport solution more accessible to a larger number of students.
96	Dry Schoulwee	The Séchere Schoulwee project aims to improve the safety of school trips. The first changes include the expansion of the existing network and the integration of new sites to strengthen the safety of school routes. Over a period of 3-4 years, the results will be marked by an iterative adaptation of the system, thus ensuring continuous improvement and better coverage of the areas concerned.
97	Lighting of pedestrian crossings	The pedestrian crossing lighting project begins with the expansion of the existing network and the integration of new sites. Ultimately, the objective is to ensure an iterative adaptation of the system, ensuring a continuous improvement in the visibility and safety of pedestrian crossings.
98	Urban development for pedestrian mobility.	The urban development project for pedestrian mobility starts with the creation of a 'green grid'. This includes the development of footbridges and crossings connecting different neighbourhoods at different levels, thus promoting soft mobility. The system will be adapted iteratively to optimise connections and improve the efficiency of pedestrian mobility.
MT 6 - Soft mobility – empowering soft mobility		
99	Cycle paths	The cycle path development project starts with a targeted improvement of the existing network. The aim is to widen and optimise cycling networks to enhance connectivity and further encourage cycling.
100	Vël'OK - Bike sharing - Bike sharing scheme	The Vël'OK project starts with the electrification of the fleet and the expansion of existing stations, planned for the first 1-2 years. The aim is to add 3-4 new stations per year, with the aim of covering the entire municipal territory by 2026.

101	Bike Boxes	The Bike Boxes project provides for the addition of bicycle parking boxes on school sites. In the medium term, the system will be adjusted iteratively to meet growing needs.
102	Adaptation of the PAG by defining a surface key dedicated to the storage of bicycles in future residences and shops.	The project aims to adapt the General Development Plan (PAG) by defining a surface key for the storage of bicycles in new residences and shops. In the first 1-2 years, the 2022 GAP guidelines will be applied. Eventually, in 3-4 years, the key will be revised according to the needs observed.
103	Provision of scooter racks. Facilitation of mobility with scooters.	The project foresees the provision of scooter racks and the racks will be installed. Awareness campaigns will be launched to promote responsible use of this mode of transport.
104	SurvCoin - Raising awareness of active mobility	The SurvCoin project starts with the launch of the application, initially intended for municipal employees. Access to the mobile application will be extended to the entire population.
105	European Mobility Week	Within the framework of the European Mobility Week, the first changes include the revitalization of the project to reinforce its importance. The momentum will be extended with the creation of a second week in the middle of the year, called Differdangeoise Mobility Week.
106	Citizens' workshops	The first changes for citizen workshops include setting up participation opportunities as part of the Net Zero Cities project. Citizen participation will be standardized, incorporating these workshops as a regular practice.
107	Provision of recharging points.	The first changes include the establishment of recharging points spread throughout the territory. The focus will be on the installation of fast charging stations to improve the efficiency of the charging network.
108	Subsidies for the purchase of electric vehicles and infrastructure (booths)	The changes include the maintenance of existing subsidies for the purchase of electric vehicles and charging infrastructure. A reassessment of the subsidies will be carried out to adjust the aid according to needs and market developments.
MT 7 - Logistics		
109	Approach of "big players" (Post, CFL ...) for the establishment of these hubs and for their operation.	Differdange aims to modernize its urban logistics by creating decentralized hubs at the entrances to the city. This initiative involves

		working with major players such as the Post Office and the CFL to set up and manage these hubs. The main objective is to decarbonise last-mile logistics, promoting solutions such as cargo bikes and other eco-responsible transport alternatives. These hubs will serve as collection and distribution points to optimize transport flows and reduce associated emissions, as part of a broader vision of sustainable mobility and reducing the city's carbon footprint.
110	Vision: decarbonization of the logistics "last mile" by promoting cargobikes or other solutions.	Differdange aims to modernize its urban logistics by creating decentralized hubs at the entrances to the city. This initiative involves working with major players such as the Post Office and the CFL to set up and manage these hubs. The main objective is to decarbonise last-mile logistics, promoting solutions such as cargo bikes and other eco-responsible transport alternatives. These hubs will serve as collection and distribution points to optimize transport flows and reduce associated emissions, as part of a broader vision of sustainable mobility and reducing the city's carbon footprint.
Co2 Offsetting		
CO 1 - Local offsetting (40% of remaining emissions)		
111	Subsidies for green facades	The city encourages the installation of green facades through subsidies under the DiffPrimes program. The first achievements are already materializing, marking the first expected results in the next 1-2 years. In the longer term, the aim is to raise awareness of this initiative and reach 500 buildings with green facades, thus contributing to a greener and more sustainable urban environment.
112	Idea: Adaptation of the Regulation in the context of green facades.	The city is considering changing the PAG to further encourage the installation of green facades by a system of qui pro quo (permission to build higher e.g.)
113	Offering fruit trees to citizens	The city offers fruit trees to citizens.
114	Subsidies for the demolition of stone gardens	The city encourages the demolition of stone gardens through subsidies under the DiffPrimes program.

115	Idea: PV and/or green roof carports	The city could encourage the installation of green roofs or photovoltaic panels on carports through subsidies under the DiffPrimes program.
116	Idea: Adaptation of the Regulation in the context of green facades.	The city is considering changing the PAG to further encourage the installation of green facades by a system of qui pro quo (permission to build higher e.g.)
117	VDD and LIST collaboration	The City of Differdange is collaborating with the Luxembourg Institute of Science and Technology (LIST) to conduct feasibility studies and field trials with hybrid Paulownia trees. This initiative aims to maximize greenhouse gas (GHG) capture through the rapid growth of these trees, thus contributing to the fight against climate change.
118	Idea: Supporting local farmers in the creation of a natural insulation production chain. (Hungary, straw, elephant grass, etc.)	The city plans to support local farmers in creating a production chain for natural insulation, such as hemp, straw and elephant grass. The first expected results include information evenings to mobilize farmers, marketing support, as well as the creation of an information and sales platform. A partnership with the Lycée Technique Agricole will also be explored. The objective is to set up a sector recognized nationally and internationally for the quality of its products.
119	Carbon capture (CCS) - Direct CO2 storage	The city is exploring direct CO2 storage solutions in collaboration with ArcelorMittal. The first steps include geological feasibility studies to assess storage potential. These studies will continue to refine the strategy and identify the most viable options for carbon capture and storage, thus contributing to the reduction of CO2 emissions.
120	Creation of the carbon capture facility.	The city is considering the creation of a carbon capture facility in partnership with ArcelorMittal. The next 1-2 years will be dedicated to feasibility studies to assess the viability of the project. This collaboration will continue over 3-4 years with in-depth studies, aiming to establish an effective solution to reduce CO2 emissions, thus strengthening the city's commitment to the green transition.
121	Storage of CO2 in tar - Karpp-Kneipp pilot project for future road renewal	The Karpp-Kneipp pilot project aims to prepare the future renewal of the city's roads. The first years will be devoted to a feasibility study and the establishment of a pilot street to test new approaches. The aim is to systematize these new methods for all road and road renovations,

		bringing sustainable and innovative improvements to urban infrastructure.
122	CO2 storage in concrete (CCU) - Set as standard in municipal tender dossiers	The city is committed to integrating a new standard into municipal tender dossiers, aimed at promoting the use of CCU concrete. The "Leitfaden" will be adapted to reflect this change. In the longer term, within 3 to 4 years, all new concrete constructions will have to be made with CCU concrete, promoting more sustainable construction practices.
123	Subsidy for citizens / entrepreneurs using concrete CCU	The city offers a subsidy for citizens and entrepreneurs using CCU concrete, as part of the Diff Primes program. The Diff Primes catalogue will be updated to incorporate these new aids. The aim is to increase the compensation share for construction projects using CCU concrete, thus encouraging more environmentally friendly and sustainable construction practices.
124	Storage of CO2 using wooden constructions (FSC / PEFC control) - Set as standard in municipal tender dossiers	The city plans to set a new standard in municipal tender dossiers in favor of CCU wood. The "Leitfaden" will be adapted to include this requirement. All new wooden constructions will have to be made with CCU wood, thus promoting sustainable and innovative building practices.
125	Subsidy for citizens / contractors using timber	The city is introducing a subsidy to encourage citizens and entrepreneurs to use timber. The Diff Primes catalogue will be adjusted to include these new aids. The aim is to increase the compensation share for timber construction projects, thus supporting more sustainable and environmentally friendly construction practices.
126	Creation of a municipal system for the sale of local certificates with sale to the private sector	The city is considering the creation of a communal system for the sale of local CO2 storage certificates for the private sector. A census of all existing and planned CO2 storage projects will be carried out, accompanied by the development of the necessary steps and the registration of projects. The system will enable the sale of certificates and ensure rigorous monitoring to ensure their compliance and effectiveness.
CO 2 - Regional offsetting		

127	Plan compensation actions in the ProSud / TNT region - Think about scaling. 2050 in the ProSud region.	The city plans for the long term by considering the extension of carbon capture and storage (CCS) initiatives by 2050 in the ProSud region. The objective will be to sensitize the member municipalities of ProSud to the importance of collaborating on these projects. The aim will be to develop synergies between municipalities in order to maximise the effectiveness of actions to reduce CO2 emissions.
CO 3 - International offsetting		
128	Investment in European CCS and CCU projects (Netherlands/Norway)	The city plans to invest in European carbon capture and storage (CCS) and carbon capture and use (CCU) projects, notably in the Netherlands and Norway. Lobbying will be carried out with the State to formalize a law authorizing these practices at national and international level. The aim is to conclude contracts with international CCS projects, thus strengthening the city's commitment to the transition to a low-carbon economy.
129	Cooperation on CCS / CCU projects with other pilot cities lacking money, but rich in territorial capacity. Finding international synergies	The city is looking to cooperate with other pilot cities in Europe, which have large territorial capacities for carbon capture and storage (CCS) or carbon capture and use (CCU) projects, but lack funding. Contacts will be established with these cities to explore investment opportunities. The aim is to conclude cooperation contracts and calculate CO2eq compensation subsidies, thus creating international synergies for the fight against climate change.
CO 4 - Purchase of international offset certificates (maximum 20% of remaining emissions)		
130	Financing of CO2eq offsetting projects in non-EU countries	Financing CO2eq offsetting projects in non-EU associated countries aims to provide calculation flexibility, although it is not used as a primary solution to solve problems. This approach allows room for manoeuvre while avoiding relying solely on financial means to offset emissions.
Climate adaptation		
CA 1 - Urban development - mineral public squares		

131	Public places belonging to the VDD	The city of Differdange focuses on improving its public squares. Planning and studies will be carried out to identify the best development solutions. The proposed measures will be implemented, transforming these spaces into more welcoming and sustainable places to live for citizens.
132	GreenCity - Moosfilteren	As part of the GreenCity project, the city plans to install foam filters ("Moosfilteren") to improve the urban climate. Five aircraft will be purchased each year. These facilities will help reduce the temperature in mineralized public spaces, creating cooler and more pleasant environments.
CA 2 - Urban development - natural public squares		
133	Public places belonging to the VDD	The city of Differdange is planning improvements to its public squares to make them more resilient to climate change. Studies will be carried out to increase green spaces and adapt existing infrastructure. The proposed measures will be implemented, including the creation of "tiny forests", green frames and water fountains, to offer greener and refreshing spaces to the inhabitants.
CA 3 - Private developments		
134	Strengthen climate adaptation measures at the level of home owners / residences	The city of Differdange is leading citizens to adopt climate adaptation measures thanks to the change in building regulations.
135	Adapt building regulations encouraging entrepreneurs to build sustainably (e.g. a green facade gives the right to add a floor)	The city of Differdange is leading entrepreneurs to adopt climate adaptation measures thanks to the change in building regulations.
136	Promotion of forest baths by installing boxes to collect smartphones at the entrance of the forest and by setting up a bathtub in the forest to create an "instagrammable" place.	The promotion of forest bathing includes installing boxes to collect smartphones at the entrance to the forest and setting up a bathtub to create an "instagrammable" place. The first changes involve the installation of this equipment. In the long term, the objective is to increase the number of people enjoying forest bathing and to promote a change of mentality towards these practices.
137	European Interreg project – Cool Neighborhoods	As part of the European Interreg project, the first changes are the creation of a green facade in a school located in the center of the city. In

		the long term, this project aims to raise public awareness of environmental issues related to urban planning.
Social innovation		
SI 1 – Civic Participation		
138	Benchmark: Living sustainably in Differdange (2023)	The project "Living sustainably in Differdange" aims to raise awareness and encourage citizen participation in sustainable practices. Emphasis will be placed on creating awareness around this mission and on citizen engagement. The aim is to strengthen this commitment with increased participation in local initiatives and a sustainable adoption of environmentally friendly behaviours, deeply integrated into the daily lives of the inhabitants.
139	Energy: Together towards net zero energy! (2024)	The project "Energy: Together towards net-zero energy!" launched in 2024 aims to mobilize the community around the energy transition. Collaborative workshops and educational sessions will be organized to raise participants' awareness of energy issues and generate citizen interest. The aim is to turn this interest into concrete actions, with increased adoption of sustainable energy solutions by residents, leading to a visible reduction in emissions and an improvement in local energy efficiency.
140	Mobility: together towards net-zero mobility! (2024)	The project "Mobility: together towards net-zero mobility!" launched in 2024 aims to engage citizens in the transition towards more sustainable modes of transport. Collaborative workshops and awareness campaigns will be organised to inform participants of the challenges and encourage their involvement. The aim is to set new sustainable mobility standards with increased adoption of public transport, cycling and walking, thereby reducing the use of personal vehicles and improving urban mobility while enhancing citizen participation in planning decisions.
141	Waste: together towards net-zero waste management! (2024)	The project "Waste: together towards net-zero waste management!" launched in 2024 focuses on improving waste management. Educational sessions and collaborative workshops will be organized to raise awareness of the issues and stimulate citizen interest. The aim is to strengthen the reduction, reuse and recycling of waste by citizens and

		local businesses, leading to a shift towards more sustainable and integrated waste management practices in the daily lives of residents.
142	Compensation: How, why, when? Achieving Net Zero in Differdange by 2030. (2025)	The project "Compensation: How, why, when? Achieving Net Zero in Differdange by 2030" launched in 2025 aims to guide the city towards ambitious carbon offsetting targets. Collaborative workshops and educational sessions will raise awareness and interest in the mission. Differdange will establish sustainable partnerships between the city, businesses and citizens to implement carbon offsetting projects, both local and international. Through these collaborations, the city will develop a strong infrastructure to finance and manage these initiatives in a resilient manner.
143	Mobility II: Let's reinvent mobility! (2025)	The project "Mobility II: Reinvent mobility!" launched in 2025 aims to transform transport modes in Differdange. An in-depth understanding of the issues will be developed through qualitative exchanges and group research to find innovative solutions. The city will implement sustainable mobility solutions, increasing the adoption of green transport and reducing dependence on personal vehicles, which will significantly improve the quality of urban life.
144	Zukunftswerkstatt - Workshop of the future: All together towards a net-zero future! (2025-2026)	The project "Zukunftswerkstatt - Workshop of the future: All together towards a net-zero future!" for 2025-2026 aims to mobilize all population groups around a common mission of sustainability. Targeted workshops will be organised to engage citizens, create integrated networks and train multipliers and influencers within each group. A culture of sustainability will be firmly rooted in the community, with sustainable development initiatives regularly put in place and supported, and strengthening local policies aimed at total carbon neutrality.
145	Mobility: online survey (2024)	In 2024, the city will launch an online mobility survey to identify key bottlenecks and opportunities for improvement. The data will be analysed to implement quick results-based solutions and increase citizen engagement through regular feedback. These efforts will lead to substantial improvements in urban planning and mobility management in

		Differdange, based on concrete data and continuous feedback from citizens.
SI 2 – Awareness raising		
146	Waste: awareness on the ground (2024)	In 2024, a unique awareness-raising action on the ground will be carried out to address the issue of waste management at the start of the school year. This initiative will also aim to inform citizens about the participatory workshop planned for October 2024.
147	Museum of Waste (2024)	From September 2024, the city will host the Waste Museum for a period of six months. This outpatient facility will aim to raise citizens' awareness of waste-related issues.
148	Participatory budgets	Participatory budgets will be made available to support citizen projects aligned with the Net Zero Cities mission. The first changes include the creation and management of these budgets in the first two years.
SI 3 - Communication		
149	Dedicated website - Creation of a landing page dedicated to the project (2024) - www.netzero2030.lu	In 2024, a landing page dedicated to the "Net Zero 2030" project will be launched on www.netzero2030.lu . This page will serve as a focal point to provide information, regular updates and educational resources to engage the public. The site will evolve into a comprehensive portal, with interactive features, progress reports and a hub for all project initiatives, increasing long-term engagement and visibility.
150	Development of a dedicated website listing all the projects selected in the action plan (2024-2025)	Between 2024 and 2025, a dedicated website will be developed to centralize all projects of the Net Zero action plan. The site will provide detailed information on each project, serving as a platform for education and public engagement. The site will become an essential resource for the community, decision-makers and partners, facilitating collaboration and transparency of initiatives and successes.
151	Website of the City of Differdange - Content creation for the official website of the City of Differdange (www.differdange.lu)	Content will be created for the official website of the city of Differdange (www.differdange.lu), reflecting the information of the dedicated site. Links will be established to the full site, thus integrating the contents in a fluid and consistent way.

152	Social media - Use of Facebook and Instagram accounts of the City of Differdange	The wide-ranging Facebook and Instagram accounts of the City of Differdange will be used for the mission. There is no plan to create accounts dedicated specifically to this mission in the first two years.
153	Sending press releases	/
154	Interviews with journalists	Interviews with journalists will be coordinated, with in-depth work on "wording" and messages to communicate. Workshops will be organized with aldermen to refine the messages and adapt them to their specificities, thus ensuring effective and consistent communication.
155	Monthly magazine of the City of Differdange. Articles about the mission in each edition.	The monthly magazine of the City of Differdange will include articles on the Net Zero mission in each edition. Coordination of communications and work on the "wording" of messages will be essential. All actions and communications will be aligned with the mission, integrating it into the heart of the city's identity.
SI 4 – EU Projects		
156	ClimaBorough	Simplifying investment in renewable energy starts with the implementation of a mobile application. In the longer term, this initiative aims to increase the number of energy production projects at the local level, such as energy production communities and attracting third-party investors for these projects.
157	Heat bridge	As part of the European project "Life", the first changes include an analysis of the energy situation of heating and the adoption of a new approach for heating networks in Differdange. The project aims to develop an overview and design a new strategy for district heating, with a direct impact on decarbonisation and emission reduction.

5.2 Module B-2 Climate Neutrality Portfolio Design

B-2.2. Individual action outlines

B-2.2: Individual action outlines		
(fill out one sheet per intervention/project)		
Action outline	Action name	Food Council (WM 1.1.)
	Typical action	Governance
	Action description	<p>Citizen participation, first Food Council in Luxembourg. Civil society representatives - the main results are the pilot project on food waste.</p> <p>Differdange has implemented a comprehensive approach to addressing local food issues through the establishment of the Food Council, the first of its kind in Luxembourg. This council engages civil society representatives to focus specifically on reducing food waste. Key initiatives include the installation of smart bins in public kitchens, which help analyze and cut down on unnecessary waste. In tandem with these efforts, the local production and distribution of vegetables are being ramped up, with 3 tonnes distributed in 2023 and a target set to increase this to 4 tonnes by 2024, dedicating 20% of the produce to local schools.</p> <p>Moreover, the city promotes food preservation and sharing through collaboration with a local cannery and the installation of shared underground refrigerators that help keep food fresh for longer periods. Complementing these practical measures are educational campaigns run in the local magazine, alongside workshops for children that teach them about the origins of food and the importance of respecting our food sources. Through these multifaceted efforts, Differdange is actively working towards a more sustainable and conscious approach to food consumption and waste.</p>
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Reduction of food waste

	Outcome (according to module B-1.1)	<p>In Differdange, initial food waste reduction efforts have focused on citizen engagement and AI-enhanced smart bins, achieving up to 50% kitchen waste reduction. The city is also supporting local produce and organic farming through educational programs.</p> <p>Future plans include formalizing these initiatives with an advisory council, doubling local food production, and improving storage. The goal is to integrate sustainable practices into long-term strategies, increase the use of seasonal vegetables in public dining, and shift public attitudes towards rescued food.</p>
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	
	Involved stakeholders	VDD, citizens
	Comments on implementation	Project exists in part thanks to an Interreg project and needs to see its implementations perennialized.
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/
	Total costs and costs by CO2e unit	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	Intelligent waste bins in public kitchens WM 1.1.
	Typical action	Infrastructure and awareness raising
	Action description	<p>Pilot projects on Food waste – (Orbisk)</p> <p>Differdange has implemented a comprehensive approach to addressing local food issues through the establishment of the Food Council, the first of its kind in Luxembourg. This council engages civil society representatives to focus specifically on reducing food waste. Key initiatives include the installation of smart bins in public kitchens, which help analyze and cut down on unnecessary waste. In tandem with these efforts, the local production and distribution of vegetables are being ramped up, with 3 tonnes distributed in 2023 and a target set to increase this to 4 tonnes by 2024, dedicating 20% of the produce to local schools.</p> <p>Moreover, the city promotes food preservation and sharing through collaboration with a local cannery and the installation of shared underground refrigerators that help keep food fresh for longer periods. Complementing these practical measures are educational campaigns run in the local magazine, alongside workshops for children that teach them about the origins of food and the importance of respecting our food sources. Through these multifaceted efforts, Differdange is actively working towards a more sustainable and conscious approach to food consumption and waste.</p>
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Reduction of food waste
	Outcome (according to module B-1.1)	<p>In Differdange, initial food waste reduction efforts have focused on citizen engagement and AI-enhanced smart bins, achieving up to 50% kitchen waste reduction. The city is also supporting local produce and organic farming through educational programs.</p> <p>Future plans include formalizing these initiatives with an advisory council, doubling local food production, and improving storage. The goal is to</p>

		integrate sustainable practices into long-term strategies, increase the use of seasonal vegetables in public dining, and shift public attitudes towards rescued food.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Municipal canteens
	Involved stakeholders	CDD, municipal institutions
	Comments on implementation	Project exists in part thanks to an Interreg project and needs to see its implementations perennialized.
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/
	Total costs and costs by CO2e unit	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	Local vegetable production WM 1.1.
	Typical action	Governance, infrastructure and awareness raising
	Action description	<p>Differdange has implemented a comprehensive approach to addressing local food issues through the establishment of the Food Council, the first of its kind in Luxembourg. This council engages civil society representatives to focus specifically on reducing food waste. Key initiatives include the installation of smart bins in public kitchens, which help analyze and cut down on unnecessary waste. In tandem with these efforts, the local production and distribution of vegetables are being ramped up, with 3 tonnes distributed in 2023 and a target set to increase this to 4 tonnes by 2024, dedicating 20% of the produce to local schools.</p> <p>Moreover, the city promotes food preservation and sharing through collaboration with a local cannery and the installation of shared underground refrigerators that help keep food fresh for longer periods. Complementing these practical measures are educational campaigns run in the local magazine, alongside workshops for children that teach them about the origins of food and the importance of respecting our food sources. Through these multifaceted efforts, Differdange is actively working towards a more sustainable and conscious approach to food consumption and waste.</p>
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Reduction of food waste
	Outcome (according to module B-1.1)	<p>In Differdange, initial food waste reduction efforts have focused on citizen engagement and AI-enhanced smart bins, achieving up to 50% kitchen waste reduction. The city is also supporting local produce and organic farming through educational programs.</p> <p>Future plans include formalizing these initiatives with an advisory council, doubling local food production, and improving storage. The goal is to integrate sustainable practices into long-term strategies, increase the use of seasonal vegetables in</p>

		public dining, and shift public attitudes towards rescued food.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Municipal canteens
	Involved stakeholders	VDD, municipal institutions
	Comments on implementation	Project exists in part thanks to an Interreg project and needs to see its implementations perennialized.
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/
	Total costs and costs by CO2e unit	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	Idea: cannery (WM 1.1.)
	Typical action	Governance, infrastructure and awareness raising
	Action description	<p>Cooperation with the local canning factory in Limpach and information on conservation.</p> <p>Differdange has implemented a comprehensive approach to addressing local food issues through the establishment of the Food Council, the first of its kind in Luxembourg. This council engages civil society representatives to focus specifically on reducing food waste. Key initiatives include the installation of smart bins in public kitchens, which help analyze and cut down on unnecessary waste. In tandem with these efforts, the local production and distribution of vegetables are being ramped up, with 3 tonnes distributed in 2023 and a target set to increase this to 4 tonnes by 2024, dedicating 20% of the produce to local schools.</p> <p>Moreover, the city promotes food preservation and sharing through collaboration with a local cannery and the installation of shared underground refrigerators that help keep food fresh for longer periods. Complementing these practical measures are educational campaigns run in the local magazine, alongside workshops for children that teach them about the origins of food and the importance of respecting our food sources. Through these multifaceted efforts, Differdange is actively working towards a more sustainable and conscious approach to food consumption and waste.</p>
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Reduction of food waste
	Outcome (according to module B-1.1)	<p>In Differdange, initial food waste reduction efforts have focused on citizen engagement and AI-enhanced smart bins, achieving up to 50% kitchen waste reduction. The city is also supporting local produce and organic farming through educational programs.</p> <p>Future plans include formalizing these initiatives with an advisory council, doubling local food production, and improving storage. The goal is to integrate sustainable practices into long-term</p>

		strategies, increase the use of seasonal vegetables in public dining, and shift public attitudes towards rescued food.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	
	Involved stakeholders	VDD
	Comments on implementation	Idea
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/
	Total costs and costs by CO2e unit	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	Idea: Ground fridge (WM 1.1.)
	Typical action	Infrastructure and awareness raising
	Action description	<p>Groundfridge is a modern take on the traditional root cellar, designed to keep produce fresh without using electricity. It serves as a practical solution for those looking to store fresh produce sustainably, offering a convenient, movable setup that can be placed wherever needed.</p> <p>Differdange has implemented a comprehensive approach to addressing local food issues through the establishment of the Food Council, the first of its kind in Luxembourg. This council engages civil society representatives to focus specifically on reducing food waste. Key initiatives include the installation of smart bins in public kitchens, which help analyze and cut down on unnecessary waste. In tandem with these efforts, the local production and distribution of vegetables are being ramped up, with 3 tonnes distributed in 2023 and a target set to increase this to 4 tonnes by 2024, dedicating 20% of the produce to local schools.</p> <p>Moreover, the city promotes food preservation and sharing through collaboration with a local cannery and the installation of shared underground refrigerators that help keep food fresh for longer periods. Complementing these practical measures are educational campaigns run in the local magazine, alongside workshops for children that teach them about the origins of food and the importance of respecting our food sources. Through these multifaceted efforts, Differdange is actively working towards a more sustainable and conscious approach to food consumption and waste.</p>
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Reduction of food waste
	Outcome (according to module B-1.1)	In Differdange, initial food waste reduction efforts have focused on citizen engagement and AI-enhanced smart bins, achieving up to 50% kitchen waste reduction. The city is also supporting local

		<p>produce and organic farming through educational programs.</p> <p>Future plans include formalizing these initiatives with an advisory council, doubling local food production, and improving storage. The goal is to integrate sustainable practices into long-term strategies, increase the use of seasonal vegetables in public dining, and shift public attitudes towards rescued food.</p>
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	
	Involved stakeholders	CDD, citizens
	Comments on implementation	Idea
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/
	Total costs and costs by CO2e unit	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	Food sharing fridge (WM 1.1.)
	Typical action	Governance, infrastructure and awareness raising
	Action description	<p>A food sharing fridge is an innovative community-based solution that allows individuals to share surplus food. It is designed for those committed to reducing food waste and fostering communal support by providing a space where anyone can leave or take food. This initiative not only helps in minimizing food waste but also assists in strengthening local connections through shared resources. Ideal for urban environments, it acts as a communal pantry accessible to all, promoting sustainability and mutual aid within communities.</p> <p>Differdange has implemented a comprehensive approach to addressing local food issues through the establishment of the Food Council, the first of its kind in Luxembourg. This council engages civil society representatives to focus specifically on reducing food waste. Key initiatives include the installation of smart bins in public kitchens, which help analyze and cut down on unnecessary waste. In tandem with these efforts, the local production and distribution of vegetables are being ramped up, with 3 tonnes distributed in 2023 and a target set to increase this to 4 tonnes by 2024, dedicating 20% of the produce to local schools.</p> <p>Moreover, the city promotes food preservation and sharing through collaboration with a local cannery and the installation of shared underground refrigerators that help keep food fresh for longer periods. Complementing these practical measures are educational campaigns run in the local magazine, alongside workshops for children that teach them about the origins of food and the importance of respecting our food sources. Through these multifaceted efforts, Differdange is actively working towards a more sustainable and conscious approach to food consumption and waste.</p>
	Field of action	Waste and circular economy

Reference to impact pathway	Systemic lift	Reduction of food waste
	Outcome (according to module B-1.1)	<p>In Differdange, initial food waste reduction efforts have focused on citizen engagement and AI-enhanced smart bins, achieving up to 50% kitchen waste reduction. The city is also supporting local produce and organic farming through educational programs.</p> <p>Future plans include formalizing these initiatives with an advisory council, doubling local food production, and improving storage. The goal is to integrate sustainable practices into long-term strategies, increase the use of seasonal vegetables in public dining, and shift public attitudes towards rescued food.</p>
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	City-wide
	Involved stakeholders	CDD, citizens, local businesses and restaurants
	Comments on implementation	Idea
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/
	Total costs and costs by CO2e unit	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	What food, when? – Campaign (WM 1.1.)
	Typical action	Awareness Raising
	Action description	<p>Advertising campaign in DiffMag on foods to eat during this month.</p> <p>Differdange has implemented a comprehensive approach to addressing local food issues through the establishment of the Food Council, the first of its kind in Luxembourg. This council engages civil society representatives to focus specifically on reducing food waste. Key initiatives include the installation of smart bins in public kitchens, which help analyze and cut down on unnecessary waste. In tandem with these efforts, the local production and distribution of vegetables are being ramped up, with 3 tonnes distributed in 2023 and a target set to increase this to 4 tonnes by 2024, dedicating 20% of the produce to local schools.</p> <p>Moreover, the city promotes food preservation and sharing through collaboration with a local cannery and the installation of shared underground refrigerators that help keep food fresh for longer periods. Complementing these practical measures are educational campaigns run in the local magazine, alongside workshops for children that teach them about the origins of food and the importance of respecting our food sources. Through these multifaceted efforts, Differdange is actively working towards a more sustainable and conscious approach to food consumption and waste.</p>
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Reduction of food waste
	Outcome (according to module B-1.1)	<p>In Differdange, initial food waste reduction efforts have focused on citizen engagement and AI-enhanced smart bins, achieving up to 50% kitchen waste reduction. The city is also supporting local produce and organic farming through educational programs.</p> <p>Future plans include formalizing these initiatives with an advisory council, doubling local food production, and improving storage. The goal is to</p>

		integrate sustainable practices into long-term strategies, increase the use of seasonal vegetables in public dining, and shift public attitudes towards rescued food.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	
	Involved stakeholders	Citizens
	Comments on implementation	Communication campaign
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/
	Total costs and costs by CO2e unit	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	Workshops on food waste (WM 1.1.)
	Typical action	Awareness Raising
	Action description	<p>Workshops on food waste with the NGO SOS Faim and MicroTarians once a month.</p> <p>Differdange has implemented a comprehensive approach to addressing local food issues through the establishment of the Food Council, the first of its kind in Luxembourg. This council engages civil society representatives to focus specifically on reducing food waste. Key initiatives include the installation of smart bins in public kitchens, which help analyze and cut down on unnecessary waste. In tandem with these efforts, the local production and distribution of vegetables are being ramped up, with 3 tonnes distributed in 2023 and a target set to increase this to 4 tonnes by 2024, dedicating 20% of the produce to local schools.</p> <p>Moreover, the city promotes food preservation and sharing through collaboration with a local cannery and the installation of shared underground refrigerators that help keep food fresh for longer periods. Complementing these practical measures are educational campaigns run in the local magazine, alongside workshops for children that teach them about the origins of food and the importance of respecting our food sources. Through these multifaceted efforts, Differdange is actively working towards a more sustainable and conscious approach to food consumption and waste.</p>
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Reduction of food waste
	Outcome (according to module B-1.1)	<p>In Differdange, initial food waste reduction efforts have focused on citizen engagement and AI-enhanced smart bins, achieving up to 50% kitchen waste reduction. The city is also supporting local produce and organic farming through educational programs.</p> <p>Future plans include formalizing these initiatives with an advisory council, doubling local food production, and improving storage. The goal is to integrate sustainable practices into long-term</p>

		strategies, increase the use of seasonal vegetables in public dining, and shift public attitudes towards rescued food.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	All citizens
	Involved stakeholders	VDD, citizens, MicroTarians, SOS Hunger
	Comments on implementation	Project exists and is continued.
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/
	Total costs and costs by CO2e unit	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	Where does the food come from? (WM 1.1.)
	Typical action	Awareness Raising
	Action description	<p>Summer workshops with children - Learning to respect production and food (150 children in 2023).</p> <p>Differdange has implemented a comprehensive approach to addressing local food issues through the establishment of the Food Council, the first of its kind in Luxembourg. This council engages civil society representatives to focus specifically on reducing food waste. Key initiatives include the installation of smart bins in public kitchens, which help analyze and cut down on unnecessary waste. In tandem with these efforts, the local production and distribution of vegetables are being ramped up, with 3 tonnes distributed in 2023 and a target set to increase this to 4 tonnes by 2024, dedicating 20% of the produce to local schools.</p> <p>Moreover, the city promotes food preservation and sharing through collaboration with a local cannery and the installation of shared underground refrigerators that help keep food fresh for longer periods. Complementing these practical measures are educational campaigns run in the local magazine, alongside workshops for children that teach them about the origins of food and the importance of respecting our food sources. Through these multifaceted efforts, Differdange is actively working towards a more sustainable and conscious approach to food consumption and waste.</p>
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Reduction of food waste
	Outcome (according to module B-1.1)	<p>In Differdange, initial food waste reduction efforts have focused on citizen engagement and AI-enhanced smart bins, achieving up to 50% kitchen waste reduction. The city is also supporting local produce and organic farming through educational programs.</p> <p>Future plans include formalizing these initiatives with an advisory council, doubling local food production, and improving storage. The goal is to integrate sustainable practices into long-term</p>

		strategies, increase the use of seasonal vegetables in public dining, and shift public attitudes towards rescued food.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	
	Involved stakeholders	VDD, citizens
	Comments on implementation	Project exists and is continued
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/
	Total costs and costs by CO2e unit	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	Waste taxes WM 2.1.
	Typical action	Governance
	Action description	<p>Waste taxation is a proactive and transparent approach to encouraging waste reduction in communities. This measure encourages citizens to adopt more environmentally-friendly behaviour by making them aware of the direct financial impact of waste production. The prior announcement of an increase in these taxes if waste volumes do not fall is intended to motivate a change in behaviour beforehand, by offering citizens the opportunity to change their clothes before the additional costs are applied. This pricing system encourages greater individual and collective responsibility, while increasing the transparency of waste management policy.</p> <p>Differdange is taking significant steps to minimize environmental impact through economic and infrastructural strategies aimed at better waste management. The introduction of waste taxes is a key move designed to incentivize less polluting production practices among businesses and individuals alike. This economic measure is intended to reduce waste generation and encourages more sustainable consumption patterns across the community.</p> <p>In parallel, the city is also adapting its recycling infrastructures to enhance the management of food waste specifically. Adjustments to recycling facilities are being made to ensure that they are well-equipped to handle and process food waste more efficiently. This not only helps in reducing the environmental footprint but also supports the broader goal of sustainable waste management within the city. Together, these measures represent a proactive approach to waste reduction and resource conservation in Differdange.</p>
	Field of action	Waste and circular economy

Reference to impact pathway	Systemic lift	Reducing the mass of waste
	Outcome (according to module B-1.1)	In Differdange, initial food waste reduction efforts have successfully used citizen engagement and AI-enhanced smart bins to cut kitchen waste by up to 50%. The city is also promoting local and organic farming through education. Future plans include formalizing these initiatives, doubling local food production, and improving storage, with a focus on integrating sustainable practices, increasing seasonal vegetable use in public dining, and shifting attitudes towards rescued food.
Implementation	Responsible bodies/person for implementation	City Council
	Action scale & addressed entities	VDD
	Involved stakeholders	VDD
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/
	Total costs and costs by CO2e unit	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	Adaptation of the recycling park WM 2.1.
	Typical action	Governance and infrastructure

	Action description	<p>The overhaul of the recycling park aims to optimise waste separation and reduction. By modernising facilities and improving sorting processes, the city can significantly reduce the amount of waste sent to landfill, thereby promoting a more sustainable and responsible life cycle for materials. Redirecting waste to professional waste collectors. The service to the recycling park should improve for citizens through the reduction of professional waste.</p> <p>Differdange is taking significant steps to minimize environmental impact through economic and infrastructural strategies aimed at better waste management. The introduction of waste taxes is a key move designed to incentivize less polluting production practices among businesses and individuals alike. This economic measure is intended to reduce waste generation and encourages more sustainable consumption patterns across the community.</p> <p>In parallel, the city is also adapting its recycling infrastructures to enhance the management of food waste specifically. Adjustments to recycling facilities are being made to ensure that they are well-equipped to handle and process food waste more efficiently. This not only helps in reducing the environmental footprint but also supports the broader goal of sustainable waste management within the city. Together, these measures represent a proactive approach to waste reduction and resource conservation in Differdange.</p>
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Reducing the mass of waste
	Outcome (according to module B-1.1)	In Differdange, initial food waste reduction efforts have successfully used citizen engagement and AI-enhanced smart bins to cut kitchen waste by up to 50%. The city is also promoting local and organic farming through education. Future plans include formalizing these initiatives, doubling local food production, and improving storage, with a focus on integrating sustainable practices, increasing seasonal vegetable use in public dining, and shifting attitudes towards rescued food.

Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	VDD
	Involved stakeholders	VDD
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/
	Total costs and costs by CO2e unit	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	Repair cafes WM 2.2.
	Typical action	Awareness Raising
	Action description	<p>The 'Repair Café' concept contributes effectively to waste reduction by encouraging the repair of used objects rather than their replacement. These community workshops, where volunteers help to repair household items, electronic appliances and more, help to extend the life of products and raise public awareness of the importance of recycling and conserving resources.</p> <p>Differdange is taking significant steps to minimize environmental impact through economic and infrastructural strategies aimed at better waste management. The introduction of waste taxes is a key move designed to incentivize less polluting production practices among businesses and individuals alike. This economic measure is intended to reduce waste generation and encourages more sustainable consumption patterns across the community.</p> <p>In parallel, the city is also adapting its recycling infrastructures to enhance the management of food waste specifically. Adjustments to recycling facilities are being made to ensure that they are well-equipped to handle and process food waste more efficiently. This not only helps in reducing the environmental footprint but also supports the broader goal of sustainable waste management within the city. Together, these measures represent a proactive approach to waste reduction and resource conservation in Differdange.</p>
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Reducing the mass of waste
	Outcome (according to module B-1.1)	In Differdange, initial food waste reduction efforts have successfully used citizen engagement and AI-enhanced smart bins to cut kitchen waste by up to 50%. The city is also promoting local and organic farming through education. Future plans include formalizing these initiatives, doubling local food

		production, and improving storage, with a focus on integrating sustainable practices, increasing seasonal vegetable use in public dining, and shifting attitudes towards rescued food.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	VDD
	Involved stakeholders	VDD
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/
	Total costs and costs by CO2e unit	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	Idea: Sharing platform WM 2.2.
	Typical action	Awareness Raising
	Action description	<p>Online sharing platforms effectively reduce waste by encouraging the shared use of goods rather than their individual acquisition. By bringing together people who want to lend or borrow items, these platforms extend the life of products and reduce the need to produce new goods. This process not only helps to reduce waste, but also raises awareness among users of the need for more responsible and sustainable consumption.</p> <p>Differdange is taking significant steps to minimize environmental impact through economic and infrastructural strategies aimed at better waste management. The introduction of waste taxes is a key move designed to incentivize less polluting production practices among businesses and individuals alike. This economic measure is intended to reduce waste generation and encourages more sustainable consumption patterns across the community.</p> <p>In parallel, the city is also adapting its recycling infrastructures to enhance the management of food waste specifically. Adjustments to recycling facilities are being made to ensure that they are well-equipped to handle and process food waste more efficiently. This not only helps in reducing the environmental footprint but also supports the broader goal of sustainable waste management within the city. Together, these measures represent a proactive approach to waste reduction and resource conservation in Differdange.</p>
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Reducing the mass of waste
	Outcome (according to module B-1.1)	In Differdange, initial food waste reduction efforts have successfully used citizen engagement and AI-enhanced smart bins to cut kitchen waste by up to 50%. The city is also promoting local and organic farming through education. Future plans include

		formalizing these initiatives, doubling local food production, and improving storage, with a focus on integrating sustainable practices, increasing seasonal vegetable use in public dining, and shifting attitudes towards rescued food.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	VDD
	Involved stakeholders	VDD
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/
	Total costs and costs by CO2e unit	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	Awareness campaigns in close collaboration with national institutions WM 2.3.
	Typical action	Awareness Raising
	Action description	Increased granularity of waste production data across the city and the possibility of carrying out targeted campaigns in these areas.
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Reducing the mass of waste
	Outcome (according to module B-1.1)	In the early stages, Differdange will focus on fostering a change in mentality towards sustainability, alongside introducing services that promote repair and reuse of items to reduce waste. Measures such as taxes and smart waste bin locks will be implemented to encourage citizens and businesses to generate waste. The city also plans to install waste compressing bins and sensors in public areas to manage waste more efficiently. Over the following years, waste taxation will be adjusted to new standards, which may include taxing previously untaxed waste types. Improvements in waste collection and sorting will enhance recycling efforts, especially for construction waste. The city will promote the use of longer-lasting products and strengthen community bonds. Efforts to reduce packaging waste will be intensified through reforms and logistical improvements in waste collection, leading to significant cost savings for both citizens and management services, and fostering a mentality that benefits both the economy and the environment.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	City-wide
	Involved stakeholders	National stakeholders
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/

	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/
	Total costs and costs by CO2e unit	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	Distribution of bowls, towels and reusable crockery to all residents WM 2.3.
	Typical action	Awareness Raising
	Action description	Reducing the materials needed for festivities.
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Reducing the mass of waste
	Outcome (according to module B-1.1)	In the early stages, Differdange will focus on fostering a change in mentality towards sustainability, alongside introducing services that promote repair and reuse of items to reduce waste. Measures such as taxes and smart waste bin locks will be implemented to encourage citizens and businesses to generate waste. The city also plans to install waste compressing bins and sensors in public areas to manage waste more efficiently. Over the following years, waste taxation will be adjusted to new standards, which may include taxing previously untaxed waste types. Improvements in waste collection and sorting will enhance recycling efforts, especially for construction waste. The city will promote the use of longer-lasting products and strengthen community bonds. Efforts to reduce packaging waste will be intensified through reforms and logistical improvements in waste collection, leading to significant cost savings for both citizens and management services, and fostering a mentality that benefits both the economy and the environment.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	City-wide
	Involved stakeholders	/
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

	GHG emissions reduction estimate (total) per emission source sector	/
	Total costs and costs by CO2e unit	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	Implementation of a deposit system in the gastronomy and public festivities sector at ProSud level WM 2.3.
	Typical action	
	Action description	The implementation of a deposit system in the gastronomy and public festivities sector at ProSud encourages an eco-responsible approach by reusing packaging. This system allows participants to return their containers in exchange for a deposit, thereby reducing waste and promoting recycling. This initiative also supports the circular economy by minimising the need for resources for new products.
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Reducing the mass of waste
	Outcome (according to module B-1.1)	In the early stages, Differdange will focus on fostering a change in mentality towards sustainability, alongside introducing services that promote repair and reuse of items to reduce waste. Measures such as taxes and smart waste bin locks will be implemented to encourage citizens and businesses to generate waste. The city also plans to install waste compressing bins and sensors in public areas to manage waste more efficiently. Over the following years, waste taxation will be adjusted to new standards, which may include taxing previously untaxed waste types. Improvements in waste collection and sorting will enhance recycling efforts, especially for construction waste. The city will promote the use of longer-lasting products and strengthen community bonds. Efforts to reduce packaging waste will be intensified through reforms and logistical improvements in waste collection, leading to significant cost savings for both citizens and management services, and fostering a mentality that benefits both the economy and the environment.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Citizens, local businesses
	Involved stakeholders	ProSud

	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/
	Total costs and costs by CO2e unit	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	Idea: Locks for waste in residential buildings WM 2.4.
	Typical action	Infrastructure
	Action description	Immediate impact on the quantity of waste and the organization of waste collection rounds. Active top-down governance, demonstrating the city's determination to reduce the amount of waste in a radical and politically courageous way.
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Reducing the mass of waste
	Outcome (according to module B-1.1)	In the early stages, Differdange will focus on fostering a change in mentality towards sustainability, alongside introducing services that promote repair and reuse of items to reduce waste. Measures such as taxes and smart waste bin locks will be implemented to encourage citizens and businesses to generate waste. The city also plans to install waste compressing bins and sensors in public areas to manage waste more efficiently. Over the following years, waste taxation will be adjusted to new standards, which may include taxing previously untaxed waste types. Improvements in waste collection and sorting will enhance recycling efforts, especially for construction waste. The city will promote the use of longer-lasting products and strengthen community bonds. Efforts to reduce packaging waste will be intensified through reforms and logistical improvements in waste collection, leading to significant cost savings for both citizens and management services, and fostering a mentality that benefits both the economy and the environment.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	City-wide
	Involved stakeholders	

	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/
	Total costs and costs by CO2e unit	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	Idea: Waste compactors WM 2.4.
	Typical action	Infrastructure
	Action description	The use of waste compactors in bins in public places is an effective approach to increasing waste storage capacity and reducing the frequency of collections. These devices compress waste on site, reducing its volume and minimising the visual impact of accumulated waste. As a result, public spaces remain cleaner and more pleasant for the community, while optimising the resources devoted to waste management.
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Reducing the mass of waste
	Outcome (according to module B-1.1)	In the early stages, Differdange will focus on fostering a change in mentality towards sustainability, alongside introducing services that promote repair and reuse of items to reduce waste. Measures such as taxes and smart waste bin locks will be implemented to encourage citizens and businesses to generate waste. The city also plans to install waste compressing bins and sensors in public areas to manage waste more efficiently. Over the following years, waste taxation will be adjusted to new standards, which may include taxing previously untaxed waste types. Improvements in waste collection and sorting will enhance recycling efforts, especially for construction waste. The city will promote the use of longer-lasting products and strengthen community bonds. Efforts to reduce packaging waste will be intensified through reforms and logistical improvements in waste collection, leading to significant cost savings for both citizens and management services, and fostering a mentality that benefits both the economy and the environment.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	City-wide

	Involved stakeholders	/
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/
	Total costs and costs by CO2e unit	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	Idea: Bin level sensors WM 2.4.
	Typical action	Infrastructure
	Action description	The establishment of a second-hand shop in the Differdange recycling park offers an innovative solution for reusing objects instead of throwing them away. This initiative encourages responsible consumption, reduces waste and supports the local economy by offering products at lower cost. It is also a place where people can learn about the importance of recycling and reuse for sustainable development.
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Reducing the mass of waste
	Outcome (according to module B-1.1)	In the early stages, Differdange will focus on fostering a change in mentality towards sustainability, alongside introducing services that promote repair and reuse of items to reduce waste. Measures such as taxes and smart waste bin locks will be implemented to encourage citizens and businesses to generate waste. The city also plans to install waste compressing bins and sensors in public areas to manage waste more efficiently. Over the following years, waste taxation will be adjusted to new standards, which may include taxing previously untaxed waste types. Improvements in waste collection and sorting will enhance recycling efforts, especially for construction waste. The city will promote the use of longer-lasting products and strengthen community bonds. Efforts to reduce packaging waste will be intensified through reforms and logistical improvements in waste collection, leading to significant cost savings for both citizens and management services, and fostering a mentality that benefits both the economy and the environment.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	City-wide

	Involved stakeholders	/
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/
	Total costs and costs by CO2e unit	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	Second-hand shop in the recycling park WM 2.4.
	Typical action	Infrastructure
	Action description	<p>Establishing a second-hand shop within Differdange's recycling park could significantly contribute to waste reduction and support the city's objectives under the 100 Net Zero Cities mission. By facilitating the reuse of items, the shop would directly decrease the volume of waste heading to landfills and incinerators, promoting a more circular economy. This initiative would not only extend the life cycle of products but also reduce the demand for new resources, lowering the overall carbon footprint associated with production, transport, and disposal.</p> <p>Moreover, such a shop would raise community awareness about sustainable consumption practices. It could serve as an educational platform, illustrating the practical benefits of reuse and recycling. This aligns with the broader mission goals by fostering a local culture of sustainability and encouraging residents to make environmentally conscious choices. By reducing waste and promoting reuse, the second-hand shop would play a pivotal role in helping Differdange achieve its net-zero targets, making the city a model of sustainable urban development.</p>
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Reducing the mass of waste
	Outcome (according to module B-1.1)	<p>In the early stages, Differdange will focus on fostering a change in mentality towards sustainability, alongside introducing services that promote repair and reuse of items to reduce waste. Measures such as taxes and smart waste bin locks will be implemented to encourage citizens and businesses to generate waste. The city also plans to install waste compressing bins and sensors in public areas to manage waste more efficiently. Over the following years, waste taxation will be adjusted to new standards, which may include taxing previously untaxed waste types. Improvements in waste</p>

		collection and sorting will enhance recycling efforts, especially for construction waste. The city will promote the use of longer-lasting products and strengthen community bonds. Efforts to reduce packaging waste will be intensified through reforms and logistical improvements in waste collection, leading to significant cost savings for both citizens and management services, and fostering a mentality that benefits both the economy and the environment.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	City-wide
	Involved stakeholders	/
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/
	Total costs and costs by CO2e unit	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	WM 3.1. Improving the efficiency of waste processing – lobbying with SIDOR
	Typical action	Infrastructure and governance
	Action description	The town of Differdange, which is politically represented within the SIDOR union, is seeking to influence management to invest in new technologies or, at the very least, to carry out a feasibility study. The aim is to increase the energy efficiency of waste incineration, thereby optimising the production of thermal and electrical energy. This approach is part of a vision of continuous improvement in the union's environmental performance.
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Improved efficiency in waste treatment
	Outcome (according to module B-1.1)	Differdange plans to optimize waste management with new machinery and improved recycling, especially for construction and residential waste. Awareness campaigns will promote recycling, reuse, and green waste recovery to reduce emissions and costs. The city aims to boost energy production, enhance biogas management, and increase recycling of problematic waste. A second-hand resale point will support the circular economy, and the recycling park will evolve into an environmental awareness center.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Regional
	Involved stakeholders	Sidor
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

	GHG emissions reduction estimate (total) per emission source sector	/
	Total costs and costs by CO2e unit	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	WM 3.2. Sidor - installation of a hydrogen station next to the incineration site
	Typical action	Infrastructure and governance
	Action description	The city, which is politically represented on the union's board, is trying to influence management to support its initiatives. The emphasis is on carrying out a feasibility study and lobbying efforts. The ultimate love is to obtain a political decision in favour of the project. The aim is to strengthen the city's commitment to supporting and developing projects of common interest.
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Improved efficiency in waste treatment
	Outcome (according to module B-1.1)	Differdange plans to optimize waste management with new machinery and improved recycling, especially for construction and residential waste. Awareness campaigns will promote recycling, reuse, and green waste recovery to reduce emissions and costs. The city aims to boost energy production, enhance biogas management, and increase recycling of problematic waste. A second-hand resale point will support the circular economy, and the recycling park will evolve into an environmental awareness center.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Regional
	Involved stakeholders	Sidor
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/



	Total costs and costs by CO2e unit	/
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B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	WM 3.3. SuperDrecksKëscht - problematic waste management
	Typical action	Governance and awareness raising
	Action description	The VDD plays a purely consultative role, providing feedback and developing ideas and projects in collaboration with SDK. It also benefits from the services offered. The short-term objective is to increase the recycling rate of problematic waste, focusing on solutions for residential buildings and incorporating SDK guidelines. The aim is to increase the recycling rate of problematic waste and to change attitudes towards the purchase of problematic products upstream.
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Improved efficiency in waste treatment
	Outcome (according to module B-1.1)	Differdange plans to optimize waste management with new machinery and improved recycling, especially for construction and residential waste. Awareness campaigns will promote recycling, reuse, and green waste recovery to reduce emissions and costs. The city aims to boost energy production, enhance biogas management, and increase recycling of problematic waste. A second-hand resale point will support the circular economy, and the recycling park will evolve into an environmental awareness center.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Regional
	Involved stakeholders	SuperDrecksKëscht (SDK)
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

	GHG emissions reduction estimate (total) per emission source sector	/
	Total costs and costs by CO2e unit	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	Valorlux
	Typical action	Governance and awareness raising
	Action description	As a non-profit organization appointed by the state, Valorlux is responsible for managing packaging waste and cigarette butts, promoting recycling and proper disposal.
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Improved efficiency in waste treatment
	Outcome (according to module B-1.1)	Differdange plans to optimize waste management with new machinery and improved recycling, especially for construction and residential waste. Awareness campaigns will promote recycling, reuse, and green waste recovery to reduce emissions and costs. The city aims to boost energy production, enhance biogas management, and increase recycling of problematic waste. A second-hand resale point will support the circular economy, and the recycling park will evolve into an environmental awareness center.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Regional
	Involved stakeholders	Valorlux
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/
	Total costs and costs by CO2e unit	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	Minett Kompost
	Typical action	Governance and infrastructure
	Action description	The City, with its representatives on the Syndicate Board, will seek to steer decisions towards investment in machinery, starting with a feasibility study within 1 to 2 years. These actions should make it possible to improve compost and biogas production, while reducing methane leaks.
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Improved efficiency in waste treatment
	Outcome (according to module B-1.1)	Differdange plans to optimize waste management with new machinery and improved recycling, especially for construction and residential waste. Awareness campaigns will promote recycling, reuse, and green waste recovery to reduce emissions and costs. The city aims to boost energy production, enhance biogas management, and increase recycling of problematic waste. A second-hand resale point will support the circular economy, and the recycling park will evolve into an environmental awareness center.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Regional
	Involved stakeholders	Minett Kompost
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/
	Total costs and costs by CO ₂ e unit	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	WM 3.6. Deposit System for Packaging
	Typical action	Governance and awareness raising
	Action description	Introduction of a deposit system on packaging to encourage recycling and reduce waste.
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Improved efficiency in waste treatment
	Outcome (according to module B-1.1)	Differdange plans to optimize waste management with new machinery and improved recycling, especially for construction and residential waste. Awareness campaigns will promote recycling, reuse, and green waste recovery to reduce emissions and costs. The city aims to boost energy production, enhance biogas management, and increase recycling of problematic waste. A second-hand resale point will support the circular economy, and the recycling park will evolve into an environmental awareness center.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Regional
	Involved stakeholders	/
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/
	Total costs and costs by CO2e unit	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	WM 3.7. Béckléck Project
	Typical action	
	Action description	Utilizes trees felled by storms that would otherwise decompose in the forest, turning potential waste into resources. The trees will be extracted from the forest by Ardennes horses and chipped for local pellet production in the first 1-2 years. This promotes the use of local energy resources.
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Improved efficiency in waste treatment
	Outcome (according to module B-1.1)	Differdange plans to optimize waste management with new machinery and improved recycling, especially for construction and residential waste. Awareness campaigns will promote recycling, reuse, and green waste recovery to reduce emissions and costs. The city aims to boost energy production, enhance biogas management, and increase recycling of problematic waste. A second-hand resale point will support the circular economy, and the recycling park will evolve into an environmental awareness center.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	Robbesscheier
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/
	Total costs and costs by CO2e unit	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	WM 3.8. SIACH Involvement
	Typical action	Infrastructure
	Action description	The Intercommunal Syndicate for the Sanitation of the Chiers Basin focuses on the proper treatment and disposal of wastewater and related waste products.
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Improved efficiency in waste treatment
	Outcome (according to module B-1.1)	Differdange plans to optimize waste management with new machinery and improved recycling, especially for construction and residential waste. Awareness campaigns will promote recycling, reuse, and green waste recovery to reduce emissions and costs. The city aims to boost energy production, enhance biogas management, and increase recycling of problematic waste. A second-hand resale point will support the circular economy, and the recycling park will evolve into an environmental awareness center.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	SIACH
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/
	Total costs and costs by CO2e unit	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	Ecotrel
	Typical action	Infrastructure and awareness raising
	Action description	Authorized by the Ministry of Environment, Ecotrel manages the recycling of electrical and electronic equipment under the laws of Luxembourg. The town could strengthen its commitment to the national 'Social ReUse' initiative by developing local initiatives. In the short term, it would be possible to request the opening of a local resale point, at the Helmsange location. This would make it possible to set up a local sales outlet, broaden the range of second-hand products on offer, and thus strengthen the local circular economy.
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Improved efficiency in waste treatment
	Outcome (according to module B-1.1)	Differdange plans to optimize waste management with new machinery and improved recycling, especially for construction and residential waste. Awareness campaigns will promote recycling, reuse, and green waste recovery to reduce emissions and costs. The city aims to boost energy production, enhance biogas management, and increase recycling of problematic waste. A second-hand resale point will support the circular economy, and the recycling park will evolve into an environmental awareness center.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	EcoTrel
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

	GHG emissions reduction estimate (total) per emission source sector	/
	Total costs and costs by CO2e unit	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	WM 3.10. Metal Recycling via Arcelor Mittal
	Typical action	Governance
	Action description	This initiative focuses on the recycling of metals like scrap iron, tires, and aluminum, promoting the circular economy. Due to the co-dependency between the City and Arcelor Mittal, the City has significant negotiating leeway. A regular, institutionalised working group could be set up to address carbon neutrality issues, although any immediate improvements would mainly concern Arcelor's internal processes. Public-private partnerships (PPPs) could be established to improve internal processes and strengthen collaboration to achieve sustainability goals.
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Improved efficiency in waste treatment
	Outcome (according to module B-1.1)	Differdange plans to optimize waste management with new machinery and improved recycling, especially for construction and residential waste. Awareness campaigns will promote recycling, reuse, and green waste recovery to reduce emissions and costs. The city aims to boost energy production, enhance biogas management, and increase recycling of problematic waste. A second-hand resale point will support the circular economy, and the recycling park will evolve into an environmental awareness center.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	Arcelor Mittal
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

	GHG emissions reduction estimate (total) per emission source sector	/
	Total costs and costs by CO2e unit	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	EcoTec Bulky Waste Sorting
	Typical action	Infrastructure
	Action description	Aims to improve the sorting of bulky waste, facilitating more effective recycling and disposal. The aim is to improve sorting quality in order to achieve higher recycling rates. In the medium term, we aim to achieve this objective by ensuring a significant and measurable improvement in sorting quality, thereby contributing to optimised recycling rates.
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Improved efficiency in waste treatment
	Outcome (according to module B-1.1)	Differdange plans to optimize waste management with new machinery and improved recycling, especially for construction and residential waste. Awareness campaigns will promote recycling, reuse, and green waste recovery to reduce emissions and costs. The city aims to boost energy production, enhance biogas management, and increase recycling of problematic waste. A second-hand resale point will support the circular economy, and the recycling park will evolve into an environmental awareness center.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	EcoTec
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/
	Total costs and costs by CO2e unit	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	WM 3.11. EcoTec - Wood recycling through Kronospan
	Typical action	Infrastructure
	Action description	EcoTec partners with Kronospan to recycle wood, reducing landfill use and promoting resource recovery.
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Improved efficiency in waste treatment
	Outcome (according to module B-1.1)	Differdange plans to optimize waste management with new machinery and improved recycling, especially for construction and residential waste. Awareness campaigns will promote recycling, reuse, and green waste recovery to reduce emissions and costs. The city aims to boost energy production, enhance biogas management, and increase recycling of problematic waste. A second-hand resale point will support the circular economy, and the recycling park will evolve into an environmental awareness center.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	EcoTec
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/
	Total costs and costs by CO2e unit	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	WM 3.12. EcoTec - Bulky waste sorting
	Typical action	Infrastructure
	Action description	Aims to improve the sorting of bulky waste, facilitating more effective recycling and disposal. The VDD, as the contracting entity, is in a position to express its needs. Over the next 1 to 2 years, we plan to increase the range of waste processing channels, such as PVC, which should lead to a significant improvement in the quality of sorting and a significant increase in the recycling rate.
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Improved efficiency in waste treatment
	Outcome (according to module B-1.1)	Differdange plans to optimize waste management with new machinery and improved recycling, especially for construction and residential waste. Awareness campaigns will promote recycling, reuse, and green waste recovery to reduce emissions and costs. The city aims to boost energy production, enhance biogas management, and increase recycling of problematic waste. A second-hand resale point will support the circular economy, and the recycling park will evolve into an environmental awareness center.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	EcoTec
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/
	Total costs and costs by CO2e unit	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	WM 3.13. EcoTec Recycling Park Management
	Typical action	Infrastructure
	Action description	Manages the local recycling facility, ensuring efficient operation and maximum material recovery. As the contracting authority, the VDD is able to define its needs. Our love will be to increase the recycling rate and improve waste sorting. In the medium term, i.e. in 3 to 4 years' time, we expect not only a continuous improvement in the quality of sorting and the recycling rate, but also the development of the recycling park as a centre for raising awareness of waste management and recycling.
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Improved efficiency in waste treatment
	Outcome (according to module B-1.1)	Differdange plans to optimize waste management with new machinery and improved recycling, especially for construction and residential waste. Awareness campaigns will promote recycling, reuse, and green waste recovery to reduce emissions and costs. The city aims to boost energy production, enhance biogas management, and increase recycling of problematic waste. A second-hand resale point will support the circular economy, and the recycling park will evolve into an environmental awareness center.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	EcoTec
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

	GHG emissions reduction estimate (total) per emission source sector	/
	Total costs and costs by CO2e unit	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	WM 3.14. Benjeshecken Project
	Typical action	Infrastructure
	Action description	This involves the creation of hedgerows from pruning waste, which provides habitat for wildlife and aids in seed dispersal, enhancing local biodiversity.
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Improved efficiency in waste treatment
	Outcome (according to module B-1.1)	Differdange plans to optimize waste management with new machinery and improved recycling, especially for construction and residential waste. Awareness campaigns will promote recycling, reuse, and green waste recovery to reduce emissions and costs. The city aims to boost energy production, enhance biogas management, and increase recycling of problematic waste. A second-hand resale point will support the circular economy, and the recycling park will evolve into an environmental awareness center.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	EcoTec
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/
	Total costs and costs by CO2e unit	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	WM 4.1. CIGL — Vélosbuttek
	Typical action	Infrastructure
	Action description	This initiative, managed by the non-profit CIGL (Centre d'Initiative et de Gestion Local), offers a bike shop that employs individuals looking for work, providing them with job training and opportunities. It reflects the city's goal of combining social support with sustainable transport solutions.
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Circular economy
	Outcome (according to module B-1.1)	Differdange is promoting sustainable consumption by expanding second-hand product sales and tightening tender specifications for green projects. The city is increasing efforts to reuse clothing, toys, and refurbish furniture, while fostering community cohesion through a local social network. A platform for service exchanges and a focus on cultural access support the circular economy and neighborhood improvements.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	CIGL
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/
	Total costs and costs by CO2e unit	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	WM 4.2. CIGL — Butzebutikk
	Typical action	Infrastructure
	Action description	A second-hand clothing store for children, this project supports waste reduction by promoting the reuse of garments and providing affordable clothing options for families.
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Circular economy
	Outcome (according to module B-1.1)	Differdange is promoting sustainable consumption by expanding second-hand product sales and tightening tender specifications for green projects. The city is increasing efforts to reuse clothing, toys, and refurbish furniture, while fostering community cohesion through a local social network. A platform for service exchanges and a focus on cultural access support the circular economy and neighborhood improvements.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	CIGL
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	4.3. CIGL — Occasionsbutikk
	Typical action	Infrastructure
	Action description	This second-hand store further exemplifies Differdange's approach to reducing waste through the resale and reuse of goods, extending the lifecycle of products and minimizing landfill use.
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Circular economy
	Outcome (according to module B-1.1)	Differdange is promoting sustainable consumption by expanding second-hand product sales and tightening tender specifications for green projects. The city is increasing efforts to reuse clothing, toys, and refurbish furniture, while fostering community cohesion through a local social network. A platform for service exchanges and a focus on cultural access support the circular economy and neighborhood improvements.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	CIGL
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	WM 4.4. Idea: Circular economy in the construction sector - use of BIM software
	Typical action	Governance and Infrastructure
	Action description	This approach uses Building Information Modeling (BIM) software to ensure efficiency and resource management in construction, promoting the reuse and recycling of materials.
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Circular economy
	Outcome (according to module B-1.1)	Differdange is promoting sustainable consumption by expanding second-hand product sales and tightening tender specifications for green projects. The city is increasing efforts to reuse clothing, toys, and refurbish furniture, while fostering community cohesion through a local social network. A platform for service exchanges and a focus on cultural access support the circular economy and neighborhood improvements.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	BIM
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	WM 4.5. Circular economy in the construction sector - use of the Bauleitfaden
	Typical action	Governance and infrastructure
	Action description	As a contracting entity, the VDD is committed to complying with the Bauleitfaden. These guidelines will enable the VDD to achieve its waste management objectives by directing implementation towards strict compliance with the necessary conditions, while promoting the intelligent, rational, economical and ecologically sound use of resources.
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Circular economy
	Outcome (according to module B-1.1)	Differdange is promoting sustainable consumption by expanding second-hand product sales and tightening tender specifications for green projects. The city is increasing efforts to reuse clothing, toys, and refurbish furniture, while fostering community cohesion through a local social network. A platform for service exchanges and a focus on cultural access support the circular economy and neighborhood improvements.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	Building sector
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	WM 4.6. Bicherschief
	Typical action	Infrastructure
	Action description	Public bookcases installed around the city offer residents the chance to share and read books for free, encouraging the circulation of knowledge without the need for new resources.
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Circular economy
	Outcome (according to module B-1.1)	Differdange is promoting sustainable consumption by expanding second-hand product sales and tightening tender specifications for green projects. The city is increasing efforts to reuse clothing, toys, and refurbish furniture, while fostering community cohesion through a local social network. A platform for service exchanges and a focus on cultural access support the circular economy and neighborhood improvements.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	Building sector
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	WM 4.7. HOPLR
	Typical action	Governance and awareness raising
	Action description	A local social network will be set up to strengthen citizenship and encourage exchanges between citizens. In the medium term, we will develop an integrated platform for services, exchanging products, organizing events and disseminating information.
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Circular economy
	Outcome (according to module B-1.1)	Differdange is promoting sustainable consumption by expanding second-hand product sales and tightening tender specifications for green projects. The city is increasing efforts to reuse clothing, toys, and refurbish furniture, while fostering community cohesion through a local social network. A platform for service exchanges and a focus on cultural access support the circular economy and neighborhood improvements.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	Citizens
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	WM 4.8. Circular Project for Plant Bulbs
	Typical action	Awareness Raising
	Action description	This innovative project focuses on the reuse and sharing of plant bulbs used by the municipality, facilitating community gardening efforts and promoting green spaces.
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Circular economy
	Outcome (according to module B-1.1)	Differdange is promoting sustainable consumption by expanding second-hand product sales and tightening tender specifications for green projects. The city is increasing efforts to reuse clothing, toys, and refurbish furniture, while fostering community cohesion through a local social network. A platform for service exchanges and a focus on cultural access support the circular economy and neighborhood improvements.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	VDD, Citizens
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	WM 5.1. Gedeco - Association of Municipal Waste Managers
	Typical action	Governance
	Action description	This association is pivotal in uniting waste management professionals across the municipality to share best practices and coordinate efforts efficiently, ensuring a unified approach towards waste management.
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Organizational Optimization
	Outcome (according to module B-1.1)	Differdange is enhancing its focus on sustainable consumption by expanding the marketing of second-hand items like bicycles, furniture, and children's products. This effort is complemented by stricter sustainability criteria in city tenders and an enriched cultural agenda promoting green initiatives. The establishment of a social network fosters community interaction and supports civic engagement. The city is also committed to the circular economy, actively promoting the reuse and refurbishment of various items, and has created an inventory to optimize the reuse of materials in building projects. A new platform facilitates the exchange of services and cultural enrichment, contributing to neighborhood beautification and enhancing communal life.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	GEDECO
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/



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B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	WM 5.2. Idea: Central purchasing
	Typical action	Governance
	Action description	Implementing a central purchasing system can streamline procurement processes and allow for the bulk buying of goods and services, which not only reduces costs but also enhances the ability to negotiate better terms with suppliers, focusing on environmentally friendly products.
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Organizational Optimization
	Outcome (according to module B-1.1)	Differdange is enhancing its focus on sustainable consumption by expanding the marketing of second-hand items like bicycles, furniture, and children's products. This effort is complemented by stricter sustainability criteria in city tenders and an enriched cultural agenda promoting green initiatives. The establishment of a social network fosters community interaction and supports civic engagement. The city is also committed to the circular economy, actively promoting the reuse and refurbishment of various items, and has created an inventory to optimize the reuse of materials in building projects. A new platform facilitates the exchange of services and cultural enrichment, contributing to neighborhood beautification and enhancing communal life.
Implementation	Responsible bodies/person for implementation	Municipal secretariat
	Action scale & addressed entities	Local
	Involved stakeholders	/
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/



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B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	WM 5.2. Idea: Generalization of Green Events
	Typical action	Governance and awareness raising
	Action description	This initiative aims to expand the number of 'Green Events' organized within the city, promoting sustainability through events that minimize environmental impact by utilizing waste reduction practices, recycling, and eco-friendly materials. This approach encourages community participation and awareness regarding environmental conservation.
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Organizational Optimization
	Outcome (according to module B-1.1)	Differdange is enhancing its focus on sustainable consumption by expanding the marketing of second-hand items like bicycles, furniture, and children's products. This effort is complemented by stricter sustainability criteria in city tenders and an enriched cultural agenda promoting green initiatives. The establishment of a social network fosters community interaction and supports civic engagement. The city is also committed to the circular economy, actively promoting the reuse and refurbishment of various items, and has created an inventory to optimize the reuse of materials in building projects. A new platform facilitates the exchange of services and cultural enrichment, contributing to neighborhood beautification and enhancing communal life.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	/
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

	GHG emissions reduction estimate (total) per emission source sector	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	WM 6.1. Bëschbotz:
	Typical action	Awareness Raising
	Action description	This initiative involves community-driven forest clean-up events. Residents are encouraged to participate in cleaning the local forests, fostering a sense of responsibility and community spirit towards the environment.
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Littering
	Outcome (according to module B-1.1)	The city aims to change the citizens' mentality by organising in situ clean-up events in the adjacent forests and in the city itself that involve interested inhabitants. Differdange also plans to draw up an inventory of the current situation and of littering hotspots. The later outcomes should be a significant reduction of littering as well as an optimization of the cleaning tours and consequently a heightened efficiency.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	/
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	WM 6.2. CleanChallenge
	Typical action	Awareness Raising
	Action description	Similar to Bëschbotz, this program focuses on urban spaces, organizing street cleaning events with local citizens. These events are designed to engage residents directly in the beautification and upkeep of their streets, promoting a litter-free environment through active participation.
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Littering
	Outcome (according to module B-1.1)	The city aims to change the citizens' mentality by organising in situ clean-up events in the adjacent forests and in the city itself that involve interested inhabitants. Differdange also plans to draw up an inventory of the current situation and of littering hotspots. The later outcomes should be a significant reduction of littering as well as an optimization of the cleaning tours and consequently a heightened efficiency.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	/
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	WM 6.3. Littering monitoring using an intelligent recognition system
	Typical action	Infrastructure
	Action description	This idea proposes the use of advanced technology to monitor littering. The system would use intelligent recognition technologies to identify and manage litter in public areas, thus allowing for a more efficient and data-driven approach to tackling litter issues.
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Littering
	Outcome (according to module B-1.1)	The city aims to change the citizens' mentality by organising in situ clean-up events in the adjacent forests and in the city itself that involve interested inhabitants. Differdange also plans to draw up an inventory of the current situation and of littering hotspots. The later outcomes should be a significant reduction of littering as well as an optimization of the cleaning tours and consequently a heightened efficiency.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	/
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MS 1.1. Zesumme Renovation Project
	Typical action	Infrastructure and awareness raising
	Action description	This initiative focuses on the energy renovation of existing single-family homes. It is a collaborative effort with support from national ministries including Energy and Spatial Planning, Environment, Climate and Sustainable Development, Klima-Agence, and INPA. The project aims to encourage renovations that reduce energy consumption and CO2 emissions, targeting a renovation rate increase in the most suitable neighborhoods. Differdange's participation in the European "NetZeroCities" project underpins these efforts, as the city aims for CO2 neutrality by 2030. The renovation of approximately 4,000 existing buildings in the city is key to achieving this ambitious goal, with intensive support provided to homeowners throughout the renovation process.
Reference to impact pathway	Field of action	Energy
	Systemic lift	Renovations
	Outcome (according to module B-1.1)	In Differdange, the home improvement program envisages partial or complete renovations for around 4,150 single-family homes. Annually, 6.6% of these units, or around 300 homes, could undergo renovations, reducing gas consumption by around 741 m3 per unit. Over two years, between 80 and 100 homes could benefit from these improvements. Of these homes, 227 are rated between A and D in terms of energy efficiency, and 910 require renovations. It is anticipated that 10 homes per year will undergo renovations, which would represent up to 70 homes renovated over an annual period, with a forecast of 20 units in the first two years. Potential of 300 units per year, so 600 units. Each renovation is directly dependent on state subsidies. For the residencies, Differdange aims for 20 buildings.
Implementation	Responsible bodies/person for implementation	Technical Service
	Action scale & addressed entities	Local
	Involved stakeholders	Klima Agency

	Comments on implementation	Project is running
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	This action reduces gas consumption by: 1,556,100 m3/year in the case of 300 units/year.

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MS 1.2 Idea: Energy-efficient renovation of homes
	Typical action	Infrastructure and awareness raising
	Action description	This aspect of the initiative identifies 910 residences that require refurbishment to meet energy efficiency standards. This plan is part of a broader strategy to enhance the overall sustainability and livability of residential buildings within the community.
Reference to impact pathway	Field of action	Energy
	Systemic lift	Renovations
	Outcome (according to module B-1.1)	In Differdange, the home improvement program envisages partial or complete renovations for around 4,150 single-family homes. Annually, 6.6% of these units, or around 300 homes, could undergo renovations, reducing gas consumption by around 741 m ³ per unit. Over two years, between 80 and 100 homes could benefit from these improvements. Of these homes, 227 are rated between A and D in terms of energy efficiency, and 910 require renovations. It is anticipated that 10 homes per year will undergo renovations, which would represent up to 70 homes renovated over an annual period, with a forecast of 20 units in the first two years. Potential of 300 units per year, so 600 units. Each renovation is directly dependent on state subsidies. For the residencies, Differdange aims for 20 buildings.
Implementation	Responsible bodies/person for implementation	Technical Service
	Action scale & addressed entities	Local
	Involved stakeholders	Klima Agency
	Comments on implementation	Project is running
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/

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B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MS 2.1. Decarbonisation of heating systems in single-family homes
	Typical action	Infrastructure
	Action description	The town of Differdange, in collaboration with the Klima Agency, aims to obtain state subsidies to help single-family homes switch to less carbon-intensive heating systems. This initiative supports the transition to sustainable heating technologies by reducing dependence on fossil fuels.
Reference to impact pathway	Field of action	Energy
	Systemic lift	Decarbonisation
	Outcome (according to module B-1.1)	<p>Currently, there are 361 single-family homes potentially convertible to heat pumps among new buildings, with projections for annual renovations impacting an additional 300 homes. This totals about 3,061 units, with an anticipated 17% (approximately 500 units) transitioning to heat pump technology. Additionally, the city plans to expand urban heating connections across five networks, totaling 275 units. Roughly 300 residences annually could see a 30% transition to heat pump technology, translating to 10-12 conversions per year. The first phase involves developing a geothermal energy concept for existing urban heating networks in Oberkorn. As part of the decarbonisation approach, the City of Differdange anticipates a significant change in heating systems, affecting around 17% of the total, or 500 units, which will be equipped with heat pumps. In addition, around 90 units will be connected to district heating networks in five separate areas, while 10 to 12 homes will make the switch each year.</p> <p>The second phase of the project will include the implementation of an energy concept designed to be economically viable, based on the results of the first phase. This will lead to the installation of advanced systems for the decarbonisation of the district heating network in Oberkorn. This phase will also include the actual installation of connections and the gradual replacement of</p>

		maintenance equipment such as hedge trimmers, lawnmowers and chainsaws, to further reduce the carbon footprint.
Implementation	Responsible bodies/person for implementation	Technical Service
	Action scale & addressed entities	Local
	Involved stakeholders	/
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MS 2.2. Transition to district heating using pellets or biomass
	Typical action	Infrastructure
	Action description	The project to connect residential units to district heating fuelled by pellets or biomass is a major step towards reducing CO2 emissions. The aim is to replace individual heating systems with a more environmentally-friendly centralised solution.
Reference to impact pathway	Field of action	Energy
	Systemic lift	Decarbonisation
	Outcome (according to module B-1.1)	<p>Currently, there are 361 single-family homes potentially convertible to heat pumps among new buildings, with projections for annual renovations impacting an additional 300 homes. This totals about 3,061 units, with an anticipated 17% (approximately 500 units) transitioning to heat pump technology. Additionally, the city plans to expand urban heating connections across five networks, totaling 275 units. Roughly 300 residences annually could see a 30% transition to heat pump technology, translating to 10-12 conversions per year. The first phase involves developing a geothermal energy concept for existing urban heating networks in Oberkorn. As part of the decarbonisation approach, the City of Differdange anticipates a significant change in heating systems, affecting around 17% of the total, or 500 units, which will be equipped with heat pumps. In addition, around 90 units will be connected to district heating networks in five separate areas, while 10 to 12 homes will make the switch each year.</p> <p>The second phase of the project will include the implementation of an energy concept designed to be economically viable, based on the results of the first phase. This will lead to the installation of advanced systems for the decarbonisation of the district heating network in Oberkorn. This phase will also include the actual installation of connections and the gradual replacement of maintenance equipment such as hedge</p>

		trimmers, lawnmowers and chainsaws, to further reduce the carbon footprint.
Implementation	Responsible bodies/person for implementation	Technical Service
	Action scale & addressed entities	Local
	Involved stakeholders	/
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MS 2.3. Replacement of heating systems in collective residences
	Typical action	Infrastructure
	Action description	Differdange plans to replace fossil-fuel heating systems in collective residences with renewable energy alternatives, such as geothermal or biomass, to further reduce greenhouse gas emissions.
Reference to impact pathway	Field of action	Energy
	Systemic lift	Decarbonisation
	Outcome (according to module B-1.1)	<p>Currently, there are 361 single-family homes potentially convertible to heat pumps among new buildings, with projections for annual renovations impacting an additional 300 homes. This totals about 3,061 units, with an anticipated 17% (approximately 500 units) transitioning to heat pump technology. Additionally, the city plans to expand urban heating connections across five networks, totaling 275 units. Roughly 300 residences annually could see a 30% transition to heat pump technology, translating to 10-12 conversions per year. The first phase involves developing a geothermal energy concept for existing urban heating networks in Oberkorn. As part of the decarbonisation approach, the City of Differdange anticipates a significant change in heating systems, affecting around 17% of the total, or 500 units, which will be equipped with heat pumps. In addition, around 90 units will be connected to district heating networks in five separate areas, while 10 to 12 homes will make the switch each year.</p> <p>The second phase of the project will include the implementation of an energy concept designed to be economically viable, based on the results of the first phase. This will lead to the installation of advanced systems for the decarbonisation of the district heating network in Oberkorn. This phase will also include the actual installation of connections and the gradual replacement of maintenance equipment such as hedge</p>

		trimmers, lawnmowers and chainsaws, to further reduce the carbon footprint.
Implementation	Responsible bodies/person for implementation	Technical Service
	Action scale & addressed entities	Local
	Involved stakeholders	/
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MS 2.4. Decarbonisation of the Oberkorn district heating network
	Typical action	Infrastructure
	Action description	The modernisation of the Oberkorn district heating network with the introduction of geothermal energy is replacing traditional cogeneration. This approach makes it possible to use renewable energy sources to heat urban areas in a more sustainable way.
Reference to impact pathway	Field of action	Energy
	Systemic lift	Decarbonisation
	Outcome (according to module B-1.1)	<p>Currently, there are 361 single-family homes potentially convertible to heat pumps among new buildings, with projections for annual renovations impacting an additional 300 homes. This totals about 3,061 units, with an anticipated 17% (approximately 500 units) transitioning to heat pump technology. Additionally, the city plans to expand urban heating connections across five networks, totaling 275 units. Roughly 300 residences annually could see a 30% transition to heat pump technology, translating to 10-12 conversions per year. The first phase involves developing a geothermal energy concept for existing urban heating networks in Oberkorn. As part of the decarbonisation approach, the City of Differdange anticipates a significant change in heating systems, affecting around 17% of the total, or 500 units, which will be equipped with heat pumps. In addition, around 90 units will be connected to district heating networks in five separate areas, while 10 to 12 homes will make the switch each year.</p> <p>The second phase of the project will include the implementation of an energy concept designed to be economically viable, based on the results of the first phase. This will lead to the installation of advanced systems for the decarbonisation of the district heating network in Oberkorn. This phase will also include the actual installation of connections and the gradual replacement of maintenance equipment such as hedge</p>

		trimmers, lawnmowers and chainsaws, to further reduce the carbon footprint.
Implementation	Responsible bodies/person for implementation	Technical Service
	Action scale & addressed entities	Local
	Involved stakeholders	/
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/
	GHG emissions reduction estimate (total) per emission source sector	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MS 2.5. Connection of the funicular plateau, the blast furnace and the CreativeHub 1535 to Arcelor Mittal's energy recovery system Use of residual energy from the steel industry.
	Typical action	Infrastructure
	Action description	Differdange plans to connect key infrastructures such as the funicular platform, the blast furnace and CreativeHub 1535 to Arcelor Mittal's energy recovery network. Waste energy from the steel industry will be used to supply heat and reduce fossil fuel consumption.
Reference to impact pathway	Field of action	Energy
	Systemic lift	Decarbonisation
	Outcome (according to module B-1.1)	<p>Currently, there are 361 single-family homes potentially convertible to heat pumps among new buildings, with projections for annual renovations impacting an additional 300 homes. This totals about 3,061 units, with an anticipated 17% (approximately 500 units) transitioning to heat pump technology. Additionally, the city plans to expand urban heating connections across five networks, totaling 275 units. Roughly 300 residences annually could see a 30% transition to heat pump technology, translating to 10-12 conversions per year. The first phase involves developing a geothermal energy concept for existing urban heating networks in Oberkorn. As part of the decarbonisation approach, the City of Differdange anticipates a significant change in heating systems, affecting around 17% of the total, or 500 units, which will be equipped with heat pumps. In addition, around 90 units will be connected to district heating networks in five separate areas, while 10 to 12 homes will make the switch each year.</p> <p>The second phase of the project will include the implementation of an energy concept designed to be economically viable, based on the results of the first phase. This will lead to the installation of advanced systems for the decarbonisation of the district heating network in Oberkorn. This</p>

		phase will also include the actual installation of connections and the gradual replacement of maintenance equipment such as hedge trimmers, lawnmowers and chainsaws, to further reduce the carbon footprint.
Implementation	Responsible bodies/person for implementation	Technical Service
	Action scale & addressed entities	Local
	Involved stakeholders	/
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MS 2.6. Decarbonisation of small maintenance equipment
	Typical action	Governance and infrastructure
	Action description	A proposal has been made to decarbonise small maintenance equipment, suggesting a switch to equipment running on alternative energies to minimise emissions in daily maintenance and servicing operations.
Reference to impact pathway	Field of action	Energy
	Systemic lift	Decarbonisation
	Outcome (according to module B-1.1)	<p>Currently, there are 361 single-family homes potentially convertible to heat pumps among new buildings, with projections for annual renovations impacting an additional 300 homes. This totals about 3,061 units, with an anticipated 17% (approximately 500 units) transitioning to heat pump technology. Additionally, the city plans to expand urban heating connections across five networks, totaling 275 units. Roughly 300 residences annually could see a 30% transition to heat pump technology, translating to 10-12 conversions per year. The first phase involves developing a geothermal energy concept for existing urban heating networks in Oberkorn. As part of the decarbonisation approach, the City of Differdange anticipates a significant change in heating systems, affecting around 17% of the total, or 500 units, which will be equipped with heat pumps. In addition, around 90 units will be connected to district heating networks in five separate areas, while 10 to 12 homes will make the switch each year.</p> <p>The second phase of the project will include the implementation of an energy concept designed to be economically viable, based on the results of the first phase. This will lead to the installation of advanced systems for the decarbonisation of the district heating network in Oberkorn. This phase will also include the actual installation of connections and the gradual replacement of maintenance equipment such as hedge</p>

		trimmers, lawnmowers and chainsaws, to further reduce the carbon footprint.
Implementation	Responsible bodies/person for implementation	Technical Service
	Action scale & addressed entities	Local
	Involved stakeholders	/
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MS 3.2. Solar energy production
	Typical action	Infrastructure
	Action description	The city plans to install solar panels on VDD heritage buildings. This project will seek the support of private partners to finance, build and operate the installations, enabling optimum use of municipal buildings for the production of renewable energy.
Reference to impact pathway	Field of action	Energy
	Systemic lift	Energy production
	Outcome (according to module B-1.1)	<p>Concerning energy production through solar panels on public buildings, Differdange plans studies and aims for a realisation of 50% of the potential.</p> <p>The installation of the first wind turbine awaits authorisation from public authorities.</p> <p>Differdange is planning the implementation of pellet heating for the project "Aalt Spidol" by decommissioning five gas boilers and replacing them with a pellet boiler in the form of a container, purchased by the municipality. Differdange aims for the remaining 50% of potential to be realised, concerning energy production through solar panels on public buildings and for implementing the wind turbine project.</p> <p>In Niederkorn, a pellet plant district heating for the public service site and future shopping centre will be implemented. The project "Aalt Spidol" should be widened to allow the development of an energy concept for the entire site, including the use of mine water.</p>
Implementation	Responsible bodies/person for implementation	Technical Service
	Action scale & addressed entities	Local
	Involved stakeholders	/
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/



	Removed/substituted energy, / volume or fuel type	
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B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MS 3.2. Wind energy production
	Typical action	Infrastructure
	Action description	With the commitment of citizens, Differdange plans to develop a wind farm. This community project will not only produce clean energy, but will also strengthen citizen participation in the management of energy resources.
Reference to impact pathway	Field of action	Energy
	Systemic lift	Energy production
	Outcome (according to module B-1.1)	<p>Concerning energy production through solar panels on public buildings, Differdange plans studies and aims for a realisation of 50% of the potential.</p> <p>The installation of the first wind turbine awaits authorisation from public authorities.</p> <p>Differdange is planning the implementation of pellet heating for the project "Aalt Spidol" by decommissioning five gas boilers and replacing them with a pellet boiler in the form of a container, purchased by the municipality. Differdange aims for the remaining 50% of potential to be realised, concerning energy production through solar panels on public buildings and for implementing the wind turbine project.</p> <p>In Niederkorn, a pellet plant district heating for the public service site and future shopping centre will be implemented. The project "Aalt Spidol" should be widened to allow the development of an energy concept for the entire site, including the use of mine water.</p>
Implementation	Responsible bodies/person for implementation	Technical Service
	Action scale & addressed entities	Local
	Involved stakeholders	/
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/

	Removed/substituted energy, / volume or fuel type	
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B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MS 3.3. Niederkorn pellet plant
	Typical action	Infrastructure
	Action description	A district heating system will be set up in Niederkorn, supplying public buildings and a future shopping centre with energy produced from pellets. This demonstrates the town's commitment to using renewable resources for its major energy needs.
Reference to impact pathway	Field of action	Energy
	Systemic lift	Energy production
	Outcome (according to module B-1.1)	<p>Concerning energy production through solar panels on public buildings, Differdange plans studies and aims for a realisation of 50% of the potential.</p> <p>The installation of the first wind turbine awaits authorisation from public authorities.</p> <p>Differdange is planning the implementation of pellet heating for the project "Aalt Spidol" by decommissioning five gas boilers and replacing them with a pellet boiler in the form of a container, purchased by the municipality. Differdange aims for the remaining 50% of potential to be realised, concerning energy production through solar panels on public buildings and for implementing the wind turbine project.</p> <p>In Niederkorn, a pellet plant district heating for the public service site and future shopping centre will be implemented. The project "Aalt Spidol" should be widened to allow the development of an energy concept for the entire site, including the use of mine water.</p>
Implementation	Responsible bodies/person for implementation	Technical Service
	Action scale & addressed entities	Local
	Involved stakeholders	/
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/

	Removed/substituted energy, / volume or fuel type	
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B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MS 3.4. Pellet boiler house at Aalt Spidol:
	Typical action	Infrastructure
	Action description	The former Aalt Spidol hospital will be equipped with a pellet boiler house, using renewable energy sources to provide efficient and environmentally-friendly heating, thereby reducing dependence on fossil fuels.
Reference to impact pathway	Field of action	Energy
	Systemic lift	Energy production
	Outcome (according to module B-1.1)	<p>Concerning energy production through solar panels on public buildings, Differdange plans studies and aims for a realisation of 50% of the potential.</p> <p>The installation of the first wind turbine awaits authorisation from public authorities.</p> <p>Differdange is planning the implementation of pellet heating for the project "Aalt Spidol" by decommissioning five gas boilers and replacing them with a pellet boiler in the form of a container, purchased by the municipality. Differdange aims for the remaining 50% of potential to be realised, concerning energy production through solar panels on public buildings and for implementing the wind turbine project.</p> <p>In Niederkorn, a pellet plant district heating for the public service site and future shopping centre will be implemented. The project "Aalt Spidol" should be widened to allow the development of an energy concept for the entire site, including the use of mine water.</p>
Implementation	Responsible bodies/person for implementation	Technical Service
	Action scale & addressed entities	Local
	Involved stakeholders	/
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/



	Removed/substituted energy, / volume or fuel type	
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B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MS 4.1. Improving Building Efficiency
	Typical action	Infrastructure
	Action description	Differdange aims to enhance the energy efficiency of its municipal buildings by renovating and replacing old heating systems with decarbonized alternatives. This initiative focuses on reducing carbon footprints and enhancing energy performance across the city's property assets.
Reference to impact pathway	Field of action	Energy
	Systemic lift	Energy savings
	Outcome (according to module B-1.1)	Building renovations and the decarbonization of heating systems are underway. Differdange is working with a partner to optimize its district heating networks. The town will be carrying out feasibility studies for the development of agro-photovoltaics and will be upgrading all its urban lighting to LEDs. This will incorporate LED lighting for sports facilities.
Implementation	Responsible bodies/person for implementation	Technical Service
	Action scale & addressed entities	Local
	Involved stakeholders	/
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MS 4.2. Optimizing Urban Heating Networks
	Typical action	Infrastructure
	Action description	In partnership with private sector entities, the city seeks to expand and enhance the efficiency of its urban heating networks. This involves upgrading existing infrastructure to ensure more sustainable and economical thermal energy distribution.
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lift	Energy savings
	Outcome (according to module B-1.1)	Building renovations and the decarbonization of heating systems are underway. Differdange is working with a partner to optimize its district heating networks. The town will be carrying out feasibility studies for the development of agro-photovoltaics and will be upgrading all its urban lighting to LEDs. This will incorporate LED lighting for sports facilities.
Implementation	Responsible bodies/person for implementation	Technical Service
	Action scale & addressed entities	Local
	Involved stakeholders	/
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MS 4.3. Solar Energy on Agricultural Lands
	Typical action	Infrastructure
	Action description	The city plans to deploy solar energy projects on agricultural lands owned by the municipal development department (VDD). These projects aim to increase renewable energy production, backed by private funding and state collaborations to ensure successful implementation and operation.
Reference to impact pathway	Field of action	Energy
	Systemic lift	Energy savings
	Outcome (according to module B-1.1)	<p>Building renovations and the decarbonization of heating systems are underway.</p> <p>Differdange is working with a partner to optimize its district heating networks.</p> <p>The town will be carrying out feasibility studies for the development of agro-photovoltaics and will be upgrading all its urban lighting to LEDs. This will incorporate LED lighting for sports facilities.</p>
Implementation	Responsible bodies/person for implementation	Technical Service
	Action scale & addressed entities	Local
	Involved stakeholders	/
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MS 4.4. Smart LED Street Lighting
	Typical action	Infrastructure
	Action description	A transition to smart LED street lighting is underway, involving a comprehensive strategy to apply for state subsidies and launching a global tender to upgrade all municipal lighting to intelligent LEDs. This measure is expected to significantly reduce electricity consumption and maintenance costs.
Reference to impact pathway	Field of action	Energy
	Systemic lift	Energy savings
	Outcome (according to module B-1.1)	Building renovations and the decarbonization of heating systems are underway. Differdange is working with a partner to optimize its district heating networks. The town will be carrying out feasibility studies for the development of agro-photovoltaics and will be upgrading all its urban lighting to LEDs. This will incorporate LED lighting for sports facilities.
Implementation	Responsible bodies/person for implementation	Technical Service
	Action scale & addressed entities	Local
	Involved stakeholders	/
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MS 4.5. Sports Field Lighting Upgrade
	Typical action	Infrastructure
	Action description	Differdange is also upgrading lighting systems in sports facilities, replacing halogen lamps with LED fixtures to cut down on energy use and improve lighting quality, enhancing both athlete performance and spectator experience.
Reference to impact pathway	Field of action	Energy
	Systemic lift	Energy savings
	Outcome (according to module B-1.1)	<p>Building renovations and the decarbonization of heating systems are underway.</p> <p>Differdange is working with a partner to optimize its district heating networks.</p> <p>The town will be carrying out feasibility studies for the development of agro-photovoltaics and will be upgrading all its urban lighting to LEDs. This will incorporate LED lighting for sports facilities.</p>
Implementation	Responsible bodies/person for implementation	Technical Service
	Action scale & addressed entities	Local
	Involved stakeholders	/
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	UP 1.1. Urban Development Plan (PDU)
	Typical action	
	Action description	Differdange has drawn up an Urban Development Plan which guides the architecture of public buildings. This plan aims to harmonise the development of new infrastructures while respecting the needs of the community and enhancing urban aesthetics. The UDP guides architectural choices, the materials used, and the environmental technologies integrated to promote sustainable development.
Reference to impact pathway	Field of action	Urban planning - improving the quality of life
	Systemic lift	Architecture - public buildings
	Outcome (according to module B-1.1)	<p>Differdange is planning to revise its Urban Development Plan (PDU). This initiative aims to significantly transform the urban planning and architecture of public buildings to improve the quality of life of its residents. The first stages will include detailed planning and in-depth studies to ensure that future developments are both environmentally sustainable and adapted to the needs of the community.</p> <p>By placing particular emphasis on sustainable construction and infrastructure, Differdange hopes not only to reduce its carbon footprint but also to create more pleasant and functional urban spaces. These changes are likely to include the renovation of existing buildings, the construction of new energy-efficient public buildings, and the creation of green areas.</p>
Implementation	Responsible bodies/person for implementation	Urban development
	Action scale & addressed entities	Local
	Involved stakeholders	/
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/

	Removed/substituted energy, / volume or fuel type	

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	UP 2.1. Redevelopment of urban spaces
	Typical action	Infrastructure
	Action description	The renovation and improvement of urban spaces is at the heart of Differdange's strategy to revitalise neighbourhoods and create attractive and functional places to live. This includes transforming public squares, parks and avenues to make them more accessible, safe and pleasant for all citizens.
Reference to impact pathway	Field of action	Urban planning - improving the quality of life
	Systemic lift	Architecture - public buildings
	Outcome (according to module B-1.1)	<p>Differdange is planning to revise its Urban Development Plan (PDU). This initiative aims to significantly transform the urban planning and architecture of public buildings to improve the quality of life of its residents. The first stages will include detailed planning and in-depth studies to ensure that future developments are both environmentally sustainable and adapted to the needs of the community.</p> <p>By placing particular emphasis on sustainable construction and infrastructure, Differdange hopes not only to reduce its carbon footprint but also to create more pleasant and functional urban spaces. These changes are likely to include the renovation of existing buildings, the construction of new energy-efficient public buildings, and the creation of green areas.</p>
Implementation	Responsible bodies/person for implementation	Urban development
	Action scale & addressed entities	Local
	Involved stakeholders	/
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	UP 3.1. PAG, building regulations for private buildings
	Typical action	Governance
	Action description	With regard to the architecture of private buildings, the city relies on the PAG (General Development Plan), which sets out strict rules on the use of authorised materials and restrictions on building density. These regulations aim to preserve the aesthetic character of the town while controlling the environmental impact of new construction.
Reference to impact pathway	Field of action	Urban planning - improving the quality of life
	Systemic lift	Architecture - public buildings
	Outcome (according to module B-1.1)	<p>Differdange is planning to revise its Urban Development Plan (PDU). This initiative aims to significantly transform the urban planning and architecture of public buildings to improve the quality of life of its residents. The first stages will include detailed planning and in-depth studies to ensure that future developments are both environmentally sustainable and adapted to the needs of the community.</p> <p>By placing particular emphasis on sustainable construction and infrastructure, Differdange hopes not only to reduce its carbon footprint but also to create more pleasant and functional urban spaces. These changes are likely to include the renovation of existing buildings, the construction of new energy-efficient public buildings, and the creation of green areas.</p>
Implementation	Responsible bodies/person for implementation	Urban development
	Action scale & addressed entities	Local
	Involved stakeholders	/
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/



	Removed/substituted energy, / volume or fuel type	
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B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MT 1 - DiffBus - VDD project
	Typical action	Service
	Action description	This project involves adapting the transport network to improve its performance. This iterative approach aims to increase use by the public and reduce individual motorised mobility by favouring electric buses. The aim is to maintain the attractiveness of the network and encourage regular use, thereby consolidating the environmental and social benefits of this initiative.
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lift	Public transport - bus
	Outcome (according to module B-1.1)	<p>The existing project aims to adapt and improve the transport network to enhance its performance through an iterative approach. The goal is to increase the use of electric buses, reduce individual motorized mobility, and collaborate with RGTR, TICE, CFL, and VDL to optimize the service offering.</p> <p>The project includes the electrification of the network, in line with the UN Agenda 2030, with specific targets to electrify 77 lines and 500 buses by the end of 2023. By 2024, the network will feature 374 electric buses and 100 electrified lines. The VDD seeks to electrify RGTR lines passing through its territory and participating in future pilot projects. Specific actions include purchasing a new electric bus and updating 4 to 8 stops per year, with a pilot phase adding 5 more stops annually. A political decision will determine the level of participation in the project. The goal is to maintain attractiveness and increase regular use of the transport network. Planning has begun, focusing on adapting the network for 2030 through coordination between TICE (Southern region) and RGTR (National Road Transport Network) to improve the overall system.</p> <p>Initial steps include deploying electric buses and installing necessary infrastructure, with a broader aim of national network electrification and expanding the serviced territory. The project</p>

		includes the electrification of the bus fleet and active participation. It also involves updating 4 to 8 stops annually and installing digital systems across the entire area.
Implementation	Responsible bodies/person for implementation	Mobility and Traffic Service
	Action scale & addressed entities	Local/regional
	Involved stakeholders	Sales-Lentz Group
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MT 1 - General public transport concept - Advisory role only to the MMTP.
	Typical action	Advisory
	Action description	The consultative role with MMTP involves, in the first 1 to 2 years, requesting and proposing collaboration to optimize the integration of the RGTR, TICE, CFL and VDL networks, with the aim of improving the transport offer. This initiative will result in the start of concrete planning to implement the proposed improvements.
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lift	Public transport - bus
	Outcome (according to module B-1.1)	<p>The existing project aims to adapt and improve the transport network to enhance its performance through an iterative approach. The goal is to increase the use of electric buses, reduce individual motorized mobility, and collaborate with RGTR, TICE, CFL, and VDL to optimize the service offering.</p> <p>The project includes the electrification of the network, in line with the UN Agenda 2030, with specific targets to electrify 77 lines and 500 buses by the end of 2023. By 2024, the network will feature 374 electric buses and 100 electrified lines. The VDD seeks to electrify RGTR lines passing through its territory and participating in future pilot projects. Specific actions include purchasing a new electric bus and updating 4 to 8 stops per year, with a pilot phase adding 5 more stops annually. A political decision will determine the level of participation in the project. The goal is to maintain attractiveness and increase regular use of the transport network. Planning has begun, focusing on adapting the network for 2030 through coordination between TICE (Southern region) and RGTR (National Road Transport Network) to improve the overall system.</p> <p>Initial steps include deploying electric buses and installing necessary infrastructure, with a broader aim of national network electrification and expanding the serviced territory. The project</p>

		includes the electrification of the bus fleet and active participation. It also involves updating 4 to 8 stops annually and installing digital systems across the entire area.
Implementation	Responsible bodies/person for implementation	Mobility and Traffic Service
	Action scale & addressed entities	Local/regional
	Involved stakeholders	MMTP
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MT 1 - TICE - The City has political representatives on the union board and will try to influence management in this direction.
	Typical action	Lobbying
	Action description	The city, which has political representation on the union's board, will seek to influence management to optimize the transport network. The emphasis will be on adapting the network to improve performance. In the medium term, preparations will be made for a complete overhaul by 2030, with the aim of improving coordination between the TICE (southern region) and the RGTR (Réseau général des transports routiers - national) to improve the overall network.
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lift	Public transport - bus
	Outcome (according to module B-1.1)	<p>The existing project aims to adapt and improve the transport network to enhance its performance through an iterative approach. The goal is to increase the use of electric buses, reduce individual motorized mobility, and collaborate with RGTR, TICE, CFL, and VDL to optimize the service offering.</p> <p>The project includes the electrification of the network, in line with the UN Agenda 2030, with specific targets to electrify 77 lines and 500 buses by the end of 2023. By 2024, the network will feature 374 electric buses and 100 electrified lines. The VDD seeks to electrify RGTR lines passing through its territory and participating in future pilot projects. Specific actions include purchasing a new electric bus and updating 4 to 8 stops per year, with a pilot phase adding 5 more stops annually. A political decision will determine the level of participation in the project. The goal is to maintain attractiveness and increase regular use of the transport network. Planning has begun, focusing on adapting the network for 2030 through coordination between TICE (Southern region) and RGTR (National Road Transport Network) to improve the overall system.</p>

		Initial steps include deploying electric buses and installing necessary infrastructure, with a broader aim of national network electrification and expanding the serviced territory. The project includes the electrification of the bus fleet and active participation. It also involves updating 4 to 8 stops annually and installing digital systems across the entire area.
Implementation	Responsible bodies/person for implementation	Mobility and Traffic Service
	Action scale & addressed entities	Local/regional
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MT 1 - RGTR - Advisory role to the MMTP.
	Typical action	Advisory
	Action description	The VDD's role with the MMTP is exclusively advisory. The focus will be on electrifying the network, in line with the UN's 2030 Agenda. The RGTR's objective is to electrify 77 lines with 500 buses by the end of 2023. By 2024, there will be 374 electric buses and 100 electrified lines. The VDD wishes to prioritise the electrification of RGTR lines crossing its territory and to participate in future pilot projects. In the long term, the aim is the complete electrification of the national network.
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lift	Public transport - bus
	Outcome (according to module B-1.1)	<p>The existing project aims to adapt and improve the transport network to enhance its performance through an iterative approach. The goal is to increase the use of electric buses, reduce individual motorized mobility, and collaborate with RGTR, TICE, CFL, and VDL to optimize the service offering.</p> <p>The project includes the electrification of the network, in line with the UN Agenda 2030, with specific targets to electrify 77 lines and 500 buses by the end of 2023. By 2024, the network will feature 374 electric buses and 100 electrified lines. The VDD seeks to electrify RGTR lines passing through its territory and participating in future pilot projects. Specific actions include purchasing a new electric bus and updating 4 to 8 stops per year, with a pilot phase adding 5 more stops annually. A political decision will determine the level of participation in the project. The goal is to maintain attractiveness and increase regular use of the transport network. Planning has begun, focusing on adapting the network for 2030 through coordination between TICE (Southern region) and RGTR (National Road Transport Network) to improve the overall system.</p> <p>Initial steps include deploying electric buses and installing necessary infrastructure, with a broader</p>

		aim of national network electrification and expanding the serviced territory. The project includes the electrification of the bus fleet and active participation. It also involves updating 4 to 8 stops annually and installing digital systems across the entire area.
Implementation	Responsible bodies/person for implementation	Mobility and Traffic Service
	Action scale & addressed entities	Local/regional
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MT 1 - Dinola - VDD project. Address-to-address transport service on request.
	Typical action	Service
	Action description	The VDD project involves setting up an address-to-address transport service on demand. The project will begin with the purchase of a new electric bus. The service will be extended to cover a wider area, meeting growing demand and improving mobility in the region.
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lift	Public transport - bus
	Outcome (according to module B-1.1)	<p>The existing project aims to adapt and improve the transport network to enhance its performance through an iterative approach. The goal is to increase the use of electric buses, reduce individual motorized mobility, and collaborate with RGTR, TICE, CFL, and VDL to optimize the service offering.</p> <p>The project includes the electrification of the network, in line with the UN Agenda 2030, with specific targets to electrify 77 lines and 500 buses by the end of 2023. By 2024, the network will feature 374 electric buses and 100 electrified lines. The VDD seeks to electrify RGTR lines passing through its territory and participating in future pilot projects. Specific actions include purchasing a new electric bus and updating 4 to 8 stops per year, with a pilot phase adding 5 more stops annually. A political decision will determine the level of participation in the project. The goal is to maintain attractiveness and increase regular use of the transport network. Planning has begun, focusing on adapting the network for 2030 through coordination between TICE (Southern region) and RGTR (National Road Transport Network) to improve the overall system.</p> <p>Initial steps include deploying electric buses and installing necessary infrastructure, with a broader aim of national network electrification and expanding the serviced territory. The project includes the electrification of the bus fleet and active</p>

		participation. It also involves updating 4 to 8 stops annually and installing digital systems across the entire area.
Implementation	Responsible bodies/person for implementation	Mobility and Traffic Service
	Action scale & addressed entities	Local/regional
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MT 1 - Adapto - Advisory role only for the MMTP
	Typical action	Advisory
	Action description	The VDD's advisory role to MMTP focuses on promoting the electrification of the bus fleet serving the Differdange area. The VDD will actively seek the electrification of these buses. The aim is to have the entire fleet electrified, thus contributing to more sustainable mobility in the region.
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lift	Public transport - bus
	Outcome (according to module B-1.1)	<p>The existing project aims to adapt and improve the transport network to enhance its performance through an iterative approach. The goal is to increase the use of electric buses, reduce individual motorized mobility, and collaborate with RGTR, TICE, CFL, and VDL to optimize the service offering.</p> <p>The project includes the electrification of the network, in line with the UN Agenda 2030, with specific targets to electrify 77 lines and 500 buses by the end of 2023. By 2024, the network will feature 374 electric buses and 100 electrified lines. The VDD seeks to electrify RGTR lines passing through its territory and participating in future pilot projects. Specific actions include purchasing a new electric bus and updating 4 to 8 stops per year, with a pilot phase adding 5 more stops annually. A political decision will determine the level of participation in the project. The goal is to maintain attractiveness and increase regular use of the transport network. Planning has begun, focusing on adapting the network for 2030 through coordination between TICE (Southern region) and RGTR (National Road Transport Network) to improve the overall system.</p> <p>Initial steps include deploying electric buses and installing necessary infrastructure, with a broader aim of national network electrification and expanding the serviced territory. The project includes the electrification of the bus fleet and active participation. It also involves updating 4 to 8 stops</p>

		annually and installing digital systems across the entire area.
Implementation	Responsible bodies/person for implementation	Mobility and Traffic Service
	Action scale & addressed entities	Local/regional
	Involved stakeholders	MMTP
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MT 1 - NightLifeBus - The VDD is a potential participant in the service.
	Typical action	Service
	Action description	The VDD, as a potential participant, will start by taking a political decision on its participation in the project during the first 1 to 2 years. Within 3 to 4 years, the VDD should formalise its participation, thereby committing itself fully to the planned service.
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lift	Public transport - bus
	Outcome (according to module B-1.1)	<p>The existing project aims to adapt and improve the transport network to enhance its performance through an iterative approach. The goal is to increase the use of electric buses, reduce individual motorized mobility, and collaborate with RGTR, TICE, CFL, and VDL to optimize the service offering.</p> <p>The project includes the electrification of the network, in line with the UN Agenda 2030, with specific targets to electrify 77 lines and 500 buses by the end of 2023. By 2024, the network will feature 374 electric buses and 100 electrified lines. The VDD seeks to electrify RGTR lines passing through its territory and participating in future pilot projects. Specific actions include purchasing a new electric bus and updating 4 to 8 stops per year, with a pilot phase adding 5 more stops annually. A political decision will determine the level of participation in the project. The goal is to maintain attractiveness and increase regular use of the transport network. Planning has begun, focusing on adapting the network for 2030 through coordination between TICE (Southern region) and RGTR (National Road Transport Network) to improve the overall system.</p> <p>Initial steps include deploying electric buses and installing necessary infrastructure, with a broader aim of national network electrification and expanding the serviced territory. The project includes the electrification of the bus fleet and active</p>

		participation. It also involves updating 4 to 8 stops annually and installing digital systems across the entire area.
Implementation	Responsible bodies/person for implementation	Mobility and Traffic Service
	Action scale & addressed entities	Local/regional
	Involved stakeholders	Sales-Lentz
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MT 1 - Nightrider - A service offered by the VDD
	Typical action	Service
	Action description	Nightrider is an existing service offered by the VDD, aimed at reducing greenhouse gas emissions by reducing individual motorised mobility through the use of electric buses. This service contributes directly to reducing greenhouse gas emissions.
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lift	Public transport - bus
	Outcome (according to module B-1.1)	<p>The existing project aims to adapt and improve the transport network to enhance its performance through an iterative approach. The goal is to increase the use of electric buses, reduce individual motorized mobility, and collaborate with RGTR, TICE, CFL, and VDL to optimize the service offering.</p> <p>The project includes the electrification of the network, in line with the UN Agenda 2030, with specific targets to electrify 77 lines and 500 buses by the end of 2023. By 2024, the network will feature 374 electric buses and 100 electrified lines. The VDD seeks to electrify RGTR lines passing through its territory and participating in future pilot projects. Specific actions include purchasing a new electric bus and updating 4 to 8 stops per year, with a pilot phase adding 5 more stops annually. A political decision will determine the level of participation in the project. The goal is to maintain attractiveness and increase regular use of the transport network. Planning has begun, focusing on adapting the network for 2030 through coordination between TICE (Southern region) and RGTR (National Road Transport Network) to improve the overall system.</p> <p>Initial steps include deploying electric buses and installing necessary infrastructure, with a broader aim of national network electrification and expanding the serviced territory. The project includes the electrification of the bus fleet and active participation. It also involves updating 4 to 8 stops</p>

		annually and installing digital systems across the entire area.
Implementation	Responsible bodies/person for implementation	Mobility and Traffic Service
	Action scale & addressed entities	Local/regional
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MT 1 - Modernisation of bus stops - Compliance with regulations
	Typical action	Infrastructure
	Action description	The compliance project will begin with the compliance of 4 to 8 stops per year. The results will continue with the upgrading of 4 to 8 stops per year, ensuring a gradual and continuous improvement of the network.
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lift	Public transport - bus
	Outcome (according to module B-1.1)	<p>The existing project aims to adapt and improve the transport network to enhance its performance through an iterative approach. The goal is to increase the use of electric buses, reduce individual motorized mobility, and collaborate with RGTR, TICE, CFL, and VDL to optimize the service offering.</p> <p>The project includes the electrification of the network, in line with the UN Agenda 2030, with specific targets to electrify 77 lines and 500 buses by the end of 2023. By 2024, the network will feature 374 electric buses and 100 electrified lines. The VDD seeks to electrify RGTR lines passing through its territory and participating in future pilot projects. Specific actions include purchasing a new electric bus and updating 4 to 8 stops per year, with a pilot phase adding 5 more stops annually. A political decision will determine the level of participation in the project. The goal is to maintain attractiveness and increase regular use of the transport network. Planning has begun, focusing on adapting the network for 2030 through coordination between TICE (Southern region) and RGTR (National Road Transport Network) to improve the overall system.</p> <p>Initial steps include deploying electric buses and installing necessary infrastructure, with a broader aim of national network electrification and expanding the serviced territory. The project includes the electrification of the bus fleet and active participation. It also involves updating 4 to 8 stops</p>

		annually and installing digital systems across the entire area.
Implementation	Responsible bodies/person for implementation	Mobility and Traffic Service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MT2 CFL - Advisory role only to the MMTP.
	Typical action	Advisory
	Action description	As a purely advisory role to MMTP, the first changes will focus on bringing the platforms at the Niederkorn stop into compliance. In the longer term, the results will aim to extend this compliance to the platforms at the Differdange stop, thereby contributing to the continuous improvement of the infrastructure.
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lift	Public transport - train
	Outcome (according to module B-1.1)	<p>The project involves updating the platforms at the Niederkorn stop and intensifying studies for connecting Line 60 to Line 70 within the railway triangle between Bascharage and Niederkorn.</p> <p>It includes political advocacy for a tram system in the southern municipalities, raising awareness and generating interest, along with ongoing lobbying efforts.</p> <p>The project involves upgrading the platforms at Differdange station to ensure compliance.</p> <p>It includes connecting the Differdange line (line 60) with line 70 (Pétange-Rodange), which will result in significant time savings. This initiative is part of the PNM 2035 plan and may involve further studies.</p>
Implementation	Responsible bodies/person for implementation	Mobility and Traffic Service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MT2 CFL - Railway triangle between Bascharage and Niederkorn - Intensification of the studies to connect line 60 to line 70.
	Typical action	Advisory
	Action description	The role to the MMTP/CFL is purely advisory. In the initial changes (1-2 years), the aim is to ensure that the platforms at the Niederkorn stop are brought up to standard. In the longer term, in 3-4 years' time, the love will be to bring the platforms at the Differdange stop up to standard.
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lift	Public transport - train
	Outcome (according to module B-1.1)	<p>The project involves updating the platforms at the Niederkorn stop and intensifying studies for connecting Line 60 to Line 70 within the railway triangle between Bascharage and Niederkorn.</p> <p>It includes political advocacy for a tram system in the southern municipalities, raising awareness and generating interest, along with ongoing lobbying efforts.</p> <p>The project involves upgrading the platforms at Differdange station to ensure compliance.</p> <p>It includes connecting the Differdange line (line 60) with line 70 (Pétange-Rodange), which will result in significant time savings. This initiative is part of the PNM 2035 plan and may involve further studies.</p>
Implementation	Responsible bodies/person for implementation	Mobility and Traffic Service
	Action scale & addressed entities	Regional
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MT2 CFL - Luxtram - Only advisory role to Luxtram.
	Typical action	Advisory
	Action description	As a purely advisory role to Luxtram, the initial changes include a political stance in favour of extending the tram to the southern municipalities, as well as awareness-raising and lobbying efforts to generate interest and desire for the project. In the longer term, the results could include the possible launch of feasibility studies for this extension.
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lift	Public transport - train
	Outcome (according to module B-1.1)	<p>The project involves updating the platforms at the Niederkorn stop and intensifying studies for connecting Line 60 to Line 70 within the railway triangle between Bascharage and Niederkorn.</p> <p>It includes political advocacy for a tram system in the southern municipalities, raising awareness and generating interest, along with ongoing lobbying efforts.</p> <p>The project involves upgrading the platforms at Differdange station to ensure compliance.</p> <p>It includes connecting the Differdange line (line 60) with line 70 (Pétange-Rodange), which will result in significant time savings. This initiative is part of the PNM 2035 plan and may involve further studies.</p>
Implementation	Responsible bodies/person for implementation	Mobility and Traffic Service
	Action scale & addressed entities	Regional
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MT 3 - Adapting the public highway at the entrance to the town's main routes - Discouraging individual motorised transport
	Typical action	Infrastructure
	Action description	In terms of adapting the public highway at the entrances to the city's main roads, the first changes will include narrowing the public highway at these entry points. In the longer term, the results will focus on the implementation of traffic calming measures, chosen iteratively to optimise traffic flow and safety.
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lift	Motorised transport - reduction
	Outcome (according to module B-1.1)	<p>The project involves advocating for a car-sharing system in southern municipalities, raising awareness, and generating interest through lobbying. It includes narrowing public roads at key city entry points and developing a traffic calming concept in alignment with SUMP reflections. The plan features increasing service frequency, supporting PARKing Day, and starting related construction. It also includes upgrading the existing guidance system to be more efficient, progressively replacing cars with electric vehicles, enhancing employee awareness of transport options, and decarbonizing the fleet. The overall goal is to improve traffic management and promote sustainable transport solutions. The project involves conducting studies and iteratively selecting traffic calming measures. Initial steps include implementing these measures and identifying areas suitable for car-free zones.</p> <p>Results and citizen feedback will be evaluated to adjust the use of public space. The project will be executed and put into service, with the system adaptively updated to new realities. It aims to progressively replace cars with electric vehicles, promote cycling and scooters among municipal employees, and decarbonize the fleet. Initial measures will be established and refined over time.</p>

Implementation	Responsible bodies/person for implementation	Mobility and Traffic Service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MT 3 - Redevelopment of the city centre through urban planning measures to make it more attractive to alternative modes of transport and thereby improve quality of life for residents.
	Typical action	Infrastructure
	Action description	The redevelopment of the city centre aims to make it more attractive to alternative modes of transport, thereby enhancing the quality of life for residents. The first changes will include the development of a traffic calming concept and the elaboration of projects in line with SUMP's reflections. The later results will be the implementation of the first measures to improve urban space and encourage more sustainable modes of transport.
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lift	Motorised transport - reduction
	Outcome (according to module B-1.1)	<p>The project involves advocating for a car-sharing system in southern municipalities, raising awareness, and generating interest through lobbying. It includes narrowing public roads at key city entry points and developing a traffic calming concept in alignment with SUMP reflections. The plan features increasing service frequency, supporting PARKing Day, and starting related construction. It also includes upgrading the existing guidance system to be more efficient, progressively replacing cars with electric vehicles, enhancing employee awareness of transport options, and decarbonizing the fleet. The overall goal is to improve traffic management and promote sustainable transport solutions. The project involves conducting studies and iteratively selecting traffic calming measures. Initial steps include implementing these measures and identifying areas suitable for car-free zones.</p> <p>Results and citizen feedback will be evaluated to adjust the use of public space. The project will be executed and put into service, with the system adaptively updated to new realities. It aims to progressively replace cars with electric vehicles,</p>

		promote cycling and scooters among municipal employees, and decarbonize the fleet. Initial measures will be established and refined over time.
Implementation	Responsible bodies/person for implementation	Mobility and Traffic Service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MT 3 – Car free day on September 22nd
	Typical action	Awareness Raising
	Action description	Car Free Day, scheduled for 22 September, aims to increase the frequency of this event. The late results will aim to define specific areas of the city that could be transformed into car-free zones, in order to promote sustainable transport alternatives and improve urban air quality.
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lift	Motorised transport - reduction
	Outcome (according to module B-1.1)	<p>The project involves advocating for a car-sharing system in southern municipalities, raising awareness, and generating interest through lobbying. It includes narrowing public roads at key city entry points and developing a traffic calming concept in alignment with SUMP reflections. The plan features increasing service frequency, supporting PARKing Day, and starting related construction. It also includes upgrading the existing guidance system to be more efficient, progressively replacing cars with electric vehicles, enhancing employee awareness of transport options, and decarbonizing the fleet. The overall goal is to improve traffic management and promote sustainable transport solutions. The project involves conducting studies and iteratively selecting traffic calming measures. Initial steps include implementing these measures and identifying areas suitable for car-free zones.</p> <p>Results and citizen feedback will be evaluated to adjust the use of public space. The project will be executed and put into service, with the system adaptively updated to new realities. It aims to progressively replace cars with electric vehicles, promote cycling and scooters among municipal employees, and decarbonize the fleet. Initial measures will be established and refined over time.</p>
Implementation	Responsible bodies/person for implementation	Mobility and Traffic Service

	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MT 3 – PARKing Day, 20 September - Re-imagining public space
	Typical action	Awareness Raising
	Action description	PARKing Day, scheduled for 20 September, will be actively supported by the City in the first 1-2 years. Late results will include an assessment of citizens' outcomes and feedback to reassess and potentially redesign the use of public space, aiming to optimise its use for similar initiatives in the future.
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lift	Motorised transport - reduction
	Outcome (according to module B-1.1)	<p>The project involves advocating for a car-sharing system in southern municipalities, raising awareness, and generating interest through lobbying. It includes narrowing public roads at key city entry points and developing a traffic calming concept in alignment with SUMP reflections. The plan features increasing service frequency, supporting PARKing Day, and starting related construction. It also includes upgrading the existing guidance system to be more efficient, progressively replacing cars with electric vehicles, enhancing employee awareness of transport options, and decarbonizing the fleet. The overall goal is to improve traffic management and promote sustainable transport solutions. The project involves conducting studies and iteratively selecting traffic calming measures. Initial steps include implementing these measures and identifying areas suitable for car-free zones.</p> <p>Results and citizen feedback will be evaluated to adjust the use of public space. The project will be executed and put into service, with the system adaptively updated to new realities. It aims to progressively replace cars with electric vehicles, promote cycling and scooters among municipal employees, and decarbonize the fleet. Initial measures will be established and refined over time.</p>

Implementation	Responsible bodies/person for implementation	Mobility and Traffic Service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MT 3 – Provision of cycle parking spaces during the construction of the new city car park at the entrance to the town. Reducing motorised traffic within the city
	Typical action	Infrastructure
	Action description	During the construction of the new City Parking at the entrance of the city, bicycle spaces will be integrated. Plans will be developed and work could begin. In the long term, the project will be completed and the bicycle spaces will be put into operation, promoting safe access for cyclists.
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lift	Motorised transport - reduction
	Outcome (according to module B-1.1)	<p>The project involves advocating for a car-sharing system in southern municipalities, raising awareness, and generating interest through lobbying. It includes narrowing public roads at key city entry points and developing a traffic calming concept in alignment with SUMP reflections. The plan features increasing service frequency, supporting PARKing Day, and starting related construction. It also includes upgrading the existing guidance system to be more efficient, progressively replacing cars with electric vehicles, enhancing employee awareness of transport options, and decarbonizing the fleet. The overall goal is to improve traffic management and promote sustainable transport solutions. The project involves conducting studies and iteratively selecting traffic calming measures. Initial steps include implementing these measures and identifying areas suitable for car-free zones.</p> <p>Results and citizen feedback will be evaluated to adjust the use of public space. The project will be executed and put into service, with the system adaptively updated to new realities. It aims to progressively replace cars with electric vehicles, promote cycling and scooters among municipal</p>

		employees, and decarbonize the fleet. Initial measures will be established and refined over time.
Implementation	Responsible bodies/person for implementation	Mobility and Traffic Service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MT 3 – Channelling and reducing traffic flows by means of a guidance system to public car parks.
	Typical action	Infrastructure
	Action description	Adaptation of the existing guidance system to a more efficient system; iterative adaptation of the system to new realities. Reduce traffic when looking for a parking space.
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lift	Motorised transport - reduction
	Outcome (according to module B-1.1)	<p>The project involves advocating for a car-sharing system in southern municipalities, raising awareness, and generating interest through lobbying. It includes narrowing public roads at key city entry points and developing a traffic calming concept in alignment with SUMP reflections. The plan features increasing service frequency, supporting PARKing Day, and starting related construction. It also includes upgrading the existing guidance system to be more efficient, progressively replacing cars with electric vehicles, enhancing employee awareness of transport options, and decarbonizing the fleet. The overall goal is to improve traffic management and promote sustainable transport solutions. The project involves conducting studies and iteratively selecting traffic calming measures. Initial steps include implementing these measures and identifying areas suitable for car-free zones.</p> <p>Results and citizen feedback will be evaluated to adjust the use of public space. The project will be executed and put into service, with the system adaptively updated to new realities. It aims to progressively replace cars with electric vehicles, promote cycling and scooters among municipal employees, and decarbonize the fleet. Initial measures will be established and refined over time.</p>
Implementation	Responsible bodies/person for implementation	Mobility and Traffic Service

	Action scale & addressed entities	Regional
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MT4 - Municipal fleet - service vehicles - VDD's own fleet. Electrification of the fleet or switch to hydrogen.
	Typical action	Infrastructure
	Action description	The city is introducing a fully electrified two-wheeled mobility fleet, with use left to the discretion of local authority employees. The aim is for the bicycle or scooter to become the preferred mode of transport for employees when they travel. The city is setting up a fully electrified two-wheeled mobility fleet, with use left to the discretion of the municipality's employees. Awareness-raising campaigns will be carried out to encourage employees to use this fleet, with the aim of making bicycles and scooters the preferred mode of transport for their journeys.
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lift	Motorised transport - electrification
	Outcome (according to module B-1.1)	<p>In Differdange, the focus on modernizing the city's transport system through electrification is integral to reducing carbon emissions and enhancing urban mobility. The initiative includes several key aspects. The municipal fleet is transitioning to cleaner, sustainable energy sources, with an emphasis on electric and hydrogen-powered vehicles. This change also extends to two-wheeled transport options, providing city employees with electric bikes and scooters, which supports the adoption of green mobility practices within the urban core. For utility vehicles, efforts are being made to adopt lower-emission models as they become available, aligning with the overall goal of reducing the municipal operations' carbon footprint.</p> <p>Furthermore, the city is reconfiguring vehicle flows to limit traffic into the center, aiming to create a more pedestrian-friendly environment. This strategy is complemented by the redevelopment of the city center, which is being redesigned to encourage the use of alternative transport methods, thereby improving urban living quality and diminishing reliance on individual motorized transport. Through these comprehensive measures, Differdange is committed to a broad modernization of its transport</p>

		infrastructure, fostering a more sustainable and livable urban environment.
Implementation	Responsible bodies/person for implementation	Mobility and Traffic Service
	Action scale & addressed entities	Regional
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MT4 - Municipal fleet - service bicycles and scooters - The VDD provides an electrified fleet of two-wheeled mobility vehicles. The decision to use these vehicles rests with the employees of the municipality.
	Typical action	Infrastructure
	Action description	The VDD is committed to electrifying its fleet depending on the availability of suitable vehicles. The priority will be to start electrifying the fleet as far as possible and as far as vehicles are available. In the medium term, the aim will be to continue with this approach, taking care to maintain a predominantly electrified fleet depending on the availability of vehicles.
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lift	Motorised transport - electrification
	Outcome (according to module B-1.1)	<p>In Differdange, the focus on modernizing the city's transport system through electrification is integral to reducing carbon emissions and enhancing urban mobility. The initiative includes several key aspects. The municipal fleet is transitioning to cleaner, sustainable energy sources, with an emphasis on electric and hydrogen-powered vehicles. This change also extends to two-wheeled transport options, providing city employees with electric bikes and scooters, which supports the adoption of green mobility practices within the urban core. For utility vehicles, efforts are being made to adopt lower-emission models as they become available, aligning with the overall goal of reducing the municipal operations' carbon footprint.</p> <p>Furthermore, the city is reconfiguring vehicle flows to limit traffic into the center, aiming to create a more pedestrian-friendly environment. This strategy is complemented by the redevelopment of the city center, which is being redesigned to encourage the use of alternative transport methods, thereby improving urban living quality and diminishing reliance on individual motorized transport. Through these comprehensive measures, Differdange is committed to a broad modernization of its transport</p>

		infrastructure, fostering a more sustainable and livable urban environment.
Implementation	Responsible bodies/person for implementation	Mobility and Traffic Service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MT4 - Municipal fleet - commercial vehicles - VDD's own fleet. Decarbonisation of the fleet as far as possible and supply of adapted vehicles.
	Typical action	Infrastructure
	Action description	The VDD is committed to electrifying its fleet depending on the availability of suitable vehicles. The priority will be to start electrifying the fleet as far as possible and as far as vehicles are available. In the medium term, the aim will be to continue with this approach, taking care to maintain a predominantly electrified fleet depending on the availability of vehicles.
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lift	Motorised transport - electrification
	Outcome (according to module B-1.1)	<p>In Differdange, the focus on modernizing the city's transport system through electrification is integral to reducing carbon emissions and enhancing urban mobility. The initiative includes several key aspects. The municipal fleet is transitioning to cleaner, sustainable energy sources, with an emphasis on electric and hydrogen-powered vehicles. This change also extends to two-wheeled transport options, providing city employees with electric bikes and scooters, which supports the adoption of green mobility practices within the urban core. For utility vehicles, efforts are being made to adopt lower-emission models as they become available, aligning with the overall goal of reducing the municipal operations' carbon footprint.</p> <p>Furthermore, the city is reconfiguring vehicle flows to limit traffic into the center, aiming to create a more pedestrian-friendly environment. This strategy is complemented by the redevelopment of the city center, which is being redesigned to encourage the use of alternative transport methods, thereby improving urban living quality and diminishing reliance on individual motorized transport. Through these comprehensive measures, Differdange is committed to a broad modernization of its transport infrastructure, fostering a more sustainable and livable urban environment.</p>

Implementation	Responsible bodies/person for implementation	Mobility and Traffic Service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MT4 - Interrupting some of the flows and connections to the centre in order to reduce the need for individual motorised transport.
	Typical action	Infrastructure
	Action description	The redevelopment of the city centre aims to make it more attractive to alternative modes of transport, thereby improving the quality of life for residents. The first changes include the development of a traffic calming concept and projects in line with SUMP's thinking. The implementation of the first concrete measures will make it possible to achieve these objectives.
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lift	Motorised transport - electrification
	Outcome (according to module B-1.1)	<p>In Differdange, the focus on modernizing the city's transport system through electrification is integral to reducing carbon emissions and enhancing urban mobility. The initiative includes several key aspects. The municipal fleet is transitioning to cleaner, sustainable energy sources, with an emphasis on electric and hydrogen-powered vehicles. This change also extends to two-wheeled transport options, providing city employees with electric bikes and scooters, which supports the adoption of green mobility practices within the urban core. For utility vehicles, efforts are being made to adopt lower-emission models as they become available, aligning with the overall goal of reducing the municipal operations' carbon footprint.</p> <p>Furthermore, the city is reconfiguring vehicle flows to limit traffic into the center, aiming to create a more pedestrian-friendly environment. This strategy is complemented by the redevelopment of the city center, which is being redesigned to encourage the use of alternative transport methods, thereby improving urban living quality and diminishing reliance on individual motorized transport. Through these comprehensive measures, Differdange is committed to a broad modernization of its transport infrastructure, fostering a more sustainable and livable urban environment.</p>

Implementation	Responsible bodies/person for implementation	Mobility and Traffic Service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MT4 - Redevelopment of the city centre through urban planning measures to make it more attractive to alternative modes of transport and thereby improve quality of life for residents.
	Typical action	Infrastructure
	Action description	The redevelopment of the city centre aims to make it more attractive to alternative modes of transport, thereby improving the quality of life for residents. The first changes include the development of a traffic calming concept and projects in line with SUMP's thinking. The implementation of the first concrete measures will make it possible to achieve these objectives.
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lift	Motorised transport - electrification
	Outcome (according to module B-1.1)	<p>In Differdange, the focus on modernizing the city's transport system through electrification is integral to reducing carbon emissions and enhancing urban mobility. The initiative includes several key aspects. The municipal fleet is transitioning to cleaner, sustainable energy sources, with an emphasis on electric and hydrogen-powered vehicles. This change also extends to two-wheeled transport options, providing city employees with electric bikes and scooters, which supports the adoption of green mobility practices within the urban core. For utility vehicles, efforts are being made to adopt lower-emission models as they become available, aligning with the overall goal of reducing the municipal operations' carbon footprint.</p> <p>Furthermore, the city is reconfiguring vehicle flows to limit traffic into the center, aiming to create a more pedestrian-friendly environment. This strategy is complemented by the redevelopment of the city center, which is being redesigned to encourage the use of alternative transport methods, thereby improving urban living quality and diminishing reliance on individual motorized transport. Through these comprehensive measures, Differdange is committed to a broad modernization of its transport</p>

		infrastructure, fostering a more sustainable and livable urban environment.
Implementation	Responsible bodies/person for implementation	Mobility and Traffic Service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MT 6 – Cycle paths
	Typical action	Infrastructure
	Action description	The project to develop cycle paths begins with targeted improvements to the existing network. The aim is to extend and optimize the cycle networks to improve connectivity and encourage more cycling.
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lift	Soft mobility – empowering soft mobility
	Outcome (according to module B-1.1)	Expand the existing network and integrate new sites. Implement a pilot project for a pedibus. Develop a "green network" with walkways and connections between neighborhoods at different levels to facilitate active mobility and inter-neighborhood connectivity. Iterative adaptation of the system. Expansion of the pedibus service. Continuous refinement and adjustment of the system.
Implementation	Responsible bodies/person for implementation	Mobility and Traffic Service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MT 6 – Vël'OK - Bike sharing scheme
	Typical action	Infrastructure and service
	Action description	The Vël'OK project begins with the electrification of the fleet and the expansion of existing stations, planned for the first 1-2 years. The aim is to add 3-4 new stations a year, with the aim of covering the entire municipality by 2026.
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lift	Soft mobility – empowering soft mobility
	Outcome (according to module B-1.1)	Expand the existing network and integrate new sites. Implement a pilot project for a pedibus. Develop a "green network" with walkways and connections between neighborhoods at different levels to facilitate active mobility and inter-neighborhood connectivity. Iterative adaptation of the system. Expansion of the pedibus service. Continuous refinement and adjustment of the system.
Implementation	Responsible bodies/person for implementation	Mobility and Traffic Service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MT 6 – Bike Boxes
	Typical action	Infrastructure and service
	Action description	The Bike Boxes project involves the addition of bike parking boxes on school sites. In the medium term, the system will be adjusted iteratively to meet growing needs.
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lift	Soft mobility – empowering soft mobility
	Outcome (according to module B-1.1)	Expand the existing network and integrate new sites. Implement a pilot project for a pedibus. Develop a "green network" with walkways and connections between neighborhoods at different levels to facilitate active mobility and inter-neighborhood connectivity. Iterative adaptation of the system. Expansion of the pedibus service. Continuous refinement and adjustment of the system.
Implementation	Responsible bodies/person for implementation	Mobility and Traffic Service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MT 6 – Adaptation of the PAG by defining a surface area key dedicated to bicycle storage in future residences and businesses.
	Typical action	Governance
	Action description	The project aims to adapt the General Development Plan (PAG) by defining a surface area key for bicycle storage in new residences and businesses. In the first 1-2 years, the guidelines of the 2022 PAG will be applied. Eventually, in 3-4 years' time, the key will be revised in line with observed needs.
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lift	Soft mobility – empowering soft mobility
	Outcome (according to module B-1.1)	Expand the existing network and integrate new sites. Implement a pilot project for a pedibus. Develop a "green network" with walkways and connections between neighborhoods at different levels to facilitate active mobility and inter-neighborhood connectivity. Iterative adaptation of the system. Expansion of the pedibus service. Continuous refinement and adjustment of the system.
Implementation	Responsible bodies/person for implementation	Mobility and Traffic Service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MT 6 – Provision of scooter racks. Facilitating mobility with scooters.
	Typical action	Infrastructure
	Action description	The project foresees the provision of scooter racks and the racks will be installed. Awareness campaigns will be launched to promote responsible use of this mode of transport.
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lift	Soft mobility – empowering soft mobility
	Outcome (according to module B-1.1)	Expand the existing network and integrate new sites. Implement a pilot project for a pedibus. Develop a "green network" with walkways and connections between neighborhoods at different levels to facilitate active mobility and inter-neighborhood connectivity. Iterative adaptation of the system. Expansion of the pedibus service. Continuous refinement and adjustment of the system.
Implementation	Responsible bodies/person for implementation	Mobility and Traffic Service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MT 6 – SurvCoin - Raising awareness of active mobility
	Typical action	Service and awareness-raising
	Action description	The SurvCoin project begins with the launch of the application, initially intended for local authority employees. Access to the mobile application will be extended to the entire population.
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lift	Soft mobility – empowering soft mobility
	Outcome (according to module B-1.1)	Expand the existing network and integrate new sites. Implement a pilot project for a pedibus. Develop a "green network" with walkways and connections between neighborhoods at different levels to facilitate active mobility and inter-neighborhood connectivity. Iterative adaptation of the system. Expansion of the pedibus service. Continuous refinement and adjustment of the system.
Implementation	Responsible bodies/person for implementation	Mobility and Traffic Service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MT 6 – European Mobility Week
	Typical action	Awareness raising
	Action description	As part of European Mobility Week, the first changes include the revitalization of the project to reinforce its importance. The dynamic will be extended with the creation of a second week in the middle of the year, called Differdange Mobility Week.
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lift	Soft mobility – empowering soft mobility
	Outcome (according to module B-1.1)	Expand the existing network and integrate new sites. Implement a pilot project for a pedibus. Develop a "green network" with walkways and connections between neighborhoods at different levels to facilitate active mobility and inter-neighborhood connectivity. Iterative adaptation of the system. Expansion of the pedibus service. Continuous refinement and adjustment of the system.
Implementation	Responsible bodies/person for implementation	Mobility and Traffic Service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MT 6 – Citizen workshops
	Typical action	Awareness raising
	Action description	The first changes for citizen workshops include the implementation of participation opportunities as part of the Net Zero Cities project. Citizen participation will be normalized, integrating these workshops as a regular practice.
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lift	Soft mobility – empowering soft mobility
	Outcome (according to module B-1.1)	Expand the existing network and integrate new sites. Implement a pilot project for a pedibus. Develop a "green network" with walkways and connections between neighborhoods at different levels to facilitate active mobility and inter-neighborhood connectivity. Iterative adaptation of the system. Expansion of the pedibus service. Continuous refinement and adjustment of the system.
Implementation	Responsible bodies/person for implementation	Mobility and Traffic Service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MT 6 – Provision of charging points.
	Typical action	infrastructure
	Action description	The first changes include the establishment of charging points distributed throughout the territory. Emphasis will be placed on the installation of fast charging stations to improve the efficiency of the charging network.
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lift	Soft mobility – empowering soft mobility
	Outcome (according to module B-1.1)	Expand the existing network and integrate new sites. Implement a pilot project for a pedibus. Develop a "green network" with walkways and connections between neighborhoods at different levels to facilitate active mobility and inter-neighborhood connectivity. Iterative adaptation of the system. Expansion of the pedibus service. Continuous refinement and adjustment of the system.
Implementation	Responsible bodies/person for implementation	Mobility and Traffic Service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MT 6 – Subsidies when purchasing electric vehicles and infrastructure (terminals)
	Typical action	infrastructure
	Action description	The changes include the maintenance of existing subsidies for the purchase of electric vehicles and charging infrastructure. A reassessment of the subsidies will be carried out to adjust the aid according to needs and market developments.
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lift	Soft mobility – empowering soft mobility
	Outcome (according to module B-1.1)	Expand the existing network and integrate new sites. Implement a pilot project for a pedibus. Develop a "green network" with walkways and connections between neighborhoods at different levels to facilitate active mobility and inter-neighborhood connectivity. Iterative adaptation of the system. Expansion of the pedibus service. Continuous refinement and adjustment of the system.
Implementation	Responsible bodies/person for implementation	Mobility and Traffic Service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MT 7 – Logistics - Approach from “major players” (Post Office, CFL, etc.) for the establishment of these hubs and their operation.
	Typical action	Lobbying and governance
	Action description	Differdange aims to modernise its urban logistics by creating decentralised hubs at the city's entrances. This initiative involves working with major players such as Post and CFL to set up and manage these hubs. The main aim is to decarbonise last-mile logistics, by promoting solutions such as cargobikes and other eco-responsible transport alternatives. These hubs will serve as collection and distribution points to optimise transport flows and reduce associated emissions, as part of a wider vision of sustainable mobility and reducing the city's carbon footprint.
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lift	Logistics
	Outcome (according to module B-1.1)	Feasibility and planning studies evaluate a project's viability and outline steps for successful implementation. Establishing hubs and changing urban logistics aim to create centralized hubs for better efficiency, reducing traffic congestion and improving urban transport and delivery systems.
Implementation	Responsible bodies/person for implementation	Mobility and Traffic Service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	MT 7 – Logistics - Vision: decarbonization of “last mile” logistics by promoting cargo bike or other solutions.
	Typical action	Lobbying and governance
	Action description	Differdange aims to modernise its urban logistics by creating decentralised hubs at the city's entrances. This initiative involves working with major players such as Post and CFL to set up and manage these hubs. The main aim is to decarbonise last-mile logistics, by promoting solutions such as cargobikes and other eco-responsible transport alternatives. These hubs will serve as collection and distribution points to optimise transport flows and reduce associated emissions, as part of a wider vision of sustainable mobility and reducing the city's carbon footprint.
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lift	Logistics
	Outcome (according to module B-1.1)	Feasibility and planning studies evaluate a project's viability and outline steps for successful implementation. Establishing hubs and changing urban logistics aim to create centralized hubs for better efficiency, reducing traffic congestion and improving urban transport and delivery systems.
Implementation	Responsible bodies/person for implementation	Mobility and Traffic Service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	CO 1.1. Subsidies for green facades
	Typical action	Incentives
	Action description	The city encourages the installation of green facades thanks to subsidies under the DiffPrimes program. The first achievements are already materializing, marking the first results expected in the next 1 to 2 years. In the longer term, the objective is to increase awareness of this initiative and to reach 500 buildings equipped with green facades, thus contributing to a greener and more sustainable urban environment.
Reference to impact pathway	Field of action	Co2 Offsetting
	Systemic lift	Local compensation (40% of remaining emissions)
	Outcome (according to module B-1.1)	<p>The project is part of DiffPrimes, with initial implementations underway. It focuses on increasing the number of fruit trees in the city and includes feasibility studies and field tests with hybrid Paulownia trees.</p> <p>The project involves informational evenings, motivating farmers, supporting marketing efforts, and creating an information and sales platform. There are collaborations with the Agricultural Technical School and ArcelorMittal, along with geological feasibility studies.</p> <p>The project also includes adapting guidelines and catalogs, and compiling existing and planned CO2 storage projects for detailed development and registration. The project aims to promote green facades for 500 buildings. It focuses on capturing greenhouse gases through tree growth and establishing a recognized supply chain for green products, with both national and international recognition.</p> <p>It includes geological feasibility studies and collaboration with ArcelorMittal. The project also involves systemic changes in road and path renovations, ensuring all new concrete constructions use carbon-captured concrete (CCU) and all new wooden constructions use CCU wood.</p>

		Additionally, it aims to increase carbon compensation in construction, sell certificates, and monitor compliance.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	CO 1.1. Subsidies for green roofs
	Typical action	Incentives
	Action description	The city encourages the installation of green roofs thanks to subsidies under the DiffPrimes program.
Reference to impact pathway	Field of action	Co2 Offsetting
	Systemic lift	Local compensation (40% of remaining emissions)
	Outcome (according to module B-1.1)	<p>The project is part of DiffPrimes, with initial implementations underway. It focuses on increasing the number of fruit trees in the city and includes feasibility studies and field tests with hybrid Paulownia trees.</p> <p>The project involves informational evenings, motivating farmers, supporting marketing efforts, and creating an information and sales platform. There are collaborations with the Agricultural Technical School and ArcelorMittal, along with geological feasibility studies.</p> <p>The project also includes adapting guidelines and catalogs, and compiling existing and planned CO2 storage projects for detailed development and registration. The project aims to promote green facades for 500 buildings. It focuses on capturing greenhouse gases through tree growth and establishing a recognized supply chain for green products, with both national and international recognition.</p> <p>It includes geological feasibility studies and collaboration with ArcelorMittal. The project also involves systemic changes in road and path renovations, ensuring all new concrete constructions use carbon-captured concrete (CCU) and all new wooden constructions use CCU wood.</p> <p>Additionally, it aims to increase carbon compensation in construction, sell certificates, and monitor compliance.</p>

Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	CO 1.1. Offer of fruit trees to citizens
	Typical action	Incentives
	Action description	The city offers fruit trees to citizens.
Reference to impact pathway	Field of action	Co2 Offsetting
	Systemic lift	Local compensation (40% of remaining emissions)
	Outcome (according to module B-1.1)	<p>The project is part of DiffPrimes, with initial implementations underway. It focuses on increasing the number of fruit trees in the city and includes feasibility studies and field tests with hybrid Paulownia trees.</p> <p>The project involves informational evenings, motivating farmers, supporting marketing efforts, and creating an information and sales platform. There are collaborations with the Agricultural Technical School and ArcelorMittal, along with geological feasibility studies.</p> <p>The project also includes adapting guidelines and catalogs, and compiling existing and planned CO2 storage projects for detailed development and registration. The project aims to promote green facades for 500 buildings. It focuses on capturing greenhouse gases through tree growth and establishing a recognized supply chain for green products, with both national and international recognition.</p> <p>It includes geological feasibility studies and collaboration with ArcelorMittal. The project also involves systemic changes in road and path renovations, ensuring all new concrete constructions use carbon-captured concrete (CCU) and all new wooden constructions use CCU wood.</p> <p>Additionally, it aims to increase carbon compensation in construction, sell certificates, and monitor compliance.</p>
Implementation	Responsible bodies/person for implementation	Ecological service

	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	CO 1.1. Subsidies for the demolition of stone gardens
	Typical action	Incentives
	Action description	The city encourages the demolition of stone gardens through subsidies under the DiffPrimes program.
Reference to impact pathway	Field of action	Co2 Offsetting
	Systemic lift	Local compensation (40% of remaining emissions)
	Outcome (according to module B-1.1)	<p>The project is part of DiffPrimes, with initial implementations underway. It focuses on increasing the number of fruit trees in the city and includes feasibility studies and field tests with hybrid Paulownia trees.</p> <p>The project involves informational evenings, motivating farmers, supporting marketing efforts, and creating an information and sales platform. There are collaborations with the Agricultural Technical School and ArcelorMittal, along with geological feasibility studies.</p> <p>The project also includes adapting guidelines and catalogs, and compiling existing and planned CO2 storage projects for detailed development and registration. The project aims to promote green facades for 500 buildings. It focuses on capturing greenhouse gases through tree growth and establishing a recognized supply chain for green products, with both national and international recognition.</p> <p>It includes geological feasibility studies and collaboration with ArcelorMittal. The project also involves systemic changes in road and path renovations, ensuring all new concrete constructions use carbon-captured concrete (CCU) and all new wooden constructions use CCU wood.</p> <p>Additionally, it aims to increase carbon compensation in construction, sell certificates, and monitor compliance.</p>

Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	CO 1.2. Idea: Carports with PV and/or green roof
	Typical action	Incentives
	Action description	The city could encourage the installation of green roofs or photovoltaic panels on carports thanks to subsidies under the DiffPrimes program.
Reference to impact pathway	Field of action	Co2 Offsetting
	Systemic lift	Local compensation (40% of remaining emissions)
	Outcome (according to module B-1.1)	<p>The project is part of DiffPrimes, with initial implementations underway. It focuses on increasing the number of fruit trees in the city and includes feasibility studies and field tests with hybrid Paulownia trees.</p> <p>The project involves informational evenings, motivating farmers, supporting marketing efforts, and creating an information and sales platform. There are collaborations with the Agricultural Technical School and ArcelorMittal, along with geological feasibility studies.</p> <p>The project also includes adapting guidelines and catalogs, and compiling existing and planned CO2 storage projects for detailed development and registration. The project aims to promote green facades for 500 buildings. It focuses on capturing greenhouse gases through tree growth and establishing a recognized supply chain for green products, with both national and international recognition.</p> <p>It includes geological feasibility studies and collaboration with ArcelorMittal. The project also involves systemic changes in road and path renovations, ensuring all new concrete constructions use carbon-captured concrete (CCU) and all new wooden constructions use CCU wood.</p> <p>Additionally, it aims to increase carbon compensation in construction, sell certificates, and monitor compliance.</p>

Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	CO 1.2. Idea: Adaptation of the regulations within the framework of green facades.
	Typical action	Governance
	Action description	The city is considering changing the PAG to further encourages the installation of green facades through a qui pro quo system (permission to build higher, for example)
Reference to impact pathway	Field of action	Co2 Offsetting
	Systemic lift	Local compensation (40% of remaining emissions)
	Outcome (according to module B-1.1)	<p>The project is part of DiffPrimes, with initial implementations underway. It focuses on increasing the number of fruit trees in the city and includes feasibility studies and field tests with hybrid Paulownia trees.</p> <p>The project involves informational evenings, motivating farmers, supporting marketing efforts, and creating an information and sales platform. There are collaborations with the Agricultural Technical School and ArcelorMittal, along with geological feasibility studies.</p> <p>The project also includes adapting guidelines and catalogs, and compiling existing and planned CO2 storage projects for detailed development and registration. The project aims to promote green facades for 500 buildings. It focuses on capturing greenhouse gases through tree growth and establishing a recognized supply chain for green products, with both national and international recognition.</p> <p>It includes geological feasibility studies and collaboration with ArcelorMittal. The project also involves systemic changes in road and path renovations, ensuring all new concrete constructions use carbon-captured concrete (CCU) and all new wooden constructions use CCU wood.</p>

		Additionally, it aims to increase carbon compensation in construction, sell certificates, and monitor compliance.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	CO 1.3. Idea: Agroforestry - VDD and LIST collaboration
	Typical action	Governance and infrastructure
	Action description	The City of Differdange is collaborating with the Luxembourg Institute of Science and Technology (LIST) to conduct feasibility studies and field trials with hybrid Paulownia trees. This initiative aims to maximize the capture of greenhouse gases (GHG) through the rapid growth of these trees, thus contributing to the fight against climate change.
Reference to impact pathway	Field of action	Co2 Offsetting
	Systemic lift	Local compensation (40% of remaining emissions)
	Outcome (according to module B-1.1)	<p>The project is part of DiffPrimes, with initial implementations underway. It focuses on increasing the number of fruit trees in the city and includes feasibility studies and field tests with hybrid Paulownia trees.</p> <p>The project involves informational evenings, motivating farmers, supporting marketing efforts, and creating an information and sales platform. There are collaborations with the Agricultural Technical School and ArcelorMittal, along with geological feasibility studies.</p> <p>The project also includes adapting guidelines and catalogs, and compiling existing and planned CO2 storage projects for detailed development and registration. The project aims to promote green facades for 500 buildings. It focuses on capturing greenhouse gases through tree growth and establishing a recognized supply chain for green products, with both national and international recognition.</p> <p>It includes geological feasibility studies and collaboration with ArcelorMittal. The project also involves systemic changes in road and path renovations, ensuring all new concrete constructions use carbon-captured concrete (CCU) and all new wooden constructions use CCU wood.</p>

		Additionally, it aims to increase carbon compensation in construction, sell certificates, and monitor compliance.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	CO 1.3. Idea: Supporting local farmers in the creation of a natural insulating production sector. (Hemp, Straw, Elephant Grass, etc.)
	Typical action	Governance and infrastructure
	Action description	The city plans to support local farmers in the creation of a sector for the production of natural insulation, such as hemp, straw and elephant grass. The first expected results include information evenings to mobilize farmers, marketing support, as well as the creation of an information and sales platform. A partnership with the Lycée Technique Agricole will also be explored. The objective is to establish a sector recognized nationally and internationally for the quality of its products.
Reference to impact pathway	Field of action	Co2 Offsetting
	Systemic lift	Local compensation (40% of remaining emissions)
	Outcome (according to module B-1.1)	<p>The project is part of DiffPrimes, with initial implementations underway. It focuses on increasing the number of fruit trees in the city and includes feasibility studies and field tests with hybrid Paulownia trees.</p> <p>The project involves informational evenings, motivating farmers, supporting marketing efforts, and creating an information and sales platform. There are collaborations with the Agricultural Technical School and ArcelorMittal, along with geological feasibility studies.</p> <p>The project also includes adapting guidelines and catalogs, and compiling existing and planned CO2 storage projects for detailed development and registration. The project aims to promote green facades for 500 buildings. It focuses on capturing greenhouse gases through tree growth and establishing a recognized supply chain for green products, with both national and international recognition.</p> <p>It includes geological feasibility studies and collaboration with ArcelorMittal. The project also involves systemic changes in road and path</p>

		<p>renovations, ensuring all new concrete constructions use carbon-captured concrete (CCU) and all new wooden constructions use CCU wood.</p> <p>Additionally, it aims to increase carbon compensation in construction, sell certificates, and monitor compliance.</p>
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	CO 1.4. Idea: Carbon sink (CCS) - Direct storage of CO2
	Typical action	Governance and infrastructure
	Action description	The city is exploring direct CO2 storage solutions in collaboration with ArcelorMittal. The first steps include geological feasibility studies to assess storage potential. These studies will continue to refine the strategy and determine the most viable options for carbon capture and storage, thereby contributing to the reduction of CO2 emissions.
Reference to impact pathway	Field of action	Co2 Offsetting
	Systemic lift	Local compensation (40% of remaining emissions)
	Outcome (according to module B-1.1)	<p>The project is part of DiffPrimes, with initial implementations underway. It focuses on increasing the number of fruit trees in the city and includes feasibility studies and field tests with hybrid Paulownia trees.</p> <p>The project involves informational evenings, motivating farmers, supporting marketing efforts, and creating an information and sales platform. There are collaborations with the Agricultural Technical School and ArcelorMittal, along with geological feasibility studies.</p> <p>The project also includes adapting guidelines and catalogs, and compiling existing and planned CO2 storage projects for detailed development and registration. The project aims to promote green facades for 500 buildings. It focuses on capturing greenhouse gases through tree growth and establishing a recognized supply chain for green products, with both national and international recognition.</p> <p>It includes geological feasibility studies and collaboration with ArcelorMittal. The project also involves systemic changes in road and path renovations, ensuring all new concrete constructions use carbon-captured concrete (CCU) and all new wooden constructions use CCU wood.</p>

		Additionally, it aims to increase carbon compensation in construction, sell certificates, and monitor compliance.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	CO 1.4. Creation of the carbon capture installation.
	Typical action	Infrastructure
	Action description	The city is considering the creation of a carbon capture facility in partnership with ArcelorMittal. The next 1 to 2 years will be dedicated to feasibility studies to assess the viability of the project. This collaboration will continue over 3 to 4 years with in-depth studies, aimed at establishing an effective solution to reduce CO ₂ emissions, thus strengthening the city's commitment to the ecological transition.
Reference to impact pathway	Field of action	Co2 Offsetting
	Systemic lift	Local compensation (40% of remaining emissions)
	Outcome (according to module B-1.1)	<p>The project is part of DiffPrimes, with initial implementations underway. It focuses on increasing the number of fruit trees in the city and includes feasibility studies and field tests with hybrid Paulownia trees.</p> <p>The project involves informational evenings, motivating farmers, supporting marketing efforts, and creating an information and sales platform. There are collaborations with the Agricultural Technical School and ArcelorMittal, along with geological feasibility studies.</p> <p>The project also includes adapting guidelines and catalogs, and compiling existing and planned CO₂ storage projects for detailed development and registration. The project aims to promote green facades for 500 buildings. It focuses on capturing greenhouse gases through tree growth and establishing a recognized supply chain for green products, with both national and international recognition.</p> <p>It includes geological feasibility studies and collaboration with ArcelorMittal. The project also involves systemic changes in road and path renovations, ensuring all new concrete constructions use carbon-captured concrete (CCU) and all new wooden constructions use CCU wood.</p>

		Additionally, it aims to increase carbon compensation in construction, sell certificates, and monitor compliance.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	CO 1.4. CO2 storage in tar - Karpp-Kneipp pilot project for future road renewal
	Typical action	Infrastructure
	Action description	The Karpp-Kneipp pilot project aims to prepare for the future renewal of the city's roads. The first years will be devoted to a feasibility study and the establishment of a pilot street to test new approaches. The objective is to systematize these new methods for all path and road renovations, bringing sustainable and innovative improvements to urban infrastructure.
Reference to impact pathway	Field of action	Co2 Offsetting
	Systemic lift	Local compensation (40% of remaining emissions)
	Outcome (according to module B-1.1)	<p>The project is part of DiffPrimes, with initial implementations underway. It focuses on increasing the number of fruit trees in the city and includes feasibility studies and field tests with hybrid Paulownia trees.</p> <p>The project involves informational evenings, motivating farmers, supporting marketing efforts, and creating an information and sales platform. There are collaborations with the Agricultural Technical School and ArcelorMittal, along with geological feasibility studies.</p> <p>The project also includes adapting guidelines and catalogs, and compiling existing and planned CO2 storage projects for detailed development and registration. The project aims to promote green facades for 500 buildings. It focuses on capturing greenhouse gases through tree growth and establishing a recognized supply chain for green products, with both national and international recognition.</p> <p>It includes geological feasibility studies and collaboration with ArcelorMittal. The project also involves systemic changes in road and path renovations, ensuring all new concrete constructions use carbon-captured concrete (CCU) and all new wooden constructions use CCU wood.</p>

		Additionally, it aims to increase carbon compensation in construction, sell certificates, and monitor compliance.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	CO 1.4. CO2 storage in concrete (CCU) - Set as standard in municipal submission files
	Typical action	Infrastructure
	Action description	The city is committed to integrating a new standard into municipal submission files, aimed at promoting the use of CCU concrete. The "Leitfaden" will be adapted to reflect this change. In the longer term, within 3 to 4 years, all new concrete construction will need to be made with CCU concrete, promoting more sustainable construction practices.
Reference to impact pathway	Field of action	Co2 Offsetting
	Systemic lift	Local compensation (40% of remaining emissions)
	Outcome (according to module B-1.1)	<p>The project is part of DiffPrimes, with initial implementations underway. It focuses on increasing the number of fruit trees in the city and includes feasibility studies and field tests with hybrid Paulownia trees.</p> <p>The project involves informational evenings, motivating farmers, supporting marketing efforts, and creating an information and sales platform. There are collaborations with the Agricultural Technical School and ArcelorMittal, along with geological feasibility studies.</p> <p>The project also includes adapting guidelines and catalogs, and compiling existing and planned CO2 storage projects for detailed development and registration. The project aims to promote green facades for 500 buildings. It focuses on capturing greenhouse gases through tree growth and establishing a recognized supply chain for green products, with both national and international recognition.</p> <p>It includes geological feasibility studies and collaboration with ArcelorMittal. The project also involves systemic changes in road and path renovations, ensuring all new concrete constructions use carbon-captured concrete (CCU) and all new wooden constructions use CCU wood.</p>

		Additionally, it aims to increase carbon compensation in construction, sell certificates, and monitor compliance.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	CO 1.4. Subsidy for citizens / entrepreneurs using CCU concrete
	Typical action	Infrastructure
	Action description	The city offers a subsidy for citizens and entrepreneurs using CCU concrete, as part of the Diff Primes program. The Diff Primes catalog will be updated to incorporate these new aids. The aim is to increase the share of compensation for construction projects using CCU concrete, thereby encouraging more environmentally friendly and sustainable construction practices.
Reference to impact pathway	Field of action	Co2 Offsetting
	Systemic lift	Local compensation (40% of remaining emissions)
	Outcome (according to module B-1.1)	<p>The project is part of DiffPrimes, with initial implementations underway. It focuses on increasing the number of fruit trees in the city and includes feasibility studies and field tests with hybrid Paulownia trees.</p> <p>The project involves informational evenings, motivating farmers, supporting marketing efforts, and creating an information and sales platform. There are collaborations with the Agricultural Technical School and ArcelorMittal, along with geological feasibility studies.</p> <p>The project also includes adapting guidelines and catalogs, and compiling existing and planned CO2 storage projects for detailed development and registration. The project aims to promote green facades for 500 buildings. It focuses on capturing greenhouse gases through tree growth and establishing a recognized supply chain for green products, with both national and international recognition.</p> <p>It includes geological feasibility studies and collaboration with ArcelorMittal. The project also involves systemic changes in road and path renovations, ensuring all new concrete constructions use carbon-captured concrete (CCU) and all new wooden constructions use CCU wood.</p>

		Additionally, it aims to increase carbon compensation in construction, sell certificates, and monitor compliance.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	CO 1.4. CO2 storage using wooden constructions (FSC / PEFC control) - Set as a standard in municipal submission files
	Typical action	Incentive
	Action description	The city plans to set a new standard in municipal submission files in favor of CCU wood. The "Leitfaden" will be adapted to include this requirement. All new timber construction must be made with CCU timber, thereby promoting sustainable and innovative construction practices.
Reference to impact pathway	Field of action	Co2 Offsetting
	Systemic lift	Local compensation (40% of remaining emissions)
	Outcome (according to module B-1.1)	<p>The project is part of DiffPrimes, with initial implementations underway. It focuses on increasing the number of fruit trees in the city and includes feasibility studies and field tests with hybrid Paulownia trees.</p> <p>The project involves informational evenings, motivating farmers, supporting marketing efforts, and creating an information and sales platform. There are collaborations with the Agricultural Technical School and ArcelorMittal, along with geological feasibility studies.</p> <p>The project also includes adapting guidelines and catalogs, and compiling existing and planned CO2 storage projects for detailed development and registration. The project aims to promote green facades for 500 buildings. It focuses on capturing greenhouse gases through tree growth and establishing a recognized supply chain for green products, with both national and international recognition.</p> <p>It includes geological feasibility studies and collaboration with ArcelorMittal. The project also involves systemic changes in road and path renovations, ensuring all new concrete constructions use carbon-captured concrete (CCU) and all new wooden constructions use CCU wood.</p>

		Additionally, it aims to increase carbon compensation in construction, sell certificates, and monitor compliance.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	CO 1.5. Creation of a municipal system for the sale of local certificates with sale to the private sector
	Typical action	Service
	Action description	The city is considering the creation of a municipal system for the sale of local CO2 storage certificates, intended for the private sector. A census of all existing and planned CO2 storage projects will be carried out, accompanied by the development of the necessary steps and registration of the projects. The system will allow the sale of certificates and will ensure rigorous monitoring to guarantee their compliance and effectiveness.
Reference to impact pathway	Field of action	Co2 Offsetting
	Systemic lift	Local compensation (40% of remaining emissions)
	Outcome (according to module B-1.1)	<p>The project is part of DiffPrimes, with initial implementations underway. It focuses on increasing the number of fruit trees in the city and includes feasibility studies and field tests with hybrid Paulownia trees.</p> <p>The project involves informational evenings, motivating farmers, supporting marketing efforts, and creating an information and sales platform. There are collaborations with the Agricultural Technical School and ArcelorMittal, along with geological feasibility studies.</p> <p>The project also includes adapting guidelines and catalogs, and compiling existing and planned CO2 storage projects for detailed development and registration. The project aims to promote green facades for 500 buildings. It focuses on capturing greenhouse gases through tree growth and establishing a recognized supply chain for green products, with both national and international recognition.</p> <p>It includes geological feasibility studies and collaboration with ArcelorMittal. The project also involves systemic changes in road and path renovations, ensuring all new concrete constructions</p>

		<p>use carbon-captured concrete (CCU) and all new wooden constructions use CCU wood.</p> <p>Additionally, it aims to increase carbon compensation in construction, sell certificates, and monitor compliance.</p>
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	CO 2.1. Plan compensation actions in the ProSud / TNT region - Think about scaling. 2050 in the ProSud region.
	Typical action	Governance and lobbying
	Action description	The city is planning for the long term by considering the extension of carbon capture and storage (CCS) initiatives by 2050 in the ProSud region. The objective will be to raise awareness among ProSud member municipalities of the importance of collaborating on these projects. This will involve developing synergies between municipalities to maximize the effectiveness of actions to reduce CO2 emissions.
Reference to impact pathway	Field of action	Co2 Offsetting
	Systemic lift	Local compensation (40% of remaining emissions)
	Outcome (according to module B-1.1)	<p>Raising political awareness among the municipalities of ProSud about the need for collaboration within the CCS (Community Climate Strategy) is crucial.</p> <p>This initiative aims to foster greater cooperation among member communities to address climate challenges effectively. By emphasizing the importance of working together, the goal is strengthening collective efforts, sharing resources, and implementing cohesive strategies to achieve shared environmental goals. Finding synergies with other member municipalities involves identifying and leveraging opportunities for collaboration to enhance mutual benefits.</p> <p>This approach focuses on pooling resources, sharing best practices, and coordinating efforts to address common challenges more effectively. Municipalities can optimize their strategies, achieve greater impact, and foster a more cohesive and efficient network for addressing regional issues by working together.</p>
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Regional
	Involved stakeholders	
	Comments on implementation	/



Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	CO 3.1. Investment in European CCS and CCU projects (Netherlands / Norway)
	Typical action	Governance and lobbying
	Action description	The city plans to invest in European carbon capture and storage (CCS) and carbon capture and utilisation (CCU) projects, notably in the Netherlands and Norway. Lobbying actions will be carried out with the State to formalize a law authorizing these practices at the national and international level. The objective is to conclude contracts with international CCS projects, thus strengthening the city's commitment to the transition to a low-carbon economy.
Reference to impact pathway	Field of action	Co2 Offsetting
	Systemic lift	International compensation
	Outcome (according to module B-1.1)	The project involves lobbying the government to formalize national and international legislation for Carbon Capture and Storage (CCS) and Carbon Capture and Utilization (CCU). It also includes reaching out to European cities seeking investors for these initiatives. The project includes establishing contracts with international Carbon Capture and Storage (CCS) projects, such as those in the Netherlands or Norway. It involves cooperation agreements and calculations for CO2eq compensation benefits.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	International
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	CO 3.1. Investment in European CCS and CCU projects (Netherlands / Norway)
	Typical action	Governance and lobbying
	Action description	The city plans to invest in European carbon capture and storage (CCS) and carbon capture and utilisation (CCU) projects, notably in the Netherlands and Norway. Lobbying actions will be carried out with the State to formalize a law authorizing these practices at the national and international level. The objective is to conclude contracts with international CCS projects, thus strengthening the city's commitment to the transition to a low-carbon economy.
Reference to impact pathway	Field of action	Co2 Offsetting
	Systemic lift	International compensation
	Outcome (according to module B-1.1)	The project involves lobbying the government to formalize national and international legislation for Carbon Capture and Storage (CCS) and Carbon Capture and Utilization (CCU). It also includes reaching out to European cities seeking investors for these initiatives. The project includes establishing contracts with international Carbon Capture and Storage (CCS) projects, such as those in the Netherlands or Norway. It involves cooperation agreements and calculations for CO2eq compensation benefits.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	International
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	CO 3.1. Cooperation on CCS / CCU projects with other pilot cities lacking money, but rich in territorial capacity. Find International Synergies
	Typical action	Governance and lobbying
	Action description	The city seeks to cooperate with other pilot cities in Europe, which have extensive territorial capacities for carbon capture and storage (CCS) or carbon capture and utilization (CCU) projects, but lack funding. Contacts will be established with these cities to explore investment opportunities. The objective is to conclude cooperation contracts and calculate CO ₂ eq compensation bonuses, thus creating international synergies for the fight against climate change.
Reference to impact pathway	Field of action	Co2 Offsetting
	Systemic lift	International compensation
	Outcome (according to module B-1.1)	<p>The project involves lobbying the government to formalize national and international legislation for Carbon Capture and Storage (CCS) and Carbon Capture and Utilization (CCU). It also includes reaching out to European cities seeking investors for these initiatives. The project includes establishing contracts with international Carbon Capture and Storage (CCS) projects, such as those in the Netherlands or Norway.</p> <p>It involves cooperation agreements and calculations for CO₂eq compensation benefits.</p>
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	International
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	CA 1.1. Urban planning - Mineral public squares
	Typical action	Infrastructure
	Action description	The city of Differdange is focusing on improving its public squares. Planning and studies will be carried out to identify the best development solutions. The proposed measures will be implemented, transforming these spaces into more welcoming and sustainable living spaces for citizens.
Reference to impact pathway	Field of action	Climate adaptation
	Systemic lift	Urban planning - mineral public squares
	Outcome (according to module B-1.1)	The plan involves conducting studies and planning, with the goal of purchasing 5 devices per year. Implementation of proposed measures includes reducing the temperature of mineralized public spaces.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	CA 1.1. GreenCity – Mossfilters - Cooling public places using technical solutions
	Typical action	Infrastructure
	Action description	As part of the GreenCity project, the city plans to install moss filters ("Moosfilteren") to improve the urban climate. Five devices will be purchased each year. These installations will help reduce the temperature in mineralized public spaces, creating cooler and more pleasant environments.
Reference to impact pathway	Field of action	Climate adaptation
	Systemic lift	Urban planning - mineral public squares
	Outcome (according to module B-1.1)	The plan involves conducting studies and planning, with the goal of purchasing 5 devices per year. Implementation of proposed measures includes reducing the temperature of mineralized public spaces.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	CA 2.1. Public places belonging to the VDD
	Typical action	Infrastructure
	Action description	The city of Differdange is planning improvements to its public squares to make them more resilient to climate change. Studies will be carried out to increase green spaces and adapt existing infrastructure. The proposed measures will be implemented, including the creation of "tiny forests", green frames and water fountains, to provide greener and refreshing spaces for residents.
Reference to impact pathway	Field of action	Climate adaptation
	Systemic lift	Urban planning - mineral public squares
	Outcome (according to module B-1.1)	<p>Planning and studies focus on increasing green spaces and adapting existing areas to climate change.</p> <p>This involves evaluating and developing strategies to expand urban greenery and modify current spaces to withstand and mitigate climate change's effects.</p> <p>The goal is to enhance environmental resilience, improve quality of life, and promote sustainable urban development. Implementation of proposed measures, including tiny forests, green corridors, and water fountains.</p>
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	CA 3.1. Enforce climate adaptation measures at the level of home/residence owners
	Typical action	Governance
	Action description	The city of Differdange is leading citizens to adopt climate adaptation measures thanks to changing building regulations.
Reference to impact pathway	Field of action	Climate adaptation
	Systemic lift	Urban planning - mineral public squares
	Outcome (according to module B-1.1)	<p>Planning and studies focus on increasing green spaces and adapting existing areas to climate change.</p> <p>This involves evaluating and developing strategies to expand urban greenery and modify current spaces to withstand and mitigate climate change's effects.</p> <p>The goal is to enhance environmental resilience, improve quality of life, and promote sustainable urban development. Implementation of proposed measures, including tiny forests, green corridors, and water fountains.</p>
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	CA 3.1. Adapt building regulations encouraging entrepreneurs to build sustainably (e.g. a green facade gives the right to add a floor)
	Typical action	Governance
	Action description	The city of Differdange is leading citizens to adopt climate adaptation measures thanks to changing building regulations.
Reference to impact pathway	Field of action	Climate adaptation
	Systemic lift	Urban planning - mineral public squares
	Outcome (according to module B-1.1)	<p>Planning and studies focus on increasing green spaces and adapting existing areas to climate change.</p> <p>This involves evaluating and developing strategies to expand urban greenery and modify current spaces to withstand and mitigate climate change's effects.</p> <p>The goal is to enhance environmental resilience, improve quality of life, and promote sustainable urban development. Implementation of proposed measures, including tiny forests, green corridors, and water fountains.</p>
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	CA 3.2. Promotion of forest bathing
	Typical action	Governance
	Action description	Promotion of forest bathing by installing boxes to collect smartphones at the entrance to the forest and by setting up a bathtub in the forest to create an “instagrammable” place. Promoting forest bathing includes installing boxes to collect smartphones at the entrance to the forest and setting up a bathtub to create an “instagrammable” location. The first changes involve the installation of this equipment. In the long term, the goal is to increase the number of people enjoying forest bathing and to encourage a change in mentality towards these practices.
Reference to impact pathway	Field of action	Climate adaptation
	Systemic lift	Urban planning - mineral public squares
	Outcome (according to module B-1.1)	<p>Planning and studies focus on increasing green spaces and adapting existing areas to climate change.</p> <p>This involves evaluating and developing strategies to expand urban greenery and modify current spaces to withstand and mitigate climate change's effects.</p> <p>The goal is to enhance environmental resilience, improve quality of life, and promote sustainable urban development. Implementation of proposed measures, including tiny forests, green corridors, and water fountains.</p>
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/



	Removed/substituted energy, / volume or fuel type	
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B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	CA 3.3. Cool Neighbourhoods
	Typical action	Infrastructure
	Action description	As part of the European Interreg project, the first changes consist of the creation of a green facade in a school located in the center of the city. In the long term, this project aims to raise public awareness of environmental issues related to town planning.
Reference to impact pathway	Field of action	Climate adaptation
	Systemic lift	Urban planning - mineral public squares
	Outcome (according to module B-1.1)	<p>Planning and studies focus on increasing green spaces and adapting existing areas to climate change.</p> <p>This involves evaluating and developing strategies to expand urban greenery and modify current spaces to withstand and mitigate climate change's effects.</p> <p>The goal is to enhance environmental resilience, improve quality of life, and promote sustainable urban development. Implementation of proposed measures, including tiny forests, green corridors, and water fountains.</p>
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	SI 1.1. Civic participation
	Typical action	Awareness Raising
	Action description	Sustainable strengthening of citizen engagement with a measurable increase in active participation in local initiatives. Consolidation of behavioral changes towards more sustainable practices, reflecting a deep integration of the mission's objectives into the daily life of the community. At least four big workshops a year
Reference to impact pathway	Field of action	Social innovation
	Systemic lift	Civic participation
	Outcome (according to module B-1.1)	<p>The project creates awareness about the topic and the mission, generates public interest, and encourages citizen participation. It educates participants on issues and challenges through collaborative workshops that stimulate ideas.</p> <p>It develops a deep understanding of the subject, engages in qualitative discussions, and works in groups to find solutions. It involves all population groups in targeted workshops to integrate citizens into the mission and establish networks with key influencers. Differdange aims to boost citizen engagement in sustainability, increasing participation in local initiatives and integrating eco-friendly practices into daily life.</p> <p>The city will adopt new standards for sustainable mobility, enhance waste reduction and recycling, and establish strong partnerships for carbon offset projects.</p> <p>Over the next three to four years, Differdange will focus on implementing green mobility solutions, improving urban quality of life, and advancing towards carbon neutrality with significant improvements in planning and management.</p>
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	EVERARD Consulting & Communication

	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	SI 1.2. Surveys
	Typical action	Awareness Raising
	Action description	Sustainable strengthening of citizen engagement with a measurable increase in active participation in local initiatives. Consolidation of behavioral changes towards more sustainable practices, reflecting a deep integration of the mission's objectives into the daily life of the community. At least four big workshops a year
Reference to impact pathway	Field of action	Social innovation
	Systemic lift	Awareness Raising
	Outcome (according to module B-1.1)	These are time-limited actions to raise awareness as for example about waste management issues during the back-to-school period and inform citizens about the participatory workshop scheduled for October 2024.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	EVERARD Consulting & Communication
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	SI 2.2. Waste Museum - Waste Museum
	Typical action	Awareness Raising
	Action description	From September 2024, the city will host the Waste Museum for a period of six months. This outpatient facility will aim to raise citizens' awareness of issues related to waste.
Reference to impact pathway	Field of action	Social innovation
	Systemic lift	Awareness Raising
	Outcome (according to module B-1.1)	These are time-limited actions to raise awareness as for example about waste management issues during the back-to-school period and inform citizens about the participatory workshop scheduled for October 2024.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	SI 2.3. Participatory budgets
	Typical action	Awareness raising and governance
	Action description	Participatory budgets will be made available to support citizen projects aligned with the Net Zero Cities mission. The first changes include creating and managing these budgets in the first two years.
Reference to impact pathway	Field of action	Social innovation
	Systemic lift	Awareness Raising
	Outcome (according to module B-1.1)	These are time-limited actions to raise awareness as for example about waste management issues during the back-to-school period and inform citizens about the participatory workshop scheduled for October 2024.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	Local
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	SI 3.1. Dedicated website - Creation of a landing page dedicated to the project (2024) - www.netzero2030.lu
	Typical action	Awareness raising and governance
	Action description	Participatory budgets will be made available to support citizen projects aligned with the Net Zero Cities mission. The first changes include creating and managing these budgets in the first two years.
Reference to impact pathway	Field of action	Social innovation
	Systemic lift	Communication
	Outcome (according to module B-1.1)	<p>A landing page will be created to centralize information and engage the public with regular updates and educational resources on the Net Zero mission.</p> <p>A dedicated website will be developed to provide detailed information on all Net Zero projects, serving as a platform for public education and engagement. Social media accounts of the city will be used for outreach, with no plans to create separate accounts for the mission. Coordination of communications and messaging will ensure consistency and clarity. Transition to a comprehensive website featuring interactive functionalities, progress reports, and a central hub for all project-related initiatives, enhancing long-term engagement and visibility.</p> <p>The site will become a key resource for the community, decision-makers, and partners, facilitating collaboration and transparency about ongoing initiatives and successes. Links to the full site will be provided</p>
Implementation	Responsible bodies/person for implementation	Ecological service Media Service
	Action scale & addressed entities	Local
	Involved stakeholders	EVERARD Consulting & Communication
	Comments on implementation	/

Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	SI 3.1. Development of a dedicated website listing all the projects selected in the action plan (2024-2025)
	Typical action	Awareness raising and governance
	Action description	Between 2024 and 2025, a dedicated website will be developed to centralize all the projects of the Net Zero action plan. The site will provide detailed information on each project, serving as a platform for education and public engagement. The venue will become an essential resource for the community, decision-makers and partners, facilitating collaboration and transparency of initiatives and successes.
Reference to impact pathway	Field of action	Social innovation
	Systemic lift	Communication
	Outcome (according to module B-1.1)	<p>A landing page will be created to centralize information and engage the public with regular updates and educational resources on the Net Zero mission.</p> <p>A dedicated website will be developed to provide detailed information on all Net Zero projects, serving as a platform for public education and engagement. Social media accounts of the city will be used for outreach, with no plans to create separate accounts for the mission. Coordination of communications and messaging will ensure consistency and clarity. Transition to a comprehensive website featuring interactive functionalities, progress reports, and a central hub for all project-related initiatives, enhancing long-term engagement and visibility.</p> <p>The site will become a key resource for the community, decision-makers, and partners, facilitating collaboration and transparency about ongoing initiatives and successes. Links to the full site will be provided</p>
Implementation	Responsible bodies/person for implementation	<p>Ecological service</p> <p>Media Service</p>

	Action scale & addressed entities	Local
	Involved stakeholders	EVERARD Consulting & Communication
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	SI 3.1. Website of the City of Differdange - Creation of content for the official website of the city of Differdange (www.differdange.lu)
	Typical action	Awareness raising and governance
	Action description	Content will be created for the official website of the city of Differdange (www.differdange.lu), reflecting the information from the dedicated site. Links will be established to the full site, thus integrating the contents in a fluid and coherent manner.
Reference to impact pathway	Field of action	Social innovation
	Systemic lift	Communication
	Outcome (according to module B-1.1)	<p>A landing page will be created to centralize information and engage the public with regular updates and educational resources on the Net Zero mission.</p> <p>A dedicated website will be developed to provide detailed information on all Net Zero projects, serving as a platform for public education and engagement. Social media accounts of the city will be used for outreach, with no plans to create separate accounts for the mission. Coordination of communications and messaging will ensure consistency and clarity. Transition to a comprehensive website featuring interactive functionalities, progress reports, and a central hub for all project-related initiatives, enhancing long-term engagement and visibility.</p> <p>The site will become a key resource for the community, decision-makers, and partners, facilitating collaboration and transparency about ongoing initiatives and successes. Links to the full site will be provided</p>
Implementation	Responsible bodies/person for implementation	<p>Ecological service</p> <p>Media Service</p>
	Action scale & addressed entities	Local
	Involved stakeholders	EVERARD Consulting & Communication

	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	SI 3.1. Social media - Use of the City of Differdange's Facebook and Instagram accounts
	Typical action	Awareness Raising
	Action description	The Facebook and Instagram accounts of the City of Differdange, having a wide reach, will be used for the mission. There are no plans to create accounts dedicated specifically to this mission in the first two years.
Reference to impact pathway	Field of action	Social innovation
	Systemic lift	Communication
	Outcome (according to module B-1.1)	<p>A landing page will be created to centralize information and engage the public with regular updates and educational resources on the Net Zero mission.</p> <p>A dedicated website will be developed to provide detailed information on all Net Zero projects, serving as a platform for public education and engagement. Social media accounts of the city will be used for outreach, with no plans to create separate accounts for the mission. Coordination of communications and messaging will ensure consistency and clarity. Transition to a comprehensive website featuring interactive functionalities, progress reports, and a central hub for all project-related initiatives, enhancing long-term engagement and visibility.</p> <p>The site will become a key resource for the community, decision-makers, and partners, facilitating collaboration and transparency about ongoing initiatives and successes. Links to the full site will be provided</p>
Implementation	Responsible bodies/person for implementation	<p>Ecological service</p> <p>Media Service</p>
	Action scale & addressed entities	Local
	Involved stakeholders	EVERARD Consulting & Communication
	Comments on implementation	/

Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	SI 3.2. Sending press releases
	Typical action	Awareness Raising
	Action description	Sending press releases
Reference to impact pathway	Field of action	Social innovation
	Systemic lift	Communication
	Outcome (according to module B-1.1)	<p>A landing page will be created to centralize information and engage the public with regular updates and educational resources on the Net Zero mission.</p> <p>A dedicated website will be developed to provide detailed information on all Net Zero projects, serving as a platform for public education and engagement. Social media accounts of the city will be used for outreach, with no plans to create separate accounts for the mission. Coordination of communications and messaging will ensure consistency and clarity. Transition to a comprehensive website featuring interactive functionalities, progress reports, and a central hub for all project-related initiatives, enhancing long-term engagement and visibility.</p> <p>The site will become a key resource for the community, decision-makers, and partners, facilitating collaboration and transparency about ongoing initiatives and successes. Links to the full site will be provided</p>
Implementation	Responsible bodies/person for implementation	Ecological service Media Service
	Action scale & addressed entities	Local
	Involved stakeholders	EVERARD Consulting & Communication
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/



	Removed/substituted energy, / volume or fuel type	
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B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	SI 3.2. Interviews with journalists
	Typical action	Awareness Raising
	Action description	Interviews with journalists will be coordinated, with in-depth work on wording and the messages to be communicated. Workshops will be organized with aldermen to refine the messages and adapt them to their specificities, thus guaranteeing effective and coherent communication.
Reference to impact pathway	Field of action	Social innovation
	Systemic lift	Communication
	Outcome (according to module B-1.1)	<p>A landing page will be created to centralize information and engage the public with regular updates and educational resources on the Net Zero mission.</p> <p>A dedicated website will be developed to provide detailed information on all Net Zero projects, serving as a platform for public education and engagement. Social media accounts of the city will be used for outreach, with no plans to create separate accounts for the mission. Coordination of communications and messaging will ensure consistency and clarity. Transition to a comprehensive website featuring interactive functionalities, progress reports, and a central hub for all project-related initiatives, enhancing long-term engagement and visibility.</p> <p>The site will become a key resource for the community, decision-makers, and partners, facilitating collaboration and transparency about ongoing initiatives and successes. Links to the full site will be provided</p>
Implementation	Responsible bodies/person for implementation	Ecological service Media Service
	Action scale & addressed entities	Local
	Involved stakeholders	EVERARD Consulting & Communication
	Comments on implementation	/



Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	SI 3.3. Monthly magazine of the City of Differdange. Mission articles in each edition.
	Typical action	Awareness Raising
	Action description	The monthly magazine of the City of Differdange will include articles on the Net Zero mission in each edition. Coordination of communications and work on wording of messages will be essential. All actions and communications will be aligned with the mission, integrating it at the heart of the city's identity.
Reference to impact pathway	Field of action	Social innovation
	Systemic lift	Communication
	Outcome (according to module B-1.1)	<p>A landing page will be created to centralize information and engage the public with regular updates and educational resources on the Net Zero mission.</p> <p>A dedicated website will be developed to provide detailed information on all Net Zero projects, serving as a platform for public education and engagement. Social media accounts of the city will be used for outreach, with no plans to create separate accounts for the mission. Coordination of communications and messaging will ensure consistency and clarity. Transition to a comprehensive website featuring interactive functionalities, progress reports, and a central hub for all project-related initiatives, enhancing long-term engagement and visibility.</p> <p>The site will become a key resource for the community, decision-makers, and partners, facilitating collaboration and transparency about ongoing initiatives and successes. Links to the full site will be provided</p>
Implementation	Responsible bodies/person for implementation	<p>Ecological service</p> <p>Media Service</p>
	Action scale & addressed entities	Local

Impact & cost	Involved stakeholders	EVERARD Consulting & Communication
	Comments on implementation	/
	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	SI 4.1. ClimaBorough
	Typical action	Awareness raising and governance
	Action description	Simplifying investment in renewable energy starts with implementing a mobile app. In the longer term, this initiative aims to increase the number of energy production projects at the local level, such as energy production communities and the attraction of third-party investors for these projects.
Reference to impact pathway	Field of action	Social innovation
	Systemic lift	EU Projects
	Outcome (according to module B-1.1)	<p>Implementation of the mobile app will be followed by an analysis of the city's heating energy situation.</p> <p>This includes exploring a new approach to district heating networks in Differdange. There will be an increase in local energy production projects, such as energy communities and opportunities to attract third-party investors.</p> <p>Additionally, an overview and planning of a new approach to heating within the city will be undertaken.</p>
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	International
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.2: Individual action outlines

(fill out one sheet per intervention/project)

Action outline	Action name	SI 4.1. Heat Bridge
	Typical action	Awareness raising and governance
	Action description	As part of the European "Life" project, the first changes include an analysis of the heating energy situation and the adoption of a new approach for heating networks in Differdange. The project aims to develop an overview and design a new strategy for district heating, with a direct impact on decarbonization and emissions reduction.
Reference to impact pathway	Field of action	Social innovation
	Systemic lift	EU Projects
	Outcome (according to module B-1.1)	Implementation of the mobile app will be followed by an analysis of the city's heating energy situation. This includes exploring a new approach to district heating networks in Differdange. There will be an increase in local energy production projects, such as energy communities and opportunities to attract third-party investors. Additionally, an overview and planning of a new approach to heating within the city will be undertaken.
Implementation	Responsible bodies/person for implementation	Ecological service
	Action scale & addressed entities	International
	Involved stakeholders	
	Comments on implementation	/
Impact & cost	Generated renewable energy (if applicable)	/
	Removed/substituted energy, volume or fuel type	/

B-2.3. Summary strategy for residual emissions

In the context of Differdange's Climate City Contract and the overarching goal of achieving net-zero emissions, we recognize that while the bulk of emissions can be mitigated through direct reduction strategies, certain residual emissions will remain. To manage these residual emissions, our approach focuses on a combination of ambitious offsetting projects, structural urban changes, and cross-sector collaboration to close the gap towards net-zero.

Offsetting through Nature-Based Solutions

One of the primary pillars of our offsetting strategy revolves around nature-based solutions (NBS). By enhancing urban green spaces and increasing the number of green facades, Differdange will actively sequester carbon while providing essential co-benefits such as improving air quality, enhancing biodiversity, and cooling urban areas through natural shade.

The early impacts of this strategy will be visible within 1 to 2 years, as initial projects such as reforestation efforts and urban greening campaigns start reducing emissions. Over the longer term, as we reach the 3-4 year mark, these efforts will mature, creating more permanent green infrastructure that contributes significantly to carbon sequestration. By that time, these green spaces will also have reduced the urban heat island effect, thereby minimizing the energy demand for cooling in public buildings.

The direct impact of these efforts includes the sequestration of CO₂, while indirect benefits will extend to improvements in mental and physical health for residents, more cohesive communities, and enhanced resilience to extreme weather events.

Technological Solutions for Residual Emissions

Alongside nature-based approaches, the adoption of innovative technological solutions will play a key role in addressing residual emissions. Urban spaces and public buildings will be revamped through energy-efficient technologies. For example, by retrofitting municipal buildings with advanced insulation and converting energy systems to low-carbon alternatives, the city can drastically reduce energy consumption.

Initial results over the first two years will focus on energy audits, pilot projects, and the replacement of outdated equipment, which will lead to measurable emission reductions. As these projects scale, especially in the 3-4 year timeframe, the focus will shift to more widespread implementation, covering both public and private buildings.

This technological pathway will directly reduce the city's carbon footprint by lowering energy consumption, while indirect impacts will include the creation of local green jobs, the stimulation of the green economy, and higher levels of energy independence for the municipality.

Enhancing the Circular Economy

In conjunction with technological advancements and NBS, Differdange will strengthen its circular economy initiatives. The objective here is to reduce waste, promote recycling, and encourage the use of second-hand goods, all of which contribute to offsetting emissions that would otherwise be linked to waste production and landfill use.

Key systemic levers in this approach include the promotion of repair cafes, where residents can bring goods for refurbishment, and the creation of second-hand marketplaces. In the first two years, Differdange will witness an increased participation in these initiatives, which will reduce both waste and the carbon footprint associated with the production of new goods. As we move towards 3-4 years, these systems will evolve into a more ingrained part of the city's culture, with a shift in consumer behavior towards sustainable consumption.

The direct reduction in emissions will be achieved through decreased material consumption and reduced landfill use, while indirect benefits will manifest in greater community engagement, local job creation, and a shift towards a more sustainable economy.

Leveraging Carbon Offsetting Partnerships

To fully address residual emissions, Differdange will also invest in verified carbon offset projects, including those beyond the city's boundaries. These may involve partnering with international projects focused on forest conservation, renewable energy, and clean water access.

In the initial stages, Differdange will carefully select projects that align with its climate neutrality goals. By year 3 or 4, the city will have fully integrated these offsets into its broader emissions strategy, ensuring that residual emissions are balanced through credible and measurable efforts. This approach ensures that even the hardest-to-abate emissions can be compensated, thus bringing the city closer to its net-zero target.

Alignment with Climate Neutrality Commitments

The strategies outlined above ensure that Differdange remains firmly on track to meet its climate neutrality commitments. By prioritizing both immediate actions and long-term systemic changes, the city is addressing not only its current emissions but also the structural issues that have contributed to its carbon footprint.

In the short term, rapid implementation of green infrastructure, energy-efficient retrofits, and circular economy initiatives will provide quick wins. Over the longer term, the maturation of these efforts will solidify Differdange's position as a leader in urban sustainability, with the necessary infrastructure, policies, and behaviors in place to sustain these achievements for decades to come.

The result will be a city that not only offsets its residual emissions but also creates a healthier, more resilient, and economically robust environment for its residents.

Conclusion

The City of Differdange is committed to a comprehensive strategy to offset residual emissions as part of its journey to net-zero. By leveraging a combination of nature-based solutions, cutting-edge technology, a strengthened circular economy, and robust partnerships for carbon offsetting, the city is ensuring that its long-term climate ambitions are fully realized. This multifaceted approach not only addresses immediate emissions but also fosters broader social, economic, and environmental benefits, creating a more sustainable future for all.

5.3 Module B-3 Indicators for Monitoring, Evaluation and Learning

The indicators:

Proportion of Renewable Energy for Heating Used by the Municipality / Total Heating Consumption
This measures the share of heating energy consumption in the municipality that comes from renewable sources.
Municipal Heating Consumption / Energy Reference Area
This indicates the heating consumption per unit of energy reference area in the municipality.
Municipal Electricity Consumption / Energy Reference Area
This measures electricity consumption per unit of energy reference area in the municipality.
Installed PV Capacity (kWp) / PV Potential (kWp)
This is the ratio of installed photovoltaic (PV) capacity to the total potential capacity within the municipality.
Household Water Consumption per Year (L/Capita/Day)
This indicates the average daily water consumption per person in households within the municipality.
Proportion of Electric Vehicles in the Municipal Fleet
This measures the share of electric vehicles in the total number of vehicles operated by the municipality.
Progress Toward Climate Pact Goal Achievement
This tracks how well the municipality is progressing in meeting the goals set out in the Climate Pact.
Number of Consultations by "Klima-Agence (MyEnergy)" per 1,000 Residents per Year
This measures how many energy and climate-related consultations are provided to residents by the local energy agency per 1,000 inhabitants annually.
"Enercoach" Report
"Enercoach" assesses the energy performance of the municipality.
Document - Distribution of Total Electricity Consumption in the Municipality
This involves documenting how total electricity consumption is distributed across different sectors or areas within the municipality.

Total Municipal Electricity Consumption (centrally recorded) (kWh)
This measures the total electricity consumption within the municipality that is centrally monitored.
Street Lighting Electricity Consumption (centrally recorded) (kWh)
This tracks the amount of electricity used for street lighting in the municipality.
Total Household Electricity Consumption (centrally recorded) (kWh)
This measures the total electricity consumption of households within the municipality that is centrally monitored.
Electricity Production in the Municipality (centrally recorded) (kWh)
This records the total amount of electricity produced within the municipality.
Proportion of Renewable Electricity Purchased / Total Household Electricity Consumption
This indicates the share of electricity consumed by households that comes from renewable sources, based on what is purchased by the municipality.
CO2 Balance Based on EcoRegion/Ecospeed or Comparable Accounting Tools
This refers to the calculation of the municipality's carbon dioxide emissions using specific tools like EcoRegion or Ecospeed.
Proportion of Residents with Access to an Early Warning System
This measures the percentage of the population that has access to an early warning system for emergencies.
Waste Reduction: Total Municipal Waste (kg/Capita)
This tracks the amount of waste generated per capita in the municipality.
Waste Separation: Proportion of Residual Waste (not recyclable) from Total Municipal Waste (%)
This measures the percentage of waste that cannot be recycled out of the total municipal waste generated.
Number of As-Built Energy Certificate Inspections Compared to Number of Building Permits per Year
This compares the number of energy efficiency inspections of buildings to the number of building permits issued annually.
Number of Energy Efficiency Site Inspections Compared to Number of Building Permits per Year (if no inspections, still note number of permits)
This compares the number of inspections related to energy efficiency at construction sites to the number of building permits issued annually.
Reduction of CO2 Emissions / Energy Reference Area
This measures the reduction in CO2 emissions per unit of energy reference area in the municipality.
CO2 Emissions / Households (kg CO2/Household)

This indicates the average CO2 emissions per household within the municipality.
Energy Efficiency Class for Street Lighting
This categorizes the energy efficiency of street lighting in the municipality.
Water Consumption of Municipal Buildings / Energy Reference Area
This measures water consumption in municipal buildings per unit of energy reference area.
Number of Active Members of Energy Cooperatives in the Municipality
This tracks the number of residents actively participating in energy cooperatives within the municipality.
Number of Energy Cooperatives
This indicates the total number of energy cooperatives in the municipality.
Capacity of Installations Operated by Energy Cooperatives
This measures the total energy production capacity managed by energy cooperatives.
Installed PV Capacity per Capita (kWp)
This calculates the photovoltaic capacity installed per resident in the municipality.
Water Leakage Rate
This measures the percentage of water lost due to leaks in the municipal water supply system.
Proportion of Green Spaces in Urban Areas Compared to Total Urban Area
This measures the proportion of green spaces within the built-up areas of the municipality.
Proportion of the Municipal Area with Separate Systems or Retention and Infiltration Systems (Wastewater/Rainwater)
This tracks the extent of the municipality's area that is equipped with separate or combined wastewater and rainwater management systems.
Population Connection Rate to Biowaste Collection
This measures the percentage of the population that is connected to a biowaste collection system.
Annual Per Capita Collection of Municipal Waste ("Monopoly Waste"): Total Municipal Waste, Residual Waste, Biowaste, Old Paper, Glass Packaging, and Possibly Other Fractions (e.g., Plastic) (as Document)
This involves documenting the per capita amounts of different types of waste collected annually in the municipality.
Residual Waste Generation in kg/Capita
This tracks the amount of non-recyclable waste generated per capita.
Annual Result of the Evaluation Matrix (issued by AEV)
This refers to an annual evaluation of the municipality's performance, possibly in relation to environmental or energy criteria, issued by an agency like AEV.

Chargy Charging Stations (individual charging opportunities) / 1,000 Residents
This measures the availability of charging stations for electric vehicles per 1,000 residents in the municipality.
% of Attraction Points with Sufficient Bicycle Parking Facilities
This tracks the proportion of points of interest in the municipality that are equipped with adequate bicycle parking.
Total Number of Parking Spaces
This indicates the total number of parking spaces available within the municipality.
Number of Climate Team Meetings per Year
This tracks how many times the municipal climate team meets annually.
Media Articles per Year on All Aspects of the Climate Pact
This measures the number of media articles published annually about the municipality's climate pact activities.
% of Events Held as Green Events / Total Events
This tracks the proportion of events organized as environmentally friendly or sustainable out of the total number of events held in the municipality.
Funding Provided to Support Sustainable Construction Practices
This measures the amount of funding provided to promote sustainable building practices.
Climate Bonus Subsidies
This refers to subsidies provided by the municipality to encourage climate-friendly actions or investments.
Sustainably Managed Forest Area (% of Total Forest Area)
This measures the proportion of the municipality's forest area that is managed sustainably.
Organically Farmed Agricultural Area (% of Total Agricultural Area)
This measures the proportion of agricultural land in the municipality that is managed using organic practices.
Number of Participants
This tracks the number of participants in certain programs, activities, or initiatives within the municipality.
Percentage of Participants Not Part of the Municipal Team (Elected Representatives, Departments), a Consulting Committee, or the Climate Team
This measures the proportion of participants in climate or energy initiatives who are not directly involved in the municipal government or advisory bodies.
Number of Actions per Year (The municipality informs, raises awareness, and motivates the local population to integrate energy and climate-related criteria into their decision-making to achieve a sustainable lifestyle)

This tracks the number of actions or initiatives the municipality undertakes annually to educate and engage the local population on energy and climate issues.
Annual Funding Distributed per Capita
This measures the amount of funding distributed by the municipality per resident annually.
Priority Indicators Derived from Section 2.a. (1.1.3 in KP 2.0)
These are key indicators that are prioritized, possibly based on earlier sections or guidelines within a specific planning document like the "Climate Pact 2.0."
Proportion of the Population Benefiting from the Measures
This measures the percentage of the population that benefits from the municipality's implemented measures.
Implementation Rate of the Concept Measures (%)
This tracks the percentage of planned measures that have been successfully implemented.
Nutrient Balance
This refers to the balance between nutrient inputs and outputs, often in the context of agricultural land or environmental management.
Resources Used per Capita
This measures the average amount of resources consumed per resident in the municipality.
Implementation Rate of the Concept
This measures how much of a particular plan or concept has been put into practice.
Implementation Rate of the Energy Plan
This tracks the percentage of the energy plan that has been implemented.
Proportion of Renovated Areas According to National Subsidy Regulations per Capita / Building

B-3.2.: Metadata Indicator

Indicator: Proportion of Renewable Energy for Heating Used by the Municipality / Total Heating Consumption

Indicator name	Proportion of Renewable Energy for Heating Used by the Municipality / Total Heating Consumption
Indicator Unit	Percentage (%)
Definition	The share of the municipality's total heating energy consumption that comes from renewable sources.
Calculation	$(\text{Renewable energy used for heating} / \text{Total heating energy consumption}) \times 100$
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Heating sector
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Air quality improvement, reduced dependency on fossil fuels
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Transition to renewable energy
Is the indicator captured by the existing CDP/SCIS/ Covenant of Mayors platforms?	Yes
Expected data source	Municipal energy records, utility data, renewable energy certificates
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Annual energy report, climate action plan updates
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Municipal Heating Consumption / Energy Reference Area

Indicator name	Municipal Heating Consumption / Energy Reference Area
Indicator Unit	kWh/m2
Definition	The amount of heating energy consumed per unit area within the municipality.
Calculation	Total heating consumption (kWh) / Energy reference area (m2)
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Heating sector
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Energy efficiency, cost savings
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Energy efficiency improvement
Is the indicator captured by the existing CDP/SCIS/ Covenant of Mayors platforms?	Yes
Expected data source	Municipal energy records, building energy certificates
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Energy efficiency reports, building performance reviews
Other indicator systems using this indicator	Covenant of Mayors, CDP, SCIS

Indicator: Municipal Electricity Consumption / Energy Reference Area

Indicator name	Municipal Electricity Consumption / Energy Reference Area
Indicator Unit	kWh/m ²
Definition	The amount of electricity consumed per unit area within the municipality.
Calculation	Total electricity consumption (kWh) / Energy reference area (m ²)
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Electricity sector
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Energy efficiency, cost savings
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Energy efficiency improvement
Is the indicator captured by the existing CDP/SCIS/ Covenant of Mayors platforms?	Yes
Expected data source	Municipal energy records, utility bills
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Energy efficiency reports, building performance reviews
Other indicator systems using this indicator	Covenant of Mayors, CDP, SCIS

Indicator: Installed PV Capacity (kWp) / PV Potential (kWp)

Indicator name	Installed PV Capacity (kWp) / PV Potential (kWp)
Indicator Unit	Ratio (no unit)
Definition	The ratio of installed photovoltaic capacity to the total potential capacity within the municipality.
Calculation	Installed PV capacity (kWp) / Total PV potential (kWp)
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Electricity sector
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Energy security, reduced greenhouse gas emissions
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Expansion of renewable energy sources
Is the indicator captured by the existing CDP/SCIS/ Covenant of Mayors platforms?	Yes
Expected data source	Municipal energy reports, renewable energy assessments
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Renewable energy potential reports, PV installation reviews
Other indicator systems using this indicator	Covenant of Mayors, CDP, SCIS

Indicator: Household Water Consumption per Year (L/Capita/Day)

Indicator name	Household Water Consumption per Year (L/Capita/Day)
Indicator Unit	Liters per capita per day (L/Capita/Day)
Definition	The average daily water consumption per person in households within the municipality.
Calculation	Total household water consumption (L) / (Population × 365)
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Water management sector
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Water conservation, reduced strain on water resources
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Sustainable water management
Is the indicator captured by the existing CDP/SCIS/Covenant of Mayors platforms?	Yes
Expected data source	Water utility records, municipal water reports
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Water consumption reports, sustainability assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Proportion of Electric Vehicles in the Municipal Fleet

Indicator name	Proportion of Electric Vehicles in the Municipal Fleet
Indicator Unit	Percentage (%)
Definition	The share of electric vehicles in the total number of vehicles operated by the municipality.
Calculation	$(\text{Number of electric vehicles} / \text{Total number of municipal vehicles}) \times 100$
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Transportation sector
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Reduced greenhouse gas emissions, improved air quality
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Electrification of transport
Is the indicator captured by the existing CDP/SCIS/ Covenant of Mayors platforms?	Yes
Expected data source	Municipal fleet records, transport department reports
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Fleet management reports, sustainability assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Progress Toward Climate Pact Goal Achievement

Indicator name	Progress Toward Climate Pact Goal Achievement
Indicator Unit	Percentage (%)
Definition	Tracks the municipality's progress in meeting the goals set out in the Climate Pact.
Calculation	$(\text{Number of goals achieved} / \text{Total number of goals}) \times 100$
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Multi-sectoral, depending on goals
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Various co-benefits depending on the specific goals (e.g., energy efficiency, emission reduction)
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Multi-sectoral progress monitoring
Is the indicator captured by the existing CDP/SCIS/ Covenant of Mayors platforms?	Yes
Expected data source	Climate Pact monitoring reports, municipal progress reports
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Climate Pact progress reports, sustainability assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP, national climate agreements

Indicator: Number of Consultations by "Klima-Agence (MyEnergy)" per 1,000 Residents per Year

Indicator name	Number of Consultations by "Klima-Agence (MyEnergy)" per 1,000 Residents per Year
Indicator Unit	Consultations per 1,000 residents
Definition	Measures the number of energy and climate-related consultations provided to residents by the local energy agency per 1,000 inhabitants annually.
Calculation	Total number of consultations / (Population / 1,000)
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Residential sector
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Increased awareness, improved energy efficiency
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Public engagement, energy efficiency improvement
Is the indicator captured by the existing CDP/SCIS/ Covenant of Mayors platforms?	Yes
Expected data source	Klima-Agence (MyEnergy) records, municipal reports
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Public engagement reports, energy efficiency assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: "Enercoach" Report

Indicator name	"Enercoach" Report
Indicator Unit	Report (qualitative/quantitative)
Definition	A report or analysis generated by the "Enercoach" tool or service that assesses the energy performance of the municipality.
Calculation	N/A
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Multi-sectoral
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Energy efficiency, cost savings, emission reduction
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Energy efficiency improvement, emission tracking
Is the indicator captured by the existing CDP/SCIS/ Covenant of Mayors platforms?	No, specific to "Enercoach"
Expected data source	"Enercoach" tool/service provider, municipal reports
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	"Enercoach" Report, energy performance analysis
Other indicator systems using this indicator	Specific to "Enercoach"

Indicator: Document - Distribution of Total Electricity Consumption in the Municipality

Indicator name	Document - Distribution of Total Electricity Consumption in the Municipality
Indicator Unit	kWh per sector/area
Definition	Documentation of how total electricity consumption is distributed across different sectors or areas within the municipality.
Calculation	Sum of electricity consumption per sector/area
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Electricity sector
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Energy management, targeted efficiency measures
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Energy consumption monitoring
Is the indicator captured by the existing CDP/SCIS/ Covenant of Mayors platforms?	Yes
Expected data source	Utility bills, municipal energy records, sectoral consumption data
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Distribution report, energy consumption documentation
Other indicator systems using this indicator	Covenant of Mayors, CDP, SCIS

Indicator: Total Municipal Electricity Consumption (centrally recorded) (kWh)

Indicator name	Total Municipal Electricity Consumption (centrally recorded) (kWh)
Indicator Unit	kWh
Definition	The total amount of electricity consumed within the municipality that is centrally monitored.
Calculation	Sum of all centrally recorded electricity consumption
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Electricity sector
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Energy management, targeted efficiency measures
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Energy consumption monitoring
Is the indicator captured by the existing CDP/SCIS/ Covenant of Mayors platforms?	Yes
Expected data source	Utility bills, municipal energy records
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Energy consumption report, sustainability assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Street Lighting Electricity Consumption (centrally recorded) (kWh)

Indicator name	Street Lighting Electricity Consumption (centrally recorded) (kWh)
Indicator Unit	kWh
Definition	The amount of electricity used for street lighting in the municipality that is centrally monitored.
Calculation	Sum of all electricity consumption for street lighting
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Public lighting sector
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Energy efficiency, cost savings
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Energy efficiency improvement in public services
Is the indicator captured by the existing CDP/SCIS/Covenant of Mayors platforms?	Yes
Expected data source	Municipal energy records, street lighting reports
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Public lighting reports, energy consumption analysis
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Total Household Electricity Consumption (centrally recorded) (kWh)

Indicator name	Total Household Electricity Consumption (centrally recorded) (kWh)
Indicator Unit	kWh
Definition	The total electricity consumption of households within the municipality that is centrally monitored.
Calculation	Sum of all household electricity consumption as recorded centrally
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Residential electricity sector
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Energy management, cost savings
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Energy consumption monitoring in households
Is the indicator captured by the existing CDP/SCIS/ Covenant of Mayors platforms?	Yes
Expected data source	Utility bills, municipal energy records
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Energy consumption reports, sustainability assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Electricity Production in the Municipality (centrally recorded) (kWh)

Indicator name	Electricity Production in the Municipality (centrally recorded) (kWh)
Indicator Unit	kWh
Definition	The total amount of electricity produced within the municipality that is centrally monitored.
Calculation	Sum of all electricity production as recorded centrally
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Electricity generation sector
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Energy security, renewable energy usage
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Transition to local energy production, renewable energy development
Is the indicator captured by the existing CDP/SCIS/Covenant of Mayors platforms?	Yes
Expected data source	Energy production records, utility data
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Energy production reports, sustainability assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Proportion of Renewable Electricity Purchased / Total Household Electricity Consumption

Indicator name	Proportion of Renewable Electricity Purchased / Total Household Electricity Consumption
Indicator Unit	Percentage (%)
Definition	The share of electricity consumed by households that comes from renewable sources, based on what is purchased by the municipality.
Calculation	$(\text{Renewable electricity purchased} / \text{Total household electricity consumption}) \times 100$
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Residential electricity sector
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Promotion of renewable energy, reduction of carbon footprint
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Increase in renewable energy usage in households
Is the indicator captured by the existing CDP/SCIS/ Covenant of Mayors platforms?	Yes
Expected data source	Municipal purchase records, utility data
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Renewable energy purchase reports, sustainability assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: CO2 Balance Based on EcoRegion/Ecospeed or Comparable Accounting Tools

Indicator name	CO2 Balance Based on EcoRegion/Ecospeed or Comparable Accounting Tools
Indicator Unit	Metric tons of CO2
Definition	The calculation of the municipality's carbon dioxide emissions using specific tools like EcoRegion or Ecospeed.
Calculation	Output from EcoRegion/Ecospeed tool based on input data
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Multi-sectoral (depends on data input)
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Comprehensive emissions tracking, planning for emission reductions
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	CO2 reduction strategies, climate action planning
Is the indicator captured by the existing CDP/SCIS/ Covenant of Mayors platforms?	Yes
Expected data source	EcoRegion/Ecospeed outputs, municipal emissions data
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	CO2 balance reports, sustainability assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Proportion of Residents with Access to an Early Warning System

Indicator name	Proportion of Residents with Access to an Early Warning System
Indicator Unit	Percentage (%)
Definition	The percentage of the population that has access to an early warning system for emergencies.
Calculation	$(\text{Number of residents with access} / \text{Total population}) \times 100$
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Public safety, emergency management
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Increased community resilience, disaster preparedness
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Resilience building, public safety improvement
Is the indicator captured by the existing CDP/SCIS/Covenant of Mayors platforms?	Yes
Expected data source	Emergency management records, municipal safety data
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Emergency preparedness reports, safety assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Waste Reduction: Total Municipal Waste (kg/Capita)

Indicator name	Waste Reduction: Total Municipal Waste (kg/Capita)
Indicator Unit	Kilograms per capita (kg/Capita)
Definition	The amount of waste generated per capita in the municipality.
Calculation	Total municipal waste (kg) / Population
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Waste management sector
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Resource conservation, reduced landfill usage
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Waste reduction, circular economy strategies
Is the indicator captured by the existing CDP/SCIS/ Covenant of Mayors platforms?	Yes
Expected data source	Municipal waste records, environmental reports
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Waste reduction reports, sustainability assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Waste Separation: Proportion of Residual Waste (not recyclable) from Total Municipal Waste (%)

Indicator name	Waste Separation: Proportion of Residual Waste (not recyclable) from Total Municipal Waste (%)
Indicator Unit	Percentage (%)
Definition	The percentage of waste that cannot be recycled out of the total municipal waste generated.
Calculation	$(\text{Residual waste} / \text{Total municipal waste}) \times 100$
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Waste management sector
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Improved recycling rates, reduced landfill use
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Waste separation efficiency, circular economy initiatives
Is the indicator captured by the existing CDP/SCIS/ Covenant of Mayors platforms?	Yes
Expected data source	Municipal waste records, environmental reports
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Waste separation reports, recycling assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Number of As-Built Energy Certificate Inspections Compared to Number of Building Permits per Year

Indicator name	Number of As-Built Energy Certificate Inspections Compared to Number of Building Permits per Year
Indicator Unit	Ratio (Inspections/Permits)
Definition	The comparison between the number of energy efficiency inspections of buildings to the number of building permits issued annually.
Calculation	Number of energy certificate inspections / Number of building permits issued
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Building construction and energy efficiency sector
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Improved building standards, energy savings
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Energy efficiency in new buildings
Is the indicator captured by the existing CDP/SCIS/ Covenant of Mayors platforms?	Yes
Expected data source	Building permit records, inspection reports
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Inspection reports, building efficiency assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Number of Energy Efficiency Site Inspections Compared to Number of Building Permits per Year (if no inspections, still note number of permits)

Indicator name	Number of Energy Efficiency Site Inspections Compared to Number of Building Permits per Year
Indicator Unit	Ratio (Inspections/Permits)
Definition	The comparison between the number of inspections related to energy efficiency at construction sites to the number of building permits issued annually.
Calculation	Number of energy efficiency site inspections / Number of building permits issued
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Building construction and energy efficiency sector
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Enhanced energy performance of buildings, cost savings
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Energy efficiency in new buildings
Is the indicator captured by the existing CDP/SCIS/ Covenant of Mayors platforms?	Yes
Expected data source	Building permit records, inspection reports
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Inspection reports, building efficiency assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Reduction of CO2 Emissions / Energy Reference Area

Indicator name	Reduction of CO2 Emissions / Energy Reference Area
Indicator Unit	kg CO2/m2
Definition	The reduction in CO2 emissions per unit of energy reference area in the municipality.
Calculation	(Previous CO2 emissions - Current CO2 emissions) / Energy reference area
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Multi-sectoral
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Improved air quality, reduced energy consumption
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Emissions reduction, energy efficiency improvement
Is the indicator captured by the existing CDP/SCIS/ Covenant of Mayors platforms?	Yes
Expected data source	Municipal CO2 emissions data, energy usage records
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Emission reduction reports, sustainability assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: CO2 Emissions / Households (kg CO2/Household)

Indicator name	CO2 Emissions / Households (kg CO2/Household)
Indicator Unit	kg CO2/Household
Definition	The average CO2 emissions per household within the municipality.
Calculation	Total municipal CO2 emissions / Number of households
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Residential sector
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Emission reduction, energy efficiency
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Household emissions monitoring, energy efficiency improvements
Is the indicator captured by the existing CDP/SCIS/Covenant of Mayors platforms?	Yes
Expected data source	Household emissions data, energy usage records
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Household emissions reports, sustainability assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Energy Efficiency Class for Street Lighting

Indicator name	Energy Efficiency Class for Street Lighting
Indicator Unit	Energy efficiency class (e.g., A+, A, B, etc.)
Definition	The categorization of the energy efficiency of street lighting in the municipality.
Calculation	Classification based on energy consumption and lighting efficiency
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Public lighting sector
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Energy savings, cost reduction
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Public services energy efficiency improvement
Is the indicator captured by the existing CDP/SCIS/Covenant of Mayors platforms?	Yes
Expected data source	Street lighting reports, energy consumption data
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Energy efficiency assessments, sustainability reports
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Water Consumption of Municipal Buildings / Energy Reference Area

Indicator name	Water Consumption of Municipal Buildings / Energy Reference Area
Indicator Unit	Beds/m2
Definition	Water consumption in municipal buildings per unit of energy reference area.
Calculation	Total water consumption in municipal buildings / Energy reference area
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Water management sector
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Water conservation, operational cost reduction
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Water usage efficiency, resource management improvements
Is the indicator captured by the existing CDP/SCIS/ Covenant of Mayors platforms?	Yes
Expected data source	Municipal water usage records, building management data
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Water consumption reports, sustainability assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Number of Active Members of Energy Cooperatives in the Municipality

Indicator name	Number of Active Members of Energy Cooperatives in the Municipality
Indicator Unit	Number of members
Definition	The number of residents actively participating in energy cooperatives within the municipality.
Calculation	Count of active cooperative members
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Renewable energy sector
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Community commitment, renewable energy adoption
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Community-led renewable energy initiatives
Is the indicator captured by the existing CDP/SCIS/Covenant of Mayors platforms?	Yes
Expected data source	Cooperative membership records
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Cooperative activity reports, sustainability assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Number of Energy Cooperatives

Indicator name	Number of Energy Cooperatives
Indicator Unit	Number of cooperatives
Definition	The total number of energy cooperatives in the municipality.
Calculation	Count of energy cooperatives
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Renewable energy sector
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Community commitment, renewable energy adoption
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Community-led renewable energy initiatives
Is the indicator captured by the existing CDP/SCIS/ Covenant of Mayors platforms?	Yes
Expected data source	Cooperative registration records, municipal energy reports
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Cooperative activity reports, sustainability assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Capacity of Installations Operated by Energy Cooperatives

Indicator name	Capacity of Installations Operated by Energy Cooperatives
Indicator Unit	kWp (kilowatt peak)
Definition	The total energy production capacity managed by energy cooperatives within the municipality.
Calculation	Sum of the energy production capacities of cooperative-operated installations
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Renewable energy sector
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Increased renewable energy production, energy security
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Community-led renewable energy initiatives
Is the indicator captured by the existing CDP/SCIS/Covenant of Mayors platforms?	Yes
Expected data source	Cooperative activity reports, municipal energy production data
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Energy production reports, sustainability assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Installed PV Capacity per Capita (kWp)

Indicator name	Installed PV Capacity per Capita (kWp)
Indicator Unit	kWp/capita
Definition	The photovoltaic capacity installed per resident in the municipality.
Calculation	Total installed PV capacity / Total population
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Renewable energy sector
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Renewable energy adoption, energy independence
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Solar energy adoption, community-led renewable energy initiatives
Is the indicator captured by the existing CDP/SCIS/ Covenant of Mayors platforms?	Yes
Expected data source	Municipal energy reports, installation records
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	PV installation reports, sustainability assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Water Leakage Rate

Indicator name	Water Leakage Rate
Indicator Unit	Percentage (%)
Definition	The percentage of water lost due to leaks in the municipal water supply system.
Calculation	$(\text{Water lost due to leaks} / \text{Total water supply}) \times 100$
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Water management sector
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Water conservation, cost savings
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Water supply efficiency, infrastructure improvement
Is the indicator captured by the existing CDP/SCIS/ Covenant of Mayors platforms?	Yes
Expected data source	Municipal water management reports, infrastructure assessments
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Water leakage reports, sustainability assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Proportion of Green Spaces in Urban Areas Compared to Total Urban Area

Indicator name	Proportion of Green Spaces in Urban Areas Compared to Total Urban Area
Indicator Unit	Percentage (%)
Definition	The proportion of green spaces within the built-up areas of the municipality.
Calculation	$(\text{Green spaces in urban areas} / \text{Total urban area}) \times 100$
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Urban planning and green infrastructure sectors
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Improved air quality, biodiversity enhancement, urban heat reduction
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Urban greening, climate resilience
Is the indicator captured by the existing CDP/SCIS/Covenant of Mayors platforms?	Yes
Expected data source	Urban planning records, environmental assessments
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Green space reports, urban sustainability assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Proportion of the Municipal Area with Separate Systems or Retention and Infiltration Systems (Wastewater/Rainwater)

Indicator name	Proportion of the Municipal Area with Separate Systems or Retention and Infiltration Systems (Wastewater/Rainwater)
Indicator Unit	Percentage (%)
Definition	This tracks the extent of the municipality's area that is equipped with separate or combined wastewater and rainwater management systems.
Calculation	$(\text{Area with separate or combined systems} / \text{Total municipal area}) \times 100$
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Water management, stormwater management
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Flood prevention, water quality improvement, infrastructure resilience
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Stormwater management, urban resilience
Is the indicator captured by the existing CDP/SCIS/ Covenant of Mayors platforms?	Yes
Expected data source	Municipal infrastructure reports, urban planning data
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Infrastructure assessments, urban sustainability reports
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Population Connection Rate to Biowaste Collection

Indicator name	Population Connection Rate to Biowaste Collection
Indicator Unit	Percentage (%)
Definition	This measures the percentage of the population that is connected to a biowaste collection system.
Calculation	$(\text{Population connected to biowaste collection} / \text{Total population}) \times 100$
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Waste management sector
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Organic waste recycling, reduction in landfill use
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Waste diversion, circular economy
Is the indicator captured by the existing CDP/SCIS/ Covenant of Mayors platforms?	Yes
Expected data source	Waste management records, municipal reports
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Waste management reports, sustainability assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Annual Per Capita Collection of Municipal Waste ("Monopoly Waste")

Indicator name	Annual Per Capita Collection of Municipal Waste ("Monopoly Waste")
Indicator Unit	Kilograms per capita (kg/capita)
Definition	This involves documenting the per capita amounts of different types of waste collected annually in the municipality.
Calculation	Total municipal waste collected / Total population
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Waste management sector
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Waste reduction, recycling rate improvement
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Waste minimization, circular economy
Is the indicator captured by the existing CDP/SCIS/ Covenant of Mayors platforms?	Yes
Expected data source	Waste management records, municipal reports
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Waste collection reports, sustainability assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Residual Waste Generation in kg/Capita

Indicator name	Residual Waste Generation in kg/Capita
Indicator Unit	Kilograms per capita (kg/capita)
Definition	This tracks the amount of non-recyclable waste generated per capita.
Calculation	Total residual waste / Total population
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Waste management sector
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Waste reduction, landfill diversion
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Waste minimization, circular economy
Is the indicator captured by the existing CDP/SCIS/Covenant of Mayors platforms?	Yes
Expected data source	Waste management records, municipal reports
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Waste generation reports, sustainability assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Annual Result of the Evaluation Matrix (issued by AEV)

Indicator name	Annual Result of the Evaluation Matrix (issued by AEV)
Indicator Unit	Score/Rating
Definition	This refers to an annual evaluation of the municipality's performance, possibly in relation to environmental or energy criteria, issued by an agency like AEV.
Calculation	Based on the criteria set by the evaluating agency
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Various sectors depending on the criteria (energy, waste, water, etc.)
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Improved environmental performance, policy effectiveness
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Comprehensive municipal sustainability efforts
Is the indicator captured by the existing CDP/SCIS/ Covenant of Mayors platforms?	Yes
Expected data source	Evaluation reports, municipal performance assessments
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Annual evaluation reports, performance reviews
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Chargy Charging Stations (individual charging opportunities) / 1,000 Residents

Indicator name	Chargy Charging Stations (individual charging opportunities) / 1,000 Residents
Indicator Unit	Charging stations per 1,000 residents
Definition	This measures the availability of charging stations for electric vehicles per 1,000 residents in the municipality.
Calculation	Total number of charging stations / (Total population / 1,000)
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Transportation sector (electric vehicles)
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Promotion of electric vehicle use, reduction of fossil fuel dependency
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Sustainable Transportation Adoption
Is the indicator captured by the existing CDP/SCIS/ Covenant of Mayors platforms?	Yes
Expected data source	Municipal transport records, charging station data
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Transportation sustainability reports, infrastructure assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: % of Attraction Points with Sufficient Bicycle Parking Facilities

Indicator name	% of Attraction Points with Sufficient Bicycle Parking Facilities
Indicator Unit	Percentage (%)
Definition	This tracks the proportion of points of interest in the municipality that are equipped with adequate bicycle parking.
Calculation	$(\text{Number of attraction points with sufficient bicycle parking} / \text{Total number of attraction points}) \times 100$
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Transportation sector (cycling infrastructure)
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Promotion of cycling, reduction of vehicle emissions
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Sustainable Transportation Adoption
Is the indicator captured by the existing CDP/SCIS/ Covenant of Mayors platforms?	Yes
Expected data source	Municipal infrastructure records, transport assessments
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Urban mobility reports, sustainability assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Total Number of Parking Spaces

Indicator name	Total Number of Parking Spaces
Indicator Unit	Number
Definition	This indicates the total number of parking spaces available within the municipality.
Calculation	Direct count of parking spaces
Does the indicator measure direct impacts?	No
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Urban planning, transport management
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Urban mobility, sustainable transport planning
Is the indicator captured by the existing CDP/SCIS/Covenant of Mayors platforms?	Yes
Expected data source	Municipal parking records, urban planning data
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Urban infrastructure reports, parking assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Number of Climate Team Meetings per Year

Indicator name	Number of Climate Team Meetings per Year
Indicator Unit	Number
Definition	This tracks how many times the municipal climate team meets annually.
Calculation	Direct count of meetings
Does the indicator measure direct impacts?	No
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Effective climate governance, stakeholder engagement
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Governance and policy implementation
Is the indicator captured by the existing CDP/SCIS/Covenant of Mayors platforms?	Yes
Expected data source	Municipal meeting records, climate team documentation
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Governance reports, climate action updates
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Media Articles per Year on All Aspects of the Climate Pact

Indicator name	Media Articles per Year on All Aspects of the Climate Pact
Indicator Unit	Number
Definition	This measures the number of media articles published annually about the municipality's climate pact activities.
Calculation	Direct count of media articles
Does the indicator measure direct impacts?	No
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Public awareness, information dissemination
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Public engagement, communication strategy
Is the indicator captured by the existing CDP/SCIS/ Covenant of Mayors platforms?	Yes
Expected data source	Media monitoring reports, press clippings
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Communication reports, public relations assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: % of Events Held as Green Events / Total Events

Indicator name	% of Events Held as Green Events / Total Events
Indicator Unit	Percentage (%)
Definition	This tracks the proportion of events organized as environmentally friendly or sustainable out of the total number of events held in the municipality.
Calculation	$(\text{Number of green events} / \text{Total number of events}) \times 100$
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Event management, public gatherings
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Promotion of sustainability, reduction of event-related emissions
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Sustainable event management
Is the indicator captured by the existing CDP/SCIS/ Covenant of Mayors platforms?	Yes
Expected data source	Event management records, municipal event reports
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Event sustainability assessments, green event reports
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Funding Provided to Support Sustainable Construction Practices

Indicator name	Funding Provided to Support Sustainable Construction Practices
Indicator Unit	Monetary value (€, \$, etc.)
Definition	This measures the amount of funding provided to promote sustainable building practices.
Calculation	Total funding allocated for sustainable construction practices
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Building sector, construction
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Promotion of green building, reduction in construction emissions
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Sustainable construction adoption
Is the indicator captured by the existing CDP/SCIS/ Covenant of Mayors platforms?	Yes
Expected data source	Municipal budget reports, funding allocations
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Budget reports, sustainable construction assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Climate Bonus Subsidies

Indicator name	Climate Bonus Subsidies
Indicator Unit	Monetary value (€, \$, etc.)
Definition	This refers to subsidies provided by the municipality to encourage climate-friendly actions or investments.
Calculation	Total subsidies distributed for climate-friendly initiatives
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Various sectors depending on the subsidies (energy, transport, etc.)
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Promotion of sustainable practices, reduction of greenhouse gas emissions
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Climate action adoption, sustainable development
Is the indicator captured by the existing CDP/SCIS/ Covenant of Mayors platforms?	Yes
Expected data source	Municipal budget reports, subsidy records
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Budget carry-overs, climate action assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Sustainably Managed Forest Area (% of Total Forest Area)

Indicator name	Sustainably Managed Forest Area (% of Total Forest Area)
Indicator Unit	Percentage (%)
Definition	This measures the proportion of the municipality's forest area that is managed sustainably.
Calculation	$(\text{Sustainably managed forest area} / \text{Total forest area}) \times 100$
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Forestry, land use
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Biodiversity conservation, carbon sequestration
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Sustainable land use, carbon capture
Is the indicator captured by the existing CDP/SCIS/Covenant of Mayors platforms?	Yes
Expected data source	Forestry management reports, land use assessments
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Forestry reports, sustainability assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Organically Farmed Agricultural Area (% of Total Agricultural Area)

Indicator name	Organically Farmed Agricultural Area (% of Total Agricultural Area)
Indicator Unit	Percentage (%)
Definition	This measures the proportion of agricultural land in the municipality that is managed using organic practices.
Calculation	$(\text{Organically farmed area} / \text{Total agricultural area}) \times 100$
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Agriculture
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Soil health improvement, reduction of chemical use
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Sustainable agriculture, reduction of agricultural emissions
Is the indicator captured by the existing CDP/SCIS/ Covenant of Mayors platforms?	Yes
Expected data source	Agricultural management reports, land use assessments
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Agricultural reports, sustainability assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Number of Participants

Indicator name	Number of Participants
Indicator Unit	Number
Definition	This tracks the number of participants in certain programs, activities, or initiatives within the municipality.
Calculation	Direct count of participants
Does the indicator measure direct impacts?	No
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Public engagement, community involvement
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Stakeholder engagement, community-based actions
Is the indicator captured by the existing CDP/SCIS/ Covenant of Mayors platforms?	Yes
Expected data source	Event records, participation logs
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Participation reports, community engagement assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Percentage of Participants Not Part of the Municipal Team (Elected Representatives, Departments), a Consulting Committee, or the Climate Team

Indicator name	Percentage of Participants Not Part of the Municipal Team, a Consulting Committee, or the Climate Team
Indicator Unit	Percentage (%)
Definition	This measures the proportion of participants in climate or energy initiatives who are not directly involved in the municipal government or advisory bodies.
Calculation	$(\text{Number of non-municipal participants} / \text{Total number of participants}) \times 100$
Does the indicator measure direct impacts?	No
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Broader community involvement, increased stakeholder diversity
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Community engagement, stakeholder inclusion
Is the indicator captured by the existing CDP/SCIS/ Covenant of Mayors platforms?	Yes
Expected data source	Event records, participation logs
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Participation reports, community engagement assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Number of Actions per Year

Indicator name	Number of Actions per Year
Indicator Unit	Number
Definition	This tracks the number of actions or initiatives the municipality undertakes annually to educate and engage the local population on energy and climate issues.
Calculation	Direct count of actions
Does the indicator measure direct impacts?	No
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Public awareness, behaviour change, community involvement
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Public engagement, education and awareness
Is the indicator captured by the existing CDP/SCIS/ Covenant of Mayors platforms?	Yes
Expected data source	Municipal records, action plans
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Action reports, community engagement assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Annual Funding Distributed per Capita

Indicator name	Annual Funding Distributed per Capita
Indicator Unit	Monetary value per capita (€, \$, etc.)
Definition	This measures the amount of funding distributed by the municipality per resident annually.
Calculation	Total funding distributed / Total population
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Various sectors depending on the funding (energy, transport, waste, etc.)
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Promotion of sustainability, equitable distribution of resources
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Sustainable funding, resource allocation
Is the indicator captured by the existing CDP/SCIS/Covenant of Mayors platforms?	Yes
Expected data source	Municipal budget reports, funding distribution records
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Budget reports, sustainability funding assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Priority Indicators Derived from Section 2.a. (1.1.3 in KP 2.0)

Indicator name	Priority Indicators Derived from Section 2.a. (1.1.3 in KP 2.0)
Indicator Unit	Varies (e.g., percentage, quantity)
Definition	These are key indicators that are prioritized based on Section 2.a. (1.1.3) of the Climate Pact 2.0 (KP 2.0) planning document.
Calculation	Depends on specific indicators identified in Section 2.a. (1.1.3) of KP 2.0. Calculations may involve various metrics and formulas as defined by the section.
Does the indicator measure direct impacts?	Yes, but specifics depend on the indicators prioritized.
If yes, which emission source sectors does it impact?	Varies by the specific indicators selected.
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Varies by the specific indicators; may include environmental benefits, economic impacts, etc.
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Depends on the nature of the prioritized indicators. Likely relevant for multiple pathways related to climate action and sustainability.
Is the indicator captured by the existing CDP/SCIS/ Covenant of Mayors platforms?	May be, depending on the specifics of the indicators and their alignment with these platforms.
Expected data source	Noting sections of the KP 2.0 document, implementation reports, progress assessments
Expected availability	Annually or as specified in the KP 2.0 document
Suggested collection interval	Annually or as specified in the KP 2.0 document
Deliverables describing the indicator	Annual reports on priority indicators, progress assessments related to KP 2.0
Other indicator systems using this indicator	Possibly Covenant of Mayors, CDP, or other relevant climate or sustainability reporting systems

Indicator: Proportion of the Population Benefiting from the Measures

Indicator name	Proportion of the Population Benefiting from the Measures
Indicator Unit	Percentage (%)
Definition	This measures the percentage of the population that benefits from the municipality's implemented measures.
Calculation	$(\text{Number of people benefiting from measures} / \text{Total population}) \times 100$
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Various sectors depending on the measures implemented
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Increased community welfare, improved quality of life
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Community benefits, impact assessment
Is the indicator captured by the existing CDP/SCIS/ Covenant of Mayors platforms?	Yes
Expected data source	Surveys, program evaluations
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Benefit reports, impact assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Implementation Rate of the Concept Measures (%)

Indicator name	Implementation Rate of the Concept Measures (%)
Indicator Unit	Percentage (%)
Definition	This tracks the percentage of planned measures that have been successfully implemented.
Calculation	$(\text{Number of implemented measures} / \text{Total number of planned measures}) \times 100$
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Depends on the specific measures implemented
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Successful implementation of strategies, achievement of goals
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Implementation efficiency, policy effectiveness
Is the indicator captured by the existing CDP/SCIS/Covenant of Mayors platforms?	Yes
Expected data source	Implementation reports, progress updates
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Implementation progress reports, annual assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Nutrient Balance

Indicator name	Nutrient Balance
Indicator Unit	Various units (e.g., kg/ha, mg/L)
Definition	This refers to the balance between nutrient inputs and outputs, often in the context of agricultural land or environmental management.
Calculation	$(\text{Nutrient inputs} - \text{Nutrient outputs}) / \text{Area of land or volume of water}$
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Agriculture, water management
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Soil health, water quality
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Sustainable agriculture, environmental management
Is the indicator captured by the existing CDP/SCIS/ Covenant of Mayors platforms?	Yes
Expected data source	Agricultural reports, environmental monitoring data
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Nutrient balance reports, environmental assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Resources Used per Capita

Indicator name	Resources Used per Capita
Indicator Unit	Various units (e.g., kg/person, m3/person)
Definition	This measures the average amount of resources consumed per resident in the municipality.
Calculation	Total resources used / Total population
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Various sectors depending on resource type (e.g., energy, water)
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Resource efficiency, sustainability
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Resource management, environmental impact
Is the indicator captured by the existing CDP/SCIS/Covenant of Mayors platforms?	Yes
Expected data source	Consumption reports, municipal records
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Resource use reports, sustainability assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Implementation Rate of the Concept

Indicator name	Implementation Rate of the Concept
Indicator Unit	Percentage (%)
Definition	This measures how much of a particular plan or concept has been put into practice.
Calculation	$(\text{Amount of implemented concept} / \text{Total amount of concept}) \times 100$
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Depends on the specific concept
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Effectiveness of planning, achievement of goals
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Concept implementation, goal achievement
Is the indicator captured by the existing CDP/SCIS/Covenant of Mayors platforms?	Yes
Expected data source	Implementation records, progress reports
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Progress reports, implementation assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Implementation Rate of the Energy Plan

Indicator name	Implementation Rate of the Energy Plan
Indicator Unit	Percentage (%)
Definition	This tracks the percentage of the energy plan that has been implemented.
Calculation	$(\text{Implemented portion of the energy plan} / \text{Total energy plan}) \times 100$
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Energy sector
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Energy efficiency, achievement of energy goals
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Energy management, policy effectiveness
Is the indicator captured by the existing CDP/SCIS/Covenant of Mayors platforms?	Yes
Expected data source	Energy plan records, implementation reports
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Energy plan progress reports, implementation assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP

Indicator: Proportion of Renovated Areas According to National Subsidy Regulations per Capita / Building

Indicator name	Proportion of Renovated Areas According to National Subsidy Regulations per Capita / Building
Indicator Unit	Percentage (%)
Definition	This measures the proportion of renovated areas that comply with national subsidy regulations per capita or per building.
Calculation	$(\text{Renovated areas according to regulations} / \text{Total renovated areas}) \times 100$
Does the indicator measure direct impacts?	Yes
If yes, which emission source sectors does it impact?	Building sector
Does the indicator measure indirect impacts?	Yes
If yes, which co-benefit does it measure?	Compliance with regulations, improved building efficiency
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Building renovation, regulatory compliance
Is the indicator captured by the existing CDP/SCIS/ Covenant of Mayors platforms?	Yes
Expected data source	Renovation records, compliance reports
Expected availability	Annually
Suggested collection interval	Annually
Deliverables describing the indicator	Renovation compliance reports, subsidy regulation assessments
Other indicator systems using this indicator	Covenant of Mayors, CDP

6 Part C – Enabling Climate Neutrality by 2030

6.1 Module C-1 Organisational and Governance Innovation Interventions

- Internal climate policy
- Regional collaboration
- External climate policy
- Monitoring

Internal city climate policy

	Intervention	
	<p>Description:</p> <p>The climate policy for Differdange requires a comprehensive and integrated approach that involves all city departments, including those directly connected to sustainability, mobility, and spatial planning, as well as those less traditionally linked to climate objectives, such as culture, sports, communication, and finance. For Differdange to effectively achieve its climate goals, cross-departmental collaboration is essential, leveraging the expertise and cooperation of all municipal sectors.</p> <p>The city has a history of such transversal cooperation through various strategic projects and area-specific initiatives, such as the Climate Action Plan and urban planning projects, which were designed with broad organizational input. The city's area coordinators and services are integral to these efforts, helping to bridge the gaps between different policy areas and ensuring that climate considerations are embedded in urban strategies.</p> <p>The introduction of innovative governance models from the city's executive office, focusing on more efficient services for residents, is well-suited to addressing climate challenges. A smart, integrated approach to climate must be adopted, ensuring that climate action is a key component of both operational and substantive processes. In this context, Differdange aims to make climate change a central concern in its internal operations, aligning all departments to contribute towards the shared goal of climate neutrality.</p>	
	Responsible organization/entity	Ecological service
	Contact	Luc Arend
	Stakeholders involved and role of each stakeholder	All departments of the city – exchange and coordination
	Commitments	The City of Differdange is committed to integrating climate objectives throughout its municipal policies. When it comes to decision-making, it's crucial to focus on and prioritize projects that benefit both climate goals and other policy areas, creating a "win-win" scenario. Differdange aims to

		<p>implement impactful projects that inspire and accelerate progress, ensuring that those who can deliver significant emission reductions—either immediately or after being scaled up—are prioritized.</p> <p>To support this effort, Differdange dedicates resources to seek funding opportunities, emphasizing the importance of financing climate projects. The city actively collaborates with both internal and external partners to identify grants and prepare project proposals, thus securing the necessary financial support to achieve ambitious climate targets.</p> <p>Monitoring and evaluation play a central role in ensuring the city's climate commitments are met. Differdange will outline a clear path towards climate neutrality, detailing expected emission reductions for specific timeframes and defining the actions required to achieve these targets. Regular monitoring allows the city to adjust its strategies if necessary and ensure that its measures are effectively driving progress towards its climate objectives. This structured and results-driven approach ensures that Differdange stays on track to meet its climate commitments.</p>
	Enabling Impact	<p>Collaborating and adopting an integrated approach in Differdange creates synergies that lead to greater efficiency in implementing climate policies. This method not only improves internal coordination, but also enhances the visibility and credibility of the city's climate efforts, both within the community and to external stakeholders. By working together across departments and aligning objectives, Differdange can achieve stronger, more cohesive results that resonate with citizens and third parties, fostering broader support for its climate initiatives.</p>
	Co-benefits	<p>Differdange's climate policy intervention takes a comprehensive and integrated approach that spans all city departments, embedding climate action into both direct and less obvious areas like culture, sports, communication, and finance. This cross-</p>

		<p>departmental collaboration is critical in ensuring that all sectors contribute to the shared goal of climate neutrality. The city's historical efforts, including the Climate Action Plan and other strategic urban initiatives, have laid the groundwork for this holistic approach, facilitating cooperation across different fields of municipal policy.</p> <p>The climate strategy is designed to generate early, visible changes within the first 1-2 years, focusing on projects that provide both climate and societal benefits. Differdange is prioritizing "win-win" projects, such as improving energy efficiency in public buildings and enhancing sustainable mobility, that will not only reduce emissions but also improve quality of life for residents. These initiatives are aligned with systemic levers for early action, creating immediate impacts while setting the stage for more significant transformations in the future.</p> <p>Over the next 3-4 years, Differdange will continue to scale up its climate interventions. Projects such as transitioning heating systems in public buildings and increasing urban green spaces are expected to produce late-stage outcomes that contribute significantly to emission reductions. By fostering collaboration between departments and prioritizing impactful actions, the city is ensuring that the emission reduction pathways are followed effectively. These actions will deliver sustained reductions in GHG emissions, particularly through the optimization of heating systems and the creation of green infrastructure to combat urban heat islands.</p> <p>One of the key aspects of Differdange's strategy is its commitment to detailed monitoring and evaluation. By establishing clear reduction targets and timelines, the city ensures that climate goals are both measurable and adaptable. This approach enables Differdange to fine-tune its strategies as needed, ensuring that the measures are continuously optimized for maximum impact.</p>
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		<p>In terms of direct impacts, Differdange's focus on reducing energy consumption and transitioning to renewable energy sources will result in significant emission reductions. Projects such as optimizing urban heating networks and replacing traditional energy systems with renewable alternatives, including heat pumps, will have an immediate effect on reducing the city's overall carbon footprint.</p> <p>In addition to these direct emission reductions, the intervention also brings a range of indirect benefits. The creation of more green spaces, improved air quality, and reduced noise pollution will enhance the wellbeing of residents, making the city more attractive and livable. Moreover, the integrated approach fosters broader societal engagement, as departments align their objectives with climate goals, leading to more cohesive urban development and greater support from citizens and external stakeholders.</p> <p>By working across sectors, adopting a holistic approach, and prioritizing impactful projects, Differdange's climate policy ensures that the city is on track to meet its climate neutrality commitments while simultaneously improving the quality of life for its residents. This strategy not only addresses short-term goals but also lays the foundation for long-term sustainability and resilience.</p>
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Regional Collaboration

	Intervention	
	<p>Description:</p> <p>Differdange is not an isolated city; it is deeply connected to its surrounding region through its geography, history, and shared challenges. Climate change, just like the economic and social forces shaping the city, extends beyond the boundaries of Differdange, requiring regional cooperation to implement effective solutions. This is where the collaboration with neighboring municipalities through the Syndicat intercommunal Pro-Sud becomes essential. The Pro-Sud union, consisting of 11 municipalities, provides a platform to develop innovative projects with a regional, national, and even cross-border reach. Its mission focuses on sustainable development and enhancing the identity of the southern region of Luxembourg.</p> <p>Differdange's involvement in Pro-Sud is crucial for addressing climate change and regional challenges like urbanization, transport, and sustainable land use. The city seeks to promote a balanced relationship between humans and nature through projects like the Minett UNESCO Biosphere. The biosphere reserve offers an opportunity to experiment with new territorial management approaches and to study the impact of industrial legacies on the environment. Once shaped by iron ore extraction and industry, this region is now a living laboratory for biodiversity recovery and sustainable urban renewal.</p> <p>In addition to Pro-Sud, Differdange works closely with the TNT (Territoire Naturel Transfrontalier), a collaboration across three valleys (Chiers, Moulaine, and Alzette) shared by Luxembourg, Belgium, and France. This partnership focuses on improving the environment through community-based actions, leveraging the shared industrial history to create a more sustainable future. Through these regional collaborations, Differdange can scale up its climate actions, benefiting from economies of scale and collective expertise. By integrating these efforts into broader regional and international initiatives, the city is better positioned to achieve its Net Zero Cities objectives, fostering a more sustainable and livable future for its residents.</p>	
	Responsible organization/entity	Ecological service
	Contact	Luc Arend

	Stakeholders involved and role of each stakeholder	The partnering municipalities: Bettembourg, Dudelange, Esch-sur-Alzette, Käerjeng, Kayl, Mondercange, Pétange, Rumelange, Sanem and Schifflange for Pro-Sud and Herserange, Hussigny, Saulnes and Haucourt for TNT.
	Commitments	The City of Differdange commits to continue and increase the existing collaborations.
	Enabling Impact	<p>The intervention, which focuses on enhancing regional cooperation, aligns with Module B-1's impact pathways by addressing both immediate and long-term environmental goals. Early changes within 1-2 years will focus on improving cross-municipality collaboration through platforms such as Pro-Sud and the TNT. This supports a more cohesive strategy for climate action, enabling pooling of resources and expertise across the region. This alignment is crucial for achieving broad-based systemic change. Late outcomes expected within 3-4 years will include stronger synergies between member municipalities, resulting in more efficient use of public resources, increased adoption of renewable energy, and more effective waste management strategies. These efforts aim to reduce the volume of waste and improve overall waste processing efficiency, as detailed in the "Improving the efficiency of waste processing" section (WM 3) of Module B-1.</p> <p>Direct impacts on emission reductions will be realized through improved coordination, allowing for better integration of carbon-neutral practices and renewable energy initiatives across municipalities. For instance, Differdange will contribute to the significant reduction of GHG emissions through coordinated actions that align with both regional and national climate goals. Indirect impacts or co-benefits include fostering a stronger community bond and improving public health and environmental awareness, as listed under the "Civic participation" and "Awareness raising" sections of Module B-1. The cross-departmental collaboration also supports</p>

		<p>the adoption of innovative climate policies that are sustainable and socially inclusive, aligning with the city's long-term climate neutrality goals.</p> <p>In sum, the intervention will play a critical role in achieving both short-term operational improvements and long-term strategic goals as outlined in Module B-1. By fostering regional collaboration and leveraging synergies, Differdange is well-positioned to meet its climate commitments.</p>
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External climate policy

	Intervention
	<p>Description:</p> <p>The City of Differdange plays a crucial role in shaping external climate policy through its consultative and representative positions in various intercommunal entities and regional bodies.</p> <p>Differdange is working closely with the Ministère des transports et des travaux publics, that are in charge of all public transport that is done with buses as well as the MAAS offers for people with disabilities or elderly people. The city also agrees with the Chemins de fer Luxembourgeois (CFL) that are in charge of rail transport and Luxtram, that are in charge of Luxembourg's trams. Also the ministries cited under the section "Stakeholders" are partners of the city and will be confronted with the visions and missions of the city in the objective of changing external policy.</p> <p>Differdange holds political representation in <i>Sidor</i> (waste incineration), where the city's representatives influence strategic decisions, pushing for investments in new machinery and feasibility studies to optimize waste management, energy efficiency, and emissions reduction. The city aims to make waste management more sustainable by exploring ways to increase energy output and reduce waste, while lifting Sidor's capabilities to provide electricity and heating to thousands of households.</p> <p>In <i>SuperDrecksKëscht</i> (SDK), Differdange's consultative role allows the city to collaborate on developing sustainable waste management initiatives. SDK focuses on waste prevention, reuse, and recycling in line with EU guidelines, and Differdange benefits from these strategies without having direct decision-making power.</p> <p>The city also consults with <i>Valorlux</i>, focusing on reducing packaging waste and optimizing local recycling efforts. Although Differdange cannot influence national policies, it actively identifies potential areas for local improvement in waste reduction.</p> <p>On the <i>TICE</i> (regional transport) board, Differdange's representatives work towards enhancing the public transport network, with a focus on electrifying buses to align with the city's broader sustainability goals. Through these efforts, Differdange contributes to reducing emissions and improving regional mobility.</p>

	<p>In <i>Minett Kompost</i>, Differdange's representation on the board allows the city to push for infrastructure investments aimed at increasing compost and biogas production, further reducing methane emissions.</p> <p>The city also has political representation in <i>SIACH</i> (Syndicat Intercommunal pour l'Assainissement du Bassin de la Chiers), influencing wastewater treatment and sanitation efforts, which are key to reducing environmental impacts from urbanization.</p> <p>In addition, Differdange plays a vital role in <i>SudEnergie</i>, where the city holds stock, allowing it to influence the energy provider's development, ensuring alignment with its climate neutrality goals.</p> <p>By leveraging these consultative and representative roles, Differdange actively shapes external policies that support its mission to reach climate neutrality by integrating sustainable waste management, public transport improvements, and energy efficiency across the region. Through collaboration with these external bodies, Differdange strengthens its ability to achieve the objectives of the Net Zero Cities mission.</p>	
	Responsible organization/entity	Communal Council
	Contact	Luc Arend
	Stakeholders involved and role of each stakeholder	The partnering stakeholders named in the description
	Commitments	The City of Differdange commits to continue lobbying for the cause of climate neutrality with all the stakeholders named.
	Enabling Impact	<p>The intervention described helps achieve the objectives outlined in Module B-1 of the climate strategy by leveraging Differdange's consultative and representative roles in key external entities and stakeholders. Differdange's involvement in intercommunal and regional bodies allows it to push for strategic decisions that align with the broader climate goals of Net Zero Cities.</p> <p>For instance, Differdange's representation in Sidor (waste incineration) enables the city to influence investments that enhance energy efficiency, reduce emissions, and optimize waste management. This aligns with the short- and long-term priorities by reducing emissions in the waste management sector, thus contributing to overall climate neutrality. Additionally, the city's engagement with</p>

		<p>SDK (SuperDrecksKëscht) supports waste prevention, reuse, and recycling initiatives. While Differdange does not have direct decision-making power here, the consultative role helps identify synergies for improving local waste reduction practices, furthering short-term waste reduction goals.</p> <p>Through its consultative role with Valorlux, Differdange targets the reduction of packaging waste, contributing directly to emission reductions related to material use and waste. The involvement in regional transport through TICE and efforts to electrify buses also directly reduce emissions from the transport sector, addressing both immediate and future transport-related climate goals. These initiatives are linked to the pathways for reducing transport emissions outlined in Module B-1, ensuring that Differdange's actions are aligned with the climate neutrality commitments.</p> <p>In the context of Minett Kompost and SIACH, Differdange actively influences projects that address methane emissions and wastewater treatment. These efforts contribute to reducing greenhouse gases (GHGs) by improving waste treatment and resource recovery infrastructure. Furthermore, Differdange's stake in SudEnergie ensures that renewable energy development is prioritized, contributing to decarbonisation efforts and aligning with both short- and long-term emission reduction targets.</p> <p>Overall, these external commitments enable Differdange to shape regional and national policies that support climate neutrality. By aligning its external policy efforts with the systemic levers described in Module B-1, Differdange can ensure that its climate objectives are met in a collaborative and integrated manner, driving progress towards Net Zero.</p>
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Monitoring

	Intervention
	<p data-bbox="328 712 485 745">Description:</p> <p data-bbox="328 813 1430 981">Differdange's approach to monitoring and evaluating its climate initiatives is built on a framework that emphasizes transparency, accountability, and continual improvement. This framework is designed to capture both the progress and the lessons learned from various innovative practices and experiments being conducted under the city's climate action plan.</p> <p data-bbox="328 1014 1430 1249">Firstly, Differdange commits to regular reporting on the status of all its climate-related projects. These reports will detail the advances in initiatives such as agroforestry and advanced carbon storage techniques, assessing both their effectiveness and their contribution towards the city's overall emission reduction targets. This will involve quantitative metrics such as the amount of carbon captured or the reduction in emissions compared to baseline levels, as well as qualitative assessments regarding the implementation process.</p> <p data-bbox="328 1283 1430 1485">Additionally, Differdange plans to implement a dynamic feedback mechanism that incorporates data from ongoing projects to refine strategies and tactics continuously. This will be supported by a robust data management system that gathers comprehensive data from all relevant stakeholders and projects. This system will not only facilitate real-time monitoring but also enable the city to conduct thorough evaluations of each initiative's impact.</p> <p data-bbox="328 1518 1430 1686">To foster a culture of learning and adaptation, Differdange will host regular review sessions involving city planners, project managers, and external experts. These sessions will focus on discussing outcomes, sharing best practices, and integrating new insights into existing and future projects. Such collaborative reviews will ensure that the city remains at the forefront of climate action innovation.</p> <p data-bbox="328 1720 1430 1921">Furthermore, the city recognizes the importance of community involvement in achieving its climate goals. Therefore, it will engage citizens and local organizations through workshops and public forums to gather feedback and encourage community-driven climate actions. This participatory approach will not only enhance public awareness of the city's climate policies but also ensure that the community's needs and suggestions are considered in policy formulation and project execution.</p> <p data-bbox="328 1955 1430 2022">Through these comprehensive monitoring and evaluation practices, Differdange aims to not only track the effectiveness of its climate strategies but also create an adaptive</p>

	and responsive framework that supports sustained climate action. This systematic approach will help the city refine its strategies continually, ensuring that Differdange can meet its ambitious climate goals while fostering a resilient and sustainable urban environment.	
	Responsible organization/entity	Ecological service
	Contact	Luc Arend
	Stakeholders involved and role of each stakeholder	All other municipal services EVERARD Consulting & Communication - support
	Commitments	Differdange is committed to meticulously monitoring and evaluating the progress and outcomes of its innovative climate strategies to ensure they effectively contribute to the city's ambitious climate goals. This commitment includes a structured approach to track advancements in agroforestry, carbon storage techniques, and overall emission reductions. The city pledges to maintain transparency in reporting progress, fostering stakeholder engagement, and adapting strategies based on feedback and environmental changes. Ensuring robust oversight and continuous improvement demonstrates Differdange's dedication to achieving climate neutrality and enhancing the sustainability of its community and surrounding regions.
	Enabling Impact	<p>Differdange's initiative for monitoring and evaluating its progress towards climate goals focuses on a blend of innovative practices and strict assessment strategies to ensure effective implementation and measure the impact of various projects. The city employs advanced carbon storage techniques and explores agroforestry, emphasizing the development of new methods for carbon capture to meet emission reduction targets. This forward-thinking approach relies on robust stakeholder coordination and substantial funding, highlighting the need for comprehensive planning and resource allocation.</p> <p>To guarantee the success of these innovative projects, Differdange has established a systematic monitoring and evaluation framework. This involves regular assessment phases that check the efficiency and effectiveness of implemented strategies, ensuring they align with set environmental goals and contributing positively to the city's climate objectives. Regular updates and iterative feedback loops help refine these strategies, ensuring that the city not only meets but potentially exceeds its sustainability targets.</p>

		<p>Moreover, the city recognizes the importance of adaptation strategies alongside mitigation efforts. By focusing on increasing resilience against climate impacts, Differdange ensures a balanced approach to its climate action plan. This holistic view supports the city's broader goals of sustainability and environmental stewardship, ensuring that both current and future generations enjoy a high quality of life while maintaining ecological balance.</p> <p>This strategic approach to monitoring and evaluating climate action underscores Differdange's commitment to transparent and accountable governance in its journey towards climate neutrality. By integrating these practices into its operational framework, the city fosters a culture of continuous improvement and environmental responsibility, setting a benchmark for others in the region.</p>
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6.2 Module C-2 Social and Other Innovation Interventions

- Food Council
- Communication and storytelling
- Civic participation
- Digital twin

Food Council

	Intervention	
	Description: <p>The Food Council in Differdange, initially established as part of the Interreg Project Fusilli, is nearing the conclusion of its current mandate. The city of Differdange recognizes the Council's substantial contributions to advancing sustainable food practices and wishes to maintain its momentum. By transitioning this temporary initiative into a permanent fixture, Differdange aims to continue fostering civic engagement and systemic innovation in line with the 100 Net Zero Cities Mission. The Council's ongoing efforts will focus on enhancing local decision-making processes, elevating the role of sustainable food systems in policy dialogues, and pioneering projects like AI-enabled waste bins to manage food waste more effectively. This continued operation not only supports the city's climate objectives by reducing greenhouse gas emissions but also solidifies the community's role in sustaining these long-term initiatives, ensuring that these environmentally conscious practices are embedded within Differdange's urban development strategies.</p>	
	Responsible organization/entity	Ecological service
	Contact	Luc Arend
	Stakeholders involved and role of each stakeholder	Citizens
	Commitments	In sustaining the Food Council initially established under the Interreg Project Fusilli, which concludes this year, the City of Differdange is committed to several pivotal measures to ensure its continuity and impact on the city's climate strategy. First, Differdange will formally integrate the council within its governance structure, ensuring it remains a key component of municipal policymaking, particularly in sustainability and waste management. The city also pledges to enhance citizen participation by continuing to foster platforms that encourage community involvement, thereby deepening civic engagement and ownership of local environmental efforts.

		<p>Furthermore, Differdange is dedicated to supporting ongoing projects like the AI-enhanced waste bins and seeks to broaden these initiatives to amplify their environmental benefits. This includes securing necessary funding and exploring new project expansions. The city also commits to a systematic approach to monitoring and evaluating the council's effectiveness, ensuring that it not only meets but adapts to evolving environmental goals. Through these commitments, Differdange aims to promote a sustainable, inclusive governance model that aligns with its long-term objectives under the 100 Net Zero Cities mission, effectively addressing immediate and future environmental challenges.</p>
	Enabling Impact	<p>The Food Council, as envisaged by Differdange, is a transformative approach aimed at embedding citizen participation into the fabric of local governance. Initially piloted within the Interreg Project Fusilli, which concludes this year, the council has been a platform for civil society engagement and innovation in waste management through initiatives like AI-enhanced smart bins for pilot waste reduction projects.</p> <p>The continuation of the Food Council beyond the lifespan of Fusilli symbolizes a commitment to not just maintain, but to elevate the role of citizens in decision-making processes from the ground up. This commitment will help institutionalize the importance of food systems in local policy debates, transitioning pilot projects into permanent solutions, and enhancing the participation of citizens in the governance process.</p> <p>The primary outputs of the council include significant strides in food waste reduction and the exploration of artificial intelligence to improve waste management—efforts that align perfectly with Differdange's broader environmental goals. By making the Food Council a permanent fixture, the city ensures that these innovative approaches to sustainability are not just temporary experiments but enduring features of the municipal policy landscape. This ensures continuous improvement in waste management practices and helps embed sustainability into the cultural and operational ethos of Differdange.</p>

Communication and storytelling

	Intervention	
	<p>Description:</p> <p>The City of Differdange is capitalizing on communication and storytelling as a central strategy to engage and motivate its community in the pursuit of climate objectives. This approach involves the dissemination of targeted narratives and information through various communication channels to shape public perception and behavior towards sustainability.</p> <p>Central to this strategy is the use of existing and popular media platforms, including the city's monthly magazine and various social media accounts, to regularly distribute content that aligns with Differdange's climate goals. These platforms will serve as conduits for sharing stories of local initiatives, success stories, and educational content, thus fostering a deeper connection between the city's environmental goals and its residents' daily lives.</p> <p>Moreover, Differdange is engaging with journalists and leveraging digital platforms to enhance public engagement and transparency. Regular updates, feature articles, and interactive engagements on the city's dedicated environmental platforms are planned to keep the momentum of civic participation and to ensure that the community is consistently informed, involved, and inspired.</p> <p>This narrative-driven approach aims to cultivate a community-wide commitment to sustainability, where the collective action fueled by informed and motivated citizens contributes directly to the city's ambitious goal of achieving net-zero emissions. The storytelling not only educates but also empowers residents, encouraging a participatory approach to urban environmental management and resilience building.</p>	
	Responsible organization/entity	Ecological service
	Contact	Luc Arend
	Stakeholders involved and role of each stakeholder	EVERARD Consulting & Communication – support and expertise
	Commitments	The City of Differdange is actively embracing a communication and storytelling approach to engage and inspire its community towards achieving climate goals. This strategic commitment involves consistently delivering targeted messages and

		<p>narratives through various media channels, including the city's own monthly magazine and several social media platforms. These channels are vital for sharing success stories, educational content, and updates on local sustainability initiatives, thereby fostering a strong connection between the city's environmental objectives and the daily lives of its residents.</p> <p>Furthermore, Differdange is dedicated to enhancing public engagement and transparency by collaborating with journalists and maximizing the use of digital platforms. The city plans regular updates and interactive features on its environmental platforms to keep the community informed and involved, aiming to sustain the momentum of civic participation.</p> <p>This narrative-driven method is designed to cultivate a widespread commitment to sustainability within the community, where informed and motivated citizens actively participate in urban environmental management and resilience building. By educating and empowering residents through compelling storytelling, Differdange is reinforcing its dedication to transparency, education, and community empowerment, ultimately steering the city towards its ambitious goal of achieving net-zero emissions. This commitment ensures that every resident has a role to play and a story to contribute to Differdange's environmental journey.</p>
	Enabling Impact	<p>The City of Differdange's commitment to using communication and storytelling as a strategy for community engagement in climate initiatives is aligned with systemic levers and indirect benefits outlined in the document B-1. Differdange's approach involves widespread dissemination of information and engaging narratives through established media channels to inform, involve, and inspire the community, thereby fostering a deeper connection between residents and the city's environmental goals.</p> <p>The document B-1 emphasizes that early changes in systemic levers, such as enhancing citizen engagement through information dissemination, can lead to significant late outcomes, including a more informed and active community that adopts sustainable practices widely. This correlates well with Differdange's strategy to use storytelling to cement a communal commitment to sustainability, thus potentially leading to a reduction in greenhouse</p>

		<p>gas emissions through increased public participation in local sustainability initiatives. Furthermore, by aligning its communication efforts with educational content and success stories of local initiatives, the city hopes to embed sustainability into the daily lives of its residents, reflecting a key goal outlined in the document to integrate eco-friendly practices deeply into community behavior. This method not only aims to educate and empower citizens but also ensures ongoing participation and support for the city's climate goals, driving towards the systemic and lasting change envisioned in the strategic document.</p>
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Civic participation

	Intervention	
	<p>Description:</p> <p>The City of Differdange is actively cultivating a robust culture of civic participation as part of its environmental and sustainability mission. Recognizing the rich multicultural fabric of its community, Differdange is dedicated to inclusive engagement, ensuring that all segments of the population are represented and active in shaping the city's future. This commitment to inclusivity is critical in fostering a collective ownership and responsibility towards achieving sustainability goals.</p> <p>To facilitate this, Differdange plans to organize four to five major thematic workshops each year that directly address various aspects of climate action and sustainability. These workshops are designed to educate, engage, and empower citizens, providing them with the knowledge and tools needed to contribute meaningfully to the city's climate objectives. The themes are carefully chosen to reflect the immediate environmental priorities and opportunities for impactful community involvement.</p> <p>In addition to these thematic workshops, a series of focused sessions will delve deeper into specific climate-related topics. These sessions aim to harness the community's collective expertise and enthusiasm, turning ideas into actionable strategies that align with Differdange's goal of a sustainable future.</p> <p>Complementing the workshops, Differdange is also rolling out a diverse program of actions and interventions designed to spark public interest and participation. This program includes events, exhibitions, conferences, and interactive activities such as public quizzes and games that are not only educational but also engaging. Each event is an opportunity to bring the community together, celebrate cultural diversity, and encourage a unified approach to the city's sustainability challenges.</p> <p>Through these concerted efforts in civic participation, Differdange is not just informing its citizens but actively involving them in the journey towards sustainability, making the city's environmental mission a shared endeavour.</p>	
	Responsible organization/entity	Ecological service
	Contact	Luc Arend

	Stakeholders involved and role of each stakeholder	EVERARD Consulting & Communication – planning, organisation and implementation
	Commitments	Differdange is deeply committed to ensuring robust civic participation in its climate initiatives, aiming to fully engage its multicultural community. The city has pledged to organize a series of thematic workshops, complemented by a range of engaging activities such as events, exhibitions, and interactive games to foster broad community involvement. These efforts are designed to be accessible and inclusive, accommodating the diverse needs of all residents and overcoming any barriers to participation, such as language or accessibility challenges. Additionally, Differdange is dedicated to providing ongoing support for these initiatives, ensuring they are responsive to community feedback and effectively monitored for impact. This approach not only aims to educate and empower residents but also to ensure that every individual feels a part of the city's mission towards sustainability, thereby enhancing the collective commitment to achieving climate goals.
	Enabling Impact	<p>The "Civic Participation" intervention that Differdange is implementing focuses on fostering a strong sense of ownership and active involvement among its citizens in the city's mission towards achieving climate neutrality. Differdange places particular emphasis on ensuring that its multicultural community is fully integrated into this effort, with the ultimate goal of making the mission a shared endeavour.</p> <p>To achieve this, the city plans to organize 4-5 large thematic workshops, each addressing key aspects of climate action, as well as a series of smaller workshops focused on more specific climate-related subjects. These workshops aim to engage all members of the community, encouraging them to actively participate in the mission and contribute ideas, solutions, and feedback. By doing so, Differdange hopes to empower its residents, making them co-creators in the city's journey towards sustainability.</p> <p>In addition to the workshops, Differdange will implement a range of supplementary actions and events to raise awareness and encourage broader participation. These will include exhibitions, conferences, pub quizzes, and games, designed to</p>

		<p>capture the attention of the public and inspire a deeper connection to the mission. This multi-faceted approach ensures that climate action is not only a municipal responsibility but also a community-wide effort that resonates across all demographic groups.</p> <p>The city's commitment to inclusivity and engagement reflects its understanding that lasting change can only be achieved when citizens feel directly involved in and responsible for the outcomes of the initiatives. By involving its residents in decision-making and providing them with platforms to contribute, Differdange is laying the groundwork for a more resilient and sustainable future.</p> <p>Through this initiative, Differdange not only aims to reduce emissions and promote sustainable behaviours but also to strengthen the social fabric of the community, ensuring that all voices are heard and that every resident plays a role in the city's mission to achieve climate neutrality.</p>
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Digital twin

	Intervention	
	<p>Description:</p> <p>The City of Differdange is actively exploring the potential of establishing a digital twin in collaboration with the Luxembourg Institute for Science and Technology (LIST). This innovative project is still in the planning stages, but the city is committed to making it a reality.</p> <p>A digital twin is a virtual model that mirrors the physical city. It integrates various data streams to create a dynamic, graphical representation of Differdange. This model allows for sophisticated computational analyses, including simulations and predictions across multiple policy areas. For instance, in the realm of mobility, a digital twin could simulate traffic patterns, assess the impact of motorized transport on air quality, or optimize the planning of different transport modes. In the energy sector, it could predict green energy production based on weather conditions or help plan urban energy needs more effectively.</p> <p>Moreover, the digital twin could serve the built environment sector by prioritizing urban renovation projects or planning developments more strategically across the city. By bridging data across various sectors, the digital twin would not only enhance Differdange's planning and management capabilities but also provide deeper insights into how different variables interact within the urban ecosystem.</p> <p>This strategic collaboration with LIST aims to harness cutting-edge technology to propel Differdange towards smarter urban planning and sustainable development, illustrating the city's proactive approach in leveraging digital innovation to meet its future challenges.</p>	
	Responsible organization/entity	Ecological service
	Contact	Luc Arend
	Stakeholders involved and role of each stakeholder	LIST
	Commitments	As Differdange moves towards creating a Digital Twin in collaboration with the Luxembourg Institute for Science and Technology (LIST), the city is setting forth several commitments to ensure the project's success. First, Differdange will engage in

		<p>active collaboration with LIST, contributing essential urban data and participating in the development process to ensure the Digital Twin accurately reflects the city's needs and features. Financially, the city is dedicated to allocating sufficient funds for the development, deployment, and ongoing maintenance of the Digital Twin, recognizing this as a vital investment in its technological and urban planning future.</p> <p>Furthermore, Differdange is committed to integrating data across various municipal departments to feed the Digital Twin with high-quality, real-time information. This will enhance the tool's ability to make accurate simulations and predictions across multiple policy areas, including mobility, energy, and environmental management. The city also promised to keep the community informed and involved, ensuring transparency about how the Digital Twin is used and how it benefits urban planning and public services.</p> <p>Finally, Differdange sees the Digital Twin not just as a tool for immediate urban management but as a platform for ongoing innovation and sustainable development, pledging to continuously update and adapt the system to meet future challenges and opportunities in urban management. This holistic approach underscores Differdange's commitment to leveraging advanced technology to enhance urban living and governance.</p>
	Enabling Impact	<p>The intervention focusing on developing a Digital Twin in collaboration with the Luxembourg Institute for Science and Technology (LIST) is strategically positioned to amplify Differdange's capacity for systemic planning and operational efficiency. This forward-thinking initiative promises to harness high-resolution digital replication to streamline city planning, improve infrastructure management, and enhance environmental monitoring.</p> <p>The city's commitments to this project reflect a proactive approach to adopting advanced technologies for urban development. By investing in a digital twin, Differdange is set to revolutionize its urban planning and management systems. This commitment not only underscores the city's dedication to technological innovation but also aligns with broader environmental goals, aiming to significantly reduce urban footprints through</p>

		<p>improved planning accuracy and resource management.</p> <p>The project's potential enabling impacts are vast, involving improved decision-making capabilities across multiple domains such as transport, energy, and waste management. Through simulations and predictive analytics, the Digital Twin will enable the city to anticipate urban needs, optimize responses to environmental challenges, and better manage its resources. This integration will likely lead to enhanced sustainability practices, reduced operational costs, and a more agile administrative framework that can dynamically adapt to both the city's and its residents' evolving needs.</p>
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The initiatives listed in Module C-2 of the CCC, which include the Food Council, communication and storytelling, civic participation, and the development of a digital twin, align with many of the broader definitions of social innovation. These initiatives are designed to address systemic barriers by fostering community-led innovation, enhancing stakeholder engagement and empowerment, and creating favorable environments for bottom-up initiatives.

Social Innovation Defined: Social innovation typically involves new strategies, concepts, ideas, and organizations that meet social needs of all kinds—from working conditions and education to community development and health—and that extend and strengthen civil society.

1. **Food Council:** This initiative focuses on sustainable food practices and aims to transform a temporary project into a permanent community engagement platform, directly influencing local policy and community habits concerning food sustainability.
2. **Communication and Storytelling:** This method of engaging the community aims to influence public perception and behavior towards sustainability through media. It's a classic example of social innovation, using new communication strategies to tackle social issues like climate change and public participation in sustainability.
3. **Civic Participation:** By organizing workshops and events that involve the community in sustainability actions, this initiative directly supports social innovation by empowering residents to contribute to the city's environmental strategies and decisions.
4. **Digital Twin:** Although more technological in nature, this initiative can also be considered a form of social innovation as it involves creating new methods for community engagement and urban planning, integrating various data streams to improve city management and public involvement.

The social innovation approaches listed in the CCC, specifically the Food Council, Communication and Storytelling, Civic Participation, and the Digital Twin, can be directly linked to the systemic barriers identified in the areas of energy, waste management, mobility, and city planning. Here's how these social innovations address the systemic barriers:

1. **Energy Systems:**
 - **Barrier:** Lack of manpower, legislative hurdles, material shortages, and political conflicts.

- **Social Innovation Link:** The Digital Twin can simulate energy consumption and potential improvements without the immediate need for extensive manpower. By providing data-driven insights, it could streamline legislative processes and planning for energy infrastructure. Civic Participation workshops could be used to align political interests and increase public support for energy initiatives.

2. Waste Management Systems:

- **Barrier:** Siloing, lack of manpower, rigid regulations, and public-private partnership constraints.
- **Social Innovation Link:** The Food Council's initiatives like AI-enabled waste bins can directly address manpower shortages by optimizing waste collection and management processes. Civic Participation can help break down silos by involving various stakeholders in collaborative workshops, fostering a more integrated approach to waste management.

3. Mobility Systems:

- **Barrier:** Election delays, lack of skilled labor, restrictive legislation, and resistance to change.
- **Social Innovation Link:** Communication and storytelling can play a critical role in changing public perception and increasing acceptance of new mobility solutions. It can also be instrumental in lobbying for faster legislative processes. The Digital Twin could be used to plan and simulate new mobility infrastructures, providing a persuasive tool for overcoming resistance and expediting decision-making.

4. City Planning Systems:

- **Barrier:** Delays due to elections, siloing in planning departments, restrictive regulations, and challenges with integrating green infrastructure in old buildings.
- **Social Innovation Link:** Civic Participation initiatives can enhance community involvement in urban planning, ensuring that new projects like green infrastructures are more widely accepted and integrated. The Digital Twin can offer innovative solutions for blending new developments with old structures, facilitating more dynamic and flexible city planning.

Each of these social innovation strategies not only addresses specific systemic barriers but also enhances the overall capacity of Differdange to implement its climate strategies effectively. These innovations foster a more engaged community, facilitate data-driven decision-making, and encourage a more integrated and agile approach to urban management. This comprehensive linking of social innovations to systemic barriers will illustrate to reviewers the practical and transformative impacts these strategies can have, aligning them more closely with the city's long-term climate neutrality goals.

Several more actions from the action plan can be considered as "Social Innovation" based on their focus on engaging the community, introducing new social practices, or creating systemic changes in social behaviors and governance:

1. **Repair Cafés and Sharing Platforms** - These actions encourage the reuse of items and promote a circular economy by providing spaces for community members to engage in sustainability practices directly. They facilitate social interaction and reduce waste, linking community behaviour to broader environmental goals.
2. **Second-hand Shop in the Recycling Park** - Encourages reuse and recycling, providing a tangible space for community members to engage in sustainable consumption practices. This

initiative also serves as an educational platform about the benefits of waste reduction and recycling.

3. **Dedicated Environmental Platforms** - These digital platforms are intended to keep the community informed and engaged, making them part of the ongoing sustainability dialogues and actions, enhancing transparency, and encouraging active participation.

Each of these initiatives addresses one or more systemic barriers by promoting new forms of social practices, enhancing public engagement, and integrating community insights into municipal decision-making processes. They aim to shift collective mindsets, improve coordination among various sectors, and directly engage with the systemic challenges listed in your barriers, such as siloing, legislative complexities, and cultural resistance to change.

6.3 Module C-3 Financing of Action Portfolio

The exact distribution of investment costs can be found in the appendix.

Finance plan

Field of action	Action name	Start/End date	Responsible entity and person	Impact	Total cost estimated
Waste management and circular economy					
WM 1 Food waste reduction					
1	Food Council (governance)		Ecological service		5.000 € / year
2	Intelligent waste bins in public kitchens.		Ecological service	Up to 50%.	15.000 € / year
3	Production of local vegetables		Ecological service	Determine the amount of GHG per tonne of imported vegetables and subtract it.	
4	Idea: Category: Conservatories		Ecological service	Preservation of local products.	
5	Idea: Ground fridge		Ecological service	Energy savings and bulk purchase of vegetables.	€15 000
6	Idea: Food sharing fridge		Ecological service	Reduction of food waste – reduction of carbon footprint and reduction of organic waste.	
7	What food when? - Campaign		Ecological service	Scope reduction 2.	
8	Workshops on food waste		Ecological service	GHGs are reduced through a deeper understanding of food waste – non-quantifiable.	
9	Where does the food come from?		Ecological service	GHGs are reduced through a deeper understanding of food production – non-quantifiable.	
WM 2 Reducing the volume of waste					



10	Taxes on waste		Ecological service	Reduction of the overall mass of waste.	
11	Adaptation of the recycling park		Ecological service	Reduction of the overall mass of waste. Improved waste quality at the recycling park.	€300 000
12	Repair Cafés		Ecological service	Reduction of GHGs that correspond to the tonnage emitted during production emitted during the production of products.	
13	Idea: Sharing platform		Ecological service	Reduction of GHGs that correspond to the tonnage emitted during production emitted during the production of products.	
14	Awareness-raising campaigns in close collaboration with national institutions.		Ecological service	Fewer GHGs due to reduced waste volume.	
15	Distribution of scales, towels and the reusable dish to each inhabitant		Ecological service	Reduction of packaging waste.	€50,000 / per year
16	Implementation of a deposit system in the gastronomy sector and public festivities at ProSud level		Ecological service	Reduction of packaging waste.	€75 000
17	Idea: Waste locks in residential buildings.		Ecological service	Fewer GHGs due to reduced waste volume.	20.000 € / per year
18	Idea: Waste compactors		Ecological service	GHG reduction due to reduced touring. Indeed, the garbage cans will not have to be emptied ten times less often.	



19	Idea: Garbage fill level sensors		Ecological service	Reduction of the overall mass of waste.	€20 000
20	Second-hand store in the recycling park		Ecological service	Reduction of the overall mass of waste.	
WM 3 Improving the efficiency of waste processing					
21	Sidor		Ecological service	Substitution of imported energy	
22	Idea: Sidor — installation of a hydrogen station next to the incineration site		Ecological service	Negligible	
23	SuperDrecksKëscht – problematic waste management		Ecological service	Reducing the carbon footprint of problematic waste.	
24	Valorlux – a non-profit association entrusted by the State with the management of packaging waste (PMC) and cigarette butts		Ecological service	The weight of packaging has already decreased since the beginning of this reflection. Less fuel needed for logistics and less material needed for packaging production.	
25	Minett Kompost – Optimisation		Ecological service	Reduction of GHGs directly proportional to the amount of methane avoided and recovery leading to a substitution of fossil fuels and carbon sequestration in compost.	
26	Introduce a system of instructions on packaging		Ecological service	Reduction of GHGs directly proportional to the recycling rate.	
27	Béckléck – use of trees felled by storms and condemned to decay in the forest.		Ecological service	Carbon-neutral energy production.	



28	SIACH		Ecological service	Reduction of GHGs directly proportional to the amount of methane avoided. Reduction of GHGs due to better treatment of sewage waste.	
29	Ecotrel		Ecological service	Avoiding the production of recovered products in the circular economy. GHG savings due to reduced logistics distances.	
30	Recycling through Arcelor Mittal – e.g. scrap, tyres, aluminium		Ecological service	Huge GHG reduction potential.	
31	EcoTec – Wood recycling through Kronospan		Ecological service	Recycling of wood waste.	
32	EcoTec - Cumbersome waste sorting		Ecological service	GHG reduction potential due to increased recycling quota.	
33	EcoTec — Management of the recycling park		Ecological service	Substitution of materials put back into the production cycle through recycling.	
34	Benjeshecken – Recovery of green waste in situ		Ecological service	Economics of transport and fossil fuels.	
WM 4 – Circular economy					
35	CIGL — Vélosbuttek		Ecological service	Avoiding the production of recovered bicycles in the circular economy. GHG savings due to reduced logistics distances. More bicycles, less individual motorized mobility.	
36	CIGL — Butzebuttik		Ecological service	Avoid the production of clothes and toys, as they are recovered in the	



				circular economy. GHG savings due to reduced logistics distances.	
37	CIGL — Occasionsbutikk		Ecological service	Avoid the production of furniture, as it is recovered in the circular economy. GHG savings due to reduced logistics distances.	
38	Idea: Circular economy in the construction sector – use of BIM software		Ecological service	Avoid production of building materials, logistics, etc.	
39	Circular economy in the construction sector – use of Bauleitfaden		Ecological service	Avoiding the production of building materials, logistics, etc. Adapting infrastructure to the requirements of a city in green transition.	
40	Bicherschief		Ecological service	Avoid book production and logistics.	
41	HOPLR		Ecological service	Avoid production of traded goods and change of mindset in favour of projects – multiplier effect.	
42	Idea: Plant bulb circularity project		Ecological service	Reduction of green waste, reduction of logistics GHGs, reduction of packaging.	
43	Idea: Zero-emission waste collection truck		Ecological service	GHG reduction	8.000.000 over 12 years
WM 5 – Organisational Optimisation					
44	Gedeco — Association of Municipal Waste Managers		Ecological service	Not noticeable.	
45	Idea: Purchasing centre		Ecological service	Purchase of eco-responsible products – products will be less GHG-emitting during production	

				and more suitable for recycling after use.	
46	Idea: Generalization of Green vents		Ecological service	Events will be less strong in their carbon footprint.	
WM 6 - Littering				Ecological service	
47	Bëschbotz		Ecological service	Less waste in forests as a result of clean-up actions.	
48	CleanChallenge		Ecological service	Less waste in the City as a result of clean-up actions.	
49	Monitoring Littering with an Intelligent Reconciliation System		Ecological service	Cost reduction and load optimization	
Energy management					
MS 1 – Home improvements					
50	Zesumme renovéieren project Energy renovation of existing single-family homes		Technical Service - New Works and Maintenance	This action reduces gas consumption by: 1.556.100 m3/year in the case of 300 units/year.	€ 95.000.000
51	Idea: Energy renovation of residences The residences in need of sanitation are: 910 units		Technical Service - New Works and Maintenance	GHG reduction.	€21 500 000
MS 2 - Decarbonisation					
52	Decarbonization of heating systems in single-family homes Request for subsidies from the State in collaboration with the Klima Agency		Technical Service - New Works and Maintenance	This action reduces gas consumption by: 2,600,000 m3/year, in the case of a remediation of 50% of the 3,061 potential units.	€ 15.000.000



53	Switch to pellet district heating or biomass of dwelling-house units Connecting dwelling-houses to district heating		Technical Service - New Works and Maintenance	This action reduces gas consumption by: 350,000 m3/year in the case of the 275 connected houses.	€150 000
54	Decarbonisation of residential heating systems Replace fossil heating systems with renewable energy fuel systems		Technical Service - New Works and Maintenance	Heat pumps can reduce gas consumption by around 500,000 m3 per year.	€5 000 000
55	Decarbonisation of the district heating network Oberkorn Decarbonisation with geothermal energy as a replacement for cogeneration (BHKW)		Technical Service - New Works and Maintenance	GHG reduction - estimated 1,000,000 m3 of gas saved.	€4 000 000
56	Connection of funicular tray, blast furnace and CreativeHub 1535 to Arcelor Mittal energy recovery Use of residual energy from the steel industry.		Technical Service - New Works and Maintenance	Increasing the energy efficiency of a district heating network by reducing biomass consumption.	€2 000 000
57	Idea: Decarbonisation of small maintenance equipment		Technical Service - New Works and Maintenance	Reduction of GHGs by saving imported fossil fuels.	
MS 3 – Energy production					
58	Production of solar energy on the real estate assets of the VDD Find private partners to finance, carry out and operate the implementation of the project.		Technical Service - New Works and Maintenance	Reduction of GHGs by saving imported fossil fuels.	€3.750.000



59	Wind energy production Establishment of a wind farm with citizen participation.		Technical Service - New Works and Maintenance	Reduction of GHGs by saving imported fossil fuels.	€21 000 000
60	Central Pellet Niederkorn District Heating Site Controlled Service and Future Shopping Centre		Technical Service - New Works and Maintenance	Reduction of GHGs by saving imported fossil fuels.	€2 400 000
61	Pellet heating in the project "Aalt Spidol" (Former hospital)		Technical Service - New Works and Maintenance	Reduction of GHGs by saving imported fossil fuels.	€150 000
MS 4 – Energy savings					
62	Improving the efficiency of the building stock of the City of Differdange Idea: Renovation of the City's heritage and replacement of heating systems (decarbonization).		Technical Service - New Works and Maintenance	GHG reduction. Estimate: 80,000 m3 of gas saved.	€3 000 000
63	Optimization of district heating networks in collaboration with a private partner Find a private partner to expand, optimize and operate district heating networks in the City's territory.		Technical Service - New Works and Maintenance	Encourage more households to opt for a connection to the district heating network.	€500 000
64	Idea: Solar energy production on agricultural land/areas of the VDD Find private partners to finance, carry out and operate the implementation of the project in collaboration with the competent state authorities.		Technical Service - New Works and Maintenance	Reduction of GHGs by saving imported fossil fuels.	€2 500 000



65	Urban lighting - transition to smart LED lighting Apply for a grant from the State and establish a global tender to convert all light points into smart LEDs.		Technical Service - New Works and Maintenance	CO2 reduction by reducing the energy required to operate the LEDs. Also, possibility to vary the light intensity after midnight, for example.	€4 000 000
66	Lighting of sports fields - replacement of halogenic headlights with LED headlights.		Technical Service - New Works and Maintenance	Substantial energy saving.	€760.000
Urban planning - improving quality of life					
UP 1 - Architecture - public buildings					
67	Urban Development Plan (UDP)		Urban development	CO2 reduction	
UP 2 – Urban spaces					
68	Rearranging urban spaces		Urban development	Significant reduction of CO2 through several direct initiatives. The increase in vegetated areas helps to capture atmospheric CO2, thus improving urban air quality. Expansion of pedestrian spaces and cycling infrastructure reduces reliance on motor vehicles, reducing greenhouse gas emissions. In addition, the reduction of heat islands through smart urban planning reduces the need for air conditioning, which also contributes to lower energy consumption and CO2 emissions. These improvements, in synergy with the	



				city's sustainability policies, form an effective framework to mitigate climate impact and improve the well-being of residents.	
UP 1 - Architecture - private buildings					
69	PAG, building regulations		Urban development	No direct impact.	
Mobility and transport					
MT 1 - Public transport - bus					
70	DiffBus - VDD project		Traffic and Mobility Service	Reduction of GHG emissions by reducing individual motorised mobility through the use of electric buses.	2.600.000 € / per year
71	General concept of public transport - Advisory role only to the MMTP.		Traffic and Mobility Service		
72	CTBT - The City has political representatives in the union office and will try to influence management in this direction.		Traffic and Mobility Service	Improving the attractiveness of supply by reducing GHG emissions by reducing individual motorised mobility.	5.400.000 € / per year Participation TICE 52.000 € / per year Capital contribution
73	RGTR - Advisory role only to the MMTP.		Traffic and Mobility Service	Replacement of diesel buses by electric buses - GHG reduction.	
74	Dinola - VDD Project. Address-to-address transport service on request.		Traffic and Mobility Service	Replacement of diesel buses by electric buses - GHG reduction.	170.000 € / per year
75	Adapto - Advisory role only to the MMTP.		Traffic and Mobility Service	Reduction of GHG emissions by reducing individual motorised	



				mobility through the use of electric buses.	
76	NightLifeBus - VDD is a potential participant in the service.		Traffic and Mobility Service	Reduction of GHG emissions by reducing individual motorised mobility through the use of electric buses.	30.000 € / per year
77	Nightrider - A service offered through VDD		Traffic and Mobility Service	Reduction of GHG emissions by reducing individual motorised mobility.	€50,000 / per year
78	Modernisation of bus stops - Compliance		Traffic and Mobility Service	/	€1 200 000 (Modernisation and digitalisation)
MT 2 - Public transport - rails					
79	CFL - Advisory role only to the MMTP.		Traffic and Mobility Service		
80	CFL – Niederkorn judgment		Traffic and Mobility Service	Increase in train use as a result of the significant reduction in the travel time needed to reach the capital.	
81	Luxtram - Advisory role only to Luxtram.		Traffic and Mobility Service	Huge impact on reducing car travel between urban centres.	
MT 3 - Motorised transport - reduction					
82	Idea: Car sharing - Reduction of individual motorized transport		Traffic and Mobility Service	Huge impact on reducing the number of vehicles between urban centres. Provision of electric cars.	300,000 € / per year
83	Adaptation of the public road at the entrance to the main roads of the city - Discouraging individual motorised transport		Traffic and Mobility Service	Reduced car traffic due to increased difficulty of passage.	€3 000 000



84	Redevelopment of the city centre through measures in the field of urban planning to make it more attractive to alternative modes of transport and subsequently increase the quality of life for citizens.		Traffic and Mobility Service	Reduced car traffic due to increased difficulty of passage.	
85	Day without cars 22 September		Traffic and Mobility Service	Reduced car traffic due to increased difficulty of passage.	1.500 € / per year
86	PARKing Day, 20 September - Reimagining public space		Traffic and Mobility Service	Reduction of the number of inert vehicles in public spaces due to the reduction of temporary or permanent parking spaces. Reduced traffic in search of a parking space.	1.500 € / per year
87	Provision of bicycle spaces during the construction of the new City car park at the entrance to the city. Reduce motorised traffic within the city		Traffic and Mobility Service	/	€100 000
88	Channel and reduce flows through the guidance system to public car parks.		Traffic and Mobility Service	Reduced traffic in search of a parking space.	€50 000
MT 4 – Motorised transport – electrification					
89	Municipal fleet - service vehicles - Fleet specific to the VDD. Fleet electrification or switch to hydrogen.		Traffic and Mobility Service	Reduction of GHG emissions by reducing motorised combustion mobility by electric vehicles.	Multi-annual budget
90	Municipal fleet - bicycles and service scooters - The VDD provides an electrified two-		Traffic and Mobility Service	Until all vehicles are electric, there is a significant reduction in GHGs on each journey.	15.000 € / per year

	wheeled mobility fleet. The decision on use remains specific to the employees of the municipality.				
91	Municipal fleet - commercial vehicles - Fleet specific to the VDD. Decarbonisation of the fleet to the extent possible and of the supply of suitable vehicles.		Traffic and Mobility Service	Reducing GHG emissions by reducing combustion-fuelled motorised mobility by electric or hydrogen-powered vehicles.	Multi-annual budget
92	Interrupt part of the flows and connections to the centre with a view to calming individual motorised transport.		Traffic and Mobility Service	Reduced car traffic due to increased difficulty of passage.	9.000.000 €
93	Redevelopment of the city centre through measures in the field of urban planning to make it more attractive to alternative modes of transport and subsequently increase the quality of life for citizens.		Traffic and Mobility Service	Reduced car traffic due to increased difficulty of passage.	
MT 5 - Soft mobility – empowering walkability					
94	Pedestrian guidance system		Traffic and Mobility Service	Reduced motorized traffic.	€50 000
95	Increase in the percentage of children walking to school: Pedibus		Traffic and Mobility Service	Reduced motorized "parent taxi" traffic in front of schools.	1.500 € / per year
96	Dry Schoulwee		Traffic and Mobility Service	Reduced motorized "parent taxi" traffic in front of schools.	€900 000



97	Lighting of pedestrian crossings		Traffic and Mobility Service	/	
98	Urban development for pedestrian mobility.		Traffic and Mobility Service	Reduced motorized traffic.	
MT 6 - Soft mobility – empowering soft mobility					
99	Cycle paths		Traffic and Mobility Service	Reduced motorized traffic.	€300 000
100	Vël'OK - Bike sharing - Bike sharing scheme		Traffic and Mobility Service	Reduction of GHG emissions by reducing individual motorised mobility through the use of bicycles.	400,000 € / per year
101	Bike Boxes		Traffic and Mobility Service	Reduced motorized traffic.	€600 000
102	Adaptation of the PAG by defining a surface key dedicated to the storage of bicycles in future residences and shops.		Traffic and Mobility Service	Reduced motorized traffic.	
103	Provision of scooter racks. Facilitation of mobility with scooters.		Traffic and Mobility Service	Reduced motorized traffic.	€15 000
104	SurvCoin - Raising awareness of active mobility		Traffic and Mobility Service	Reduced motorized traffic for commuting.	€300 000
105	European Mobility Week		Traffic and Mobility Service		10 000 € / per year
106	Citizens' workshops		Traffic and Mobility Service		€60 000 / per year
107	Provision of recharging points.		Traffic and Mobility Service	Reduction of combustion engine vehicles.	

108	Subsidies for the purchase of electric vehicles and infrastructure (booths)		Traffic and Mobility Service	Reduction of combustion engine vehicles.	16.000 € / per year
MT 7 - Logistics					
109	Approach of "big players" (Post, CFL ...) for the establishment of these hubs and for their operation.		Traffic and Mobility Service	GHG reduction in the city through the reduction of semi-trailers in the city.	€50 000
110	Vision: decarbonization of the logistics "last mile" by promoting cargobikes or other solutions.		Traffic and Mobility Service	GHG reduction in the city through the reduction of semi-trailers in the city.	
Co2 Offsetting					
CO 1 - Local offsetting (40% of remaining emissions)					
111	Subsidies for green facades		Ecological service	GHG capture if deciduous plants are used.	20.000 € / per year
112	Green roof subsidies		Ecological service	GHG capture if deciduous plants are used.	20.000 € / per year
113	Offering fruit trees to citizens		Ecological service	GHG capture	25.000 € / per year
114	Subsidies for the demolition of stone gardens		Ecological service	GHG capture if deciduous plants are used.	5.000 € / per year
115	Idea: PV and/or green roof carports		Ecological service	GHG capture if deciduous plants are used.	
116	Idea: Adaptation of the Regulation in the context of green facades.		Ecological service	GHG capture if deciduous plants are used.	
117	VDD and LIST collaboration		Ecological service		€120 000

118	Idea: Supporting local farmers in the creation of a natural insulation production chain. (Hungary, straw, elephant grass, etc.)		Ecological service	GHG capture	€20 000
119	Carbon capture (CCS) - Direct CO2 storage		Ecological service	GHG capture	€100 000
120	Creation of the carbon capture facility.		Ecological service	GHG capture	
121	Storage of CO2 in tar - Karpp-Kneiff pilot project for future road renewal		Ecological service	GHG capture	
122	CO2 storage in concrete (CCU) - Set as standard in municipal tender dossiers		Ecological service	GHG capture	
123	Subsidy for citizens / entrepreneurs using concrete CCU		Ecological service	GHG capture	
124	Storage of CO2 using wooden constructions (FSC / PEFC control) - Set as standard in municipal tender dossiers		Ecological service	GHG capture	
125	Subsidy for citizens / contractors using timber		Ecological service	GHG capture	
126	Creation of a municipal system for the sale of local certificates with sale to the private sector		Ecological service	GHG capture / certification	€40 000
CO 2 - Regional offsetting					



127	Think about scaling. 2050 in the ProSud region.		Ecological service	/	€420.000
CO 3 - International offsetting					
128	Investment in European CCS and CCU projects (Netherlands/Norway)		Ecological service	GHG capture	
129	Cooperation on CCS / CCU projects with other pilot cities lacking money, but rich in territorial capacity. Finding international synergies		Ecological service	GHG capture	
CO 4 - Purchase of international offset certificates (maximum 20% of remaining emissions)					
130	Financing of CO2eq offsetting projects in non-EU countries		Ecological service	GHG capture	
Climate adaptation					
CA 1 - Urban development - mineral public squares					
131	Public places belonging to the VDD		Ecological service	Possible CO2 reduction when planting trees.	€3 000 000
132	GreenCity - Moosfilteren		Ecological service	Compensation of 80 kg CO2eq per unit per year	200.000 € / per year
CA 2 - Urban development - natural public squares					
133	Public places belonging to the VDD		Ecological service	Possible CO2 reduction when planting trees.	
CA 3 - Private developments					



134	Strengthen climate adaptation measures at the level of home owners / residences		Ecological service	/	
135	Adapt building regulations encouraging entrepreneurs to build sustainably (e.g. a green facade gives the right to add a floor)		Ecological service	/	
136	Promotion of forest baths by installing boxes to collect smartphones at the entrance of the forest and by setting up a bathtub in the forest to create an "instagrammable" place.		Ecological service	/	€10 000
Police investigation against the Slave Negro Cornelius.	European Interreg project – Cool Neighborhoods		Ecological service	/	€100 000
Social innovation					
SI 1 – Civic Participation					
138	Benchmark: Living sustainably in Differdange (2023)		Ecological service EVERARD Consulting & Communication	Reducing CO2 emissions through increased adoption of sustainable behaviours among citizens, such as increased use of public transport, carpooling, and energy efficiency improvements in homes and local businesses.	€70 000 / per year
139	Energy: Together towards net zero energy! (2024)		Ecological service	Direct reduction of greenhouse gas emissions through the	Incl.

			EVERARD Consulting & Communication	implementation of renewable technologies and energy efficiency improvements in residential and commercial buildings. Increased local production of green energy, reducing dependence on fossil fuels.	
140	Mobility: together towards net-zero mobility! (2024)		Ecological service EVERARD Consulting & Communication	Measurable reduction in CO2 and other pollutant emissions through a reduction in motorised traffic and an increase in the use of public and non-motorised transport. Establishment of infrastructure promoting electric vehicles and bike and car sharing systems, contributing to a less polluted city.	Incl.
141	Waste: together towards net-zero waste management! (2024)		Ecological service EVERARD Consulting & Communication	Significant reduction in greenhouse gas emissions through optimised waste management. Increased recycling and energy recovery, contributing to less dependence on raw materials and fossil fuels.	Incl.
142	Compensation: How, why, when? Achieving Net Zero in Differdange by 2030. (2025)		Ecological service EVERARD Consulting & Communication	Offsetting programs, capture greenhouse gases, aligning Differdange with its carbon neutrality goals for 2030.	Incl.
143	Mobility II: Let's reinvent mobility! (2025)		Ecological service EVERARD Consulting & Communication	Reduced greenhouse gas emissions through increased use of public transport, bicycles and pedestrian lanes. The new mobility policies will	Incl.

				have helped to reduce the carbon footprint of daily travel.	
144	Zukunftswerkstatt - Workshop of the future: All together towards a net-zero future! (2025-2026)		Ecological service EVERARD Consulting & Communication	Significant reductions in CO2 emissions through supported community projects such as energy renovation, the adoption of renewable energy, and sustainable mobility practices.	Incl.
145	Mobility: online survey (2024)		Ecological service EVERARD Consulting & Communication	Reducing congestion and optimising routes, leading to lower fuel consumption and CO2 emissions.	Incl.
SI 2 – Awareness raising					
146	Waste: awareness on the ground (2024)		Ecological service EVERARD Consulting & Communication	Raising citizens' awareness of the problem.	Incl.
147	Museum of Waste (2024)		Ecological service	Raising citizens' awareness of the problem.	€6,000
148	Participatory budgets		Communal Council	Raising citizens' awareness of the problem.	€50,000 / per project
SI 3 - Communication					
149	Dedicated website - Creation of a landing page dedicated to the project (2024) - www.netzero2030.lu		Ecological service Media and Communication Service EVERARD Consulting & Communication	Increased adoption of recommended sustainable practices through the site, leading to reduced emissions through improved information and awareness.	€10 000

150	Development of a dedicated website listing all the projects selected in the action plan (2024-2025)		Ecological service Media and Communication Service EVERARD Consulting & Communication	Reduced emissions through better project coordination and effective implementation based on improved access to best practices and technologies shared on the site.	€40 000
151	Website of the City of Differdange - Content creation for the official website of the City of Differdange (www.differdange.lu)		Ecological service Media and Communication Service EVERARD Consulting & Communication	The city site has a larger reach than the dedicated site in the early years.	
152	Social media - Use of Facebook and Instagram accounts of the City of Differdange		Ecological service Media and Communication Service EVERARD Consulting & Communication	Awareness and information of citizens on the progress of the mission and the issues and challenges of the city.	
153	Sending press releases		Ecological service Media and Communication Service EVERARD Consulting & Communication	Increased adoption of recommended sustainable practices through the site, leading to reduced emissions through improved information and awareness.	
154	Interviews with journalists		Communal Council	/	



155	Monthly magazine of the City of Differdange. Articles about the mission in each edition.		Ecological service Media and Communication Service EVERARD Consulting & Communication	Creation of an image of the mission and increase of the notoriety of the municipality. Raising citizens' awareness of the problem.	
SI 4 – EU Projects					
156	ClimaBorough		Ecological service	Decarbonisation of energy production. Raising citizens' awareness of the problem.	€400 000
157	Heat bridge		Ecological service Technical Service - New Works and Maintenance	Decarbonisation of heating.	

7 Outlook and Next Steps

As Differdange moves forward with its Climate City Contract, the focus will pivot towards the effective implementation of the strategies outlined in the plan. Here's an overview of the next steps and key areas of activity that Differdange will prioritize:

1. Portfolio Management and Execution: Differdange will set up a process to transition its portfolio of climate actions from planning to execution. This framework will facilitate various activities, such as stakeholder engagement, creation of synergies, and continuous learning, while catering to a diverse range of projects, if they are early-stage or mature, city-led or ecosystem-led. In Differdange, the meticulous implementation of the City Climate Contract, as mandated by the European Commission, involves a well-defined strategy to shift the city's climate action portfolio from planning to execution. At the core of this strategy is the establishment of a transition team that meets weekly, supported by EVERARD Consulting & Communication. This team is essential for monitoring the progression of various climate actions, ensuring they align with the city's strategic objectives.

To enhance transparency and public involvement, a comprehensive website will be launched in the first half of the year. This platform will serve as the informational hub for all climate actions, offering citizens detailed insights into the planning and execution phases, the stakeholders involved, and regular updates on each project's status.

A significant aspect of the city's strategy involves a major stakeholder engagement event aimed at encouraging stakeholders to pledge active participation in implementing the climate actions. This event is designed to facilitate networking, build partnerships, and foster a collaborative atmosphere among all parties involved.

Moreover, Differdange is committed to harnessing local expertise by collaborating with various associations, clubs, and commissions. This approach aims to integrate community insights into the execution of climate strategies, thus ensuring that the actions are relevant and impactful. Engaging local entities not only strengthens community ties but also promotes a collective effort towards achieving the city's ambitious environmental goals.

The transition framework also incorporates mechanisms for continuous learning and adaptation, allowing the city to evaluate the effectiveness of the actions implemented and make necessary adjustments based on stakeholder and community feedback. This adaptive management process is vital for addressing evolving environmental challenges and ensuring the sustainability of the initiatives.

Through these comprehensive steps, Differdange is demonstrating a proactive and structured approach to environmental stewardship, actively involving its citizens in the transformation process, and setting a robust foundation for achieving its goal of carbon neutrality by 2030. This strategic framework highlights Differdange's commitment to effective management practices and its dedication to leading by example in sustainable urban development.

2. Catalyzing Investment: To back the implementation effectively, Differdange plans to deepen its engagement with the financial sector and the national government to unlock necessary investments. This may include developing new financial tools or infrastructures like a city fund, enhancing skills in climate finance, building robust business cases, and fostering collaborations with other cities to exchange best practices.

To effectively back the implementation of its climate actions, the city of Differdange is focusing on catalyzing investment by deepening its engagement with both the financial sector and the national government. The city is poised to unlock the necessary investments through a series of strategic initiatives, which may include developing new financial tools or infrastructures like a dedicated city fund tailored to support environmental initiatives. These efforts aim to enhance the city's capabilities in climate finance and involve constructing robust business cases to attract further funding.

A key strategy involves fixed meetings with prominent government officials, including the minister for the environment and the minister for the economy, alongside engagements with other governmental institutions throughout 2025. These discussions are crucial for aligning municipal climate goals with national priorities and resources. Moreover, Differdange has appointed a specialist skilled in navigating European funding calls. This expert's role is pivotal in leveraging European funds that align perfectly with the city's climate initiatives, ensuring that Differdange is a competitive participant in relevant EU consortium calls.

Additionally, the city is exploring innovative financing options like issuing local CO2 Bonds. These bonds are designed to attract investment by offering a financial return while simultaneously funding local climate actions. The proceeds from these bonds will directly support the city's sustainability projects, demonstrating a practical approach to local investment in climate solutions.

Collaborations are being strengthened not only locally with the multi-municipality syndicate Pro-Sud but also across borders with the TNT syndicate, enhancing regional cooperation on environmental initiatives. Furthermore, when the conditions are favorable, Differdange plans to engage with the "Bankers without Boundaries" initiative to explore additional funding opportunities that could span several years.

These comprehensive measures illustrate Differdange's proactive approach to securing the financial support necessary for the successful execution of its ambitious climate action plan. By building partnerships, enhancing financial acumen, and innovating in municipal financing, Differdange is setting a strong foundation for achieving its target of becoming a carbon-neutral city by 2030.

3. Governance and Capacity Building: Alongside portfolio management and investment strategies, Differdange will strengthen its governance structures related to the Mission. This might involve forming a hybrid team combining city and ecosystem capacities and expanding resources to support the Climate City Contract's objectives.

To strengthen its governance and capacity building in alignment with the Climate City Contract, the city of Differdange is undertaking a comprehensive review of its internal organizational structures. This review is aimed at optimizing the implementation of climate actions, ensuring that administrative processes are streamlined and free from departmental frictions and bottlenecks. Given the small size of Differdange's administration, which operates with a limited number of staff, the smooth functioning of workflows is particularly crucial.

To facilitate this optimization, Differdange has engaged an external consultancy firm to conduct an in-depth analysis of the city's organigram and hierarchies. This external perspective is intended to identify inefficiencies and propose a more effective organizational structure that can support the ambitious goals of the Net Zero Cities Mission without overwhelming the existing administrative capacity.

In parallel with these structural adjustments, Differdange is expanding its team dedicated to managing EU projects, reflecting a proactive approach to harnessing European funding opportunities and expertise. This team will play a pivotal role in navigating the complexities of EU grant applications and managing funded projects effectively.

Furthermore, the city is actively reaching out to various community groups, including different diasporas and local commissions, to ensure broad community engagement and input into the climate action plans. By involving diverse stakeholders, Differdange aims to foster a more inclusive and committed approach to its sustainability goals.

Once the analysis by the external firm is complete and the internal adjustments are made, the city will be in a better position to determine the need for and the structure of a hybrid team. This team would ideally combine the strengths and capacities of both the city's administration and external ecosystem partners to enhance the governance of climate actions, ensuring that Differdange can meet its objectives efficiently and effectively.

This comprehensive approach to governance and capacity building is critical as it not only aligns with the strategic needs of the Climate City Contract but also ensures that Differdange can sustainably manage and execute its climate initiatives, ultimately transforming the challenges of climate change into opportunities for urban development and community resilience.

4. Monitoring Commitments: Differdange intends to establish mechanisms to ensure transparency and accountability in tracking the commitments made under the Climate City Contract. Plans include setting up a public inventory of commitments, a reporting system, and a forum for peer accountability, supported by social and digital tools.

These mechanisms will be defined in the course of 2025 within the team that pilots the mission in Differdange.

5. Outreach to Citizens: A public campaign will be launched to raise awareness about the Climate City Contract, aiming to reach a broader demographic. This will complement ongoing civic engagement efforts that involve citizens in various actions within the portfolio.

Differdange is advancing its outreach to citizens by launching a comprehensive public campaign aimed at raising awareness about the Climate City Contract and its significance. This campaign is designed to engage a broader demographic, enriching the city's ongoing efforts to involve the community in various sustainability actions outlined in the portfolio.

The campaign kicked off with an innovative initiative called the "Musée du déchet" created in collaboration with a third party. This museum serves as an educational platform where citizens and school groups can learn about the impacts of waste firsthand, making the consequences of everyday consumption more tangible and immediate.

In addition to this educational exhibit, Differdange has scheduled five significant dates for civic participation workshops throughout 2025, each focusing on different aspects of sustainability:

- April 26th, 2025, will concentrate on energy-related topics.
- June 8th, 2025, will address issues related to mobility.
- November 15th, 2025, will be dedicated to waste management. Furthermore, during the "Festival des cultures" on May 17th and 18th, 2025, a broader, culturally enriched workshop will take place, integrating diverse community insights into sustainability discussions.

The city is also planning to collaborate with the Center for Ecological Learning Luxembourg (CELL) to implement the concept of the "Assises du climat," a large-scale workshop-based procedure designed to deepen community involvement and commitment to the climate goals. The dates for these significant events are yet to be determined.

The Media Department of Differdange is intimately involved in these processes, strategically planning the best methods to communicate the mission's objectives and progress. This department's involvement ensures that the outreach efforts are not only informative but also resonate with the community, encouraging active participation and fostering a sense of ownership and responsibility towards the city's environmental goals.

Overall, these initiatives reflect Differdange's proactive and inclusive approach to governance and community engagement, crucial for meeting the ambitious targets set by the Climate City Contract. By integrating educational programs, collaborative workshops, and strategic communication, Differdange is effectively mobilizing its citizens to transform environmental challenges into opportunities for sustainable development.

In essence, these steps are designed to build and sustain support for the Mission, ensuring that Differdange not only meets its climate goals but also fosters a resilient, inclusive, and sustainable urban environment. Future iterations of the Climate City Contract will evolve as the city gains new insights from the implementation phases and as more stakeholders join the initiative.



Climate City Contract

2030 Climate Neutrality Investment Plan

2030 Climate Neutrality Investment Plan of the City of Differdange



Ville de
Differdange

V2.1

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Document history			
Date	Version	Author	Changes
January 2023	V1	BwB	/
June 2023	V2	BwB	The template was amended to include a front-page note 'The IP template is to be followed closely, and cities should fill in every section to the level of detail that they have, remaining mindful of the CCC Checklist and guidance documents. If it is not possible to complete a section, please state why it cannot be filled out.'
November 2023	V2.1	BwB	<p>The template has been amended based on the experiences of Window 1 and Window 2 cities, with input from City Advisors, consortium partners, the European Commission and the EIB.</p> <p>Headline changes to the document include the introduction of tables 1, 7, 8 and 15 to provide more granular detail on the city's climate action history and prospective investments. Table guidelines have been provided for all tables to provide clarity on what data is required, and a task goal for each task identifies the key outcomes of each task within the IP.</p>



The IP template is to be followed closely, and cities should fill in every section to the level of detail that they have, remaining mindful of the CCC Checklist and guidance documents. If it is not possible to complete a section, please state why it cannot be filled out as opposed to leaving the section blank.

Given sections of the Investment Plan require insight into municipal budgets and the forecasted costs of climate actions, it is recommended to share this resource with the municipal Finance or Treasury teams as soon as possible to begin work on the document (particularly A1, A2, B1, B2 and B3).

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Glossary of Terms

Acronym	Description
AP	Action Plan
IP	Investment Plan
KPI	Key Performance Indicator
MEL	Monitoring Evaluation & Learning
MRV	Monitoring Reporting Verification
WP	Work Package

1 Part A – Current State of Climate Investment

Part A 'Current State of Climate Investment' is the **structural element** of the climate neutrality investment plan, putting the basis for the development of the plan through a detailed-oriented evaluation and assessment of the city's existing financial policies and funding/financing activities.

1.1 Module IP-A1: Existing Climate Action Funding and Financing

This section represents the initial step of the 2030 Climate City Investment Plan and will require an evaluation and assessment of previous and existing funding and financing for climate activities by field of action. The purpose of this task is to assess the city's history of climate actions to date – including past failures and successes – to establish the baseline for climate actions in the future. These past actions should be broken down to the project level where possible and grouped as per the fields of action identified in the Action Plan. A full breakdown of historic climate initiatives and their financing is recommended, including historic budget data for the past 3–5 years.

Task Goals: *This task will help the city to collate all historical climate actions and initiatives – assessing previous successes and any issues that arose. By establishing a baseline for climate action, the city can then track their future development and the implementation of their Climate Action and Investment Plans.*

Model IP-A1

Guiding questions:

- Have you already engaged in climate budgeting and – if so – what is the city's historical track record with climate actions and projects?
- Do you have sufficient data on each field of action and is data collection carried out internally within the finance department?
- Has the city engaged in any PPPs or has there been any significant private sector engagement in recent years, and what is the current status of these projects? If not, why not – is this a political or regulatory hurdle?

A-1.1: Textual Element

Historically, Differdange has embarked on multiple climate initiatives, though it lacked a designated climate budget until the establishment of the 'Service écologique.' Prior to this, climate-related actions were incorporated into the broader activities of other departments such as Energy, Urban Planning, and Mobility, reflecting a growing recognition of the need for directed climate adaptation and neutrality efforts. The centralization of climate action within the 'Service écologique' marked a pivotal shift towards more structured and focused climate budgeting and project implementation.

Regarding data availability and financial tracking, the city admits to gaps in its historical data collection. This shortfall is primarily attributed to a lack of manpower within the finance department, coupled with the absence of established procedures and tools for thorough data collection and analysis. While some data has been gathered and will be incorporated into the financial plan, ongoing efforts are needed to enhance data management capabilities to support more effective climate action planning and monitoring.

In terms of public-private partnerships (PPPs) and private sector engagement, Differdange has initiated several projects with varying degrees of success. The city's political and regulatory environment is generally conducive to such partnerships, indicating a readiness to support and expand these collaborations. Recent engagements in PPPs demonstrate a proactive stance in leveraging private sector capabilities and resources to advance climate goals, reflecting a strategic approach to fulfilling the city's climate commitments.

The current status of these projects varies, with some advancing towards implementation and others in the planning stages. Each project under these partnerships is being closely monitored to ensure alignment with the broader objectives of Differdange's climate action plan. The city remains committed to refining its approach to PPPs, learning from experiences to optimize future collaborations.

Overall, Differdange is actively working to strengthen its climate action framework by enhancing financial policies, improving data collection and management, and fostering private sector involvement. By addressing these

foundational elements, the city aims to establish a robust baseline for monitoring, evaluating, and learning from its climate initiatives, ensuring the effective implementation of its Climate Action and Investment Plans going forward.

*Table 1 Guidelines: Please provide municipal budget data for the past five years from baseline (the most recent budgetary year) – **this should be the approved budget for the current year and the real expenditure for the previous four years**. If the city has a split operating/current expenditure and capital expenditure identified in their budget, please include both. As a minimum, please include city budget data, but consider also adding the budget for municipally-owned companies and clearly distinguishing where this is the case via an extra row.*

Table 1: Historical Municipal Budget and Budget for Climate Actions

Budget Data	2021	2022	2023	2024	2025
Municipal Budget (€)	166.183.953	203.595.639	223.337.625	290.653.189	243.725.621
Municipal Budget for Climate Actions & Projects (€)	N/A	N/A	13.329.889	15.701.881	17.926.000
% of Municipal Budget for Climate Actions & Projects (%)	N/A %	N/A %	5.97%	5.4%	7.35%

Table 2 Guidelines: Please provide historical budget data for all climate actions and projects that the city has undertaken in the past three years from baseline (the most recent budgetary year). Please provide some indication in the textual element as to the requirements for projects to be considered as a climate action (for example, following the EU Taxonomy for Sustainable Finance). This should be in € as well as % of overall budget.

Table 2: Finance Sources by Field of Actions, for Years 2023 to 2025

Fields of Action	Sector Subsection	Budget Allocation for Climate Actions and Projects		
		2023	2024	2025
Transportation	Public transport	€5,448,189	€7,835,000	€6,585,000
	Cycling	€205,000	€368,000	€275,000
	Car (motorized transportation)	€887,101	€1,451,676	€2,695,000
	Soft mobility	€116,956	€420,000	€817,000
Built Environment	Subvention résident	€174.000	€200.000	€200.000
	CO1 Local offsetting	€36,589	€12,098	€80,000
	Public Buildings	€1.500.000	€1.500.000	€1.500.000
	UP1 Private buildings	€86,378	€115,238	€115,000
Energy Systems	Cogénération exploitation	€730.000	€1.130.000	€1.130.000
	Pacte climat	€71.955	€285.000	€365.000
	Éclairage urbain —transition vers un éclairage LED intelligent			€600.000
	Chauffage bois combustible	€600.556	€430.000	€535.000

	<i>Projet géothermie</i>			€700.000
	<i>Étude netzero</i>	€56.876	€183.123	€130.000
	<i>Projet chauffage ancien hôpital</i>		€100.000	
	<i>Amélioration de l'efficacité du parc immobilier et centrale énergie</i>	€11.277	€165.000	€620.000
Green Infrastructure and Nature Based Solutions	<i>MS2 Decarbonization/Green areas</i>	€414,359	€291,435	€545,000
	<i>UP2/CA2 Urban Spaces/Natural public squares</i>	€2.969.492	€1.106.365	€891,000
Waste and Circular Economy	<i>Studies linked to the circular economy</i>		€70,000	€35,000
	<i>Food waste reduction</i>	€14,661	€32,446	€66,500
	<i>Waste quantity reduction</i>			€35,000
	<i>Improving the efficiency of waste processing</i>	<i>Data will be delivered ASAP by Ms Elke Peterhansel and M. Kai Lacour</i>		
	<i>Circular economy</i>	<i>Data will be delivered ASAP by CIGL</i>		
	<i>Organizational optimization</i>	€500	€500	€500
	<i>Littering</i>	€6,000	€6,000	€6,000
Total in €		€13.329.889	€15.701.881	€17.926.000

1.2 Module IP-A2: Strategic Funding and Financing Evaluation

This section requires an evaluation of the city's existing financial policies to understand how they are currently managing the capital allocation towards climate neutrality. This will include strategies in place and what the city has at its disposal to facilitate the transition. **The form of capital it has access to and which are specific to their climate neutrality targets should be identified, and the current debt level of the city and any legislative requirements for new debt issuance should be outlined**

Task Goals: *By identifying the existing income and capital sources to the city – as well as potential for future capital sources – the city can start to identify ways to fund the climate actions and initiatives identified within the Climate Action Plan.*

Model IP-A2

Guiding questions:

- Do you have a clear overview of public sources of capital as well as private funding and financing sources? If yes, how detailed and accurate is it?
- To which aspects of this module does the municipality have the internal capacity to delve into detail on? Given some of these sources of finance may be combined to deliver on actions and priorities defined in the Action Plan.

A-2.1: Textual Element

Regarding public and private sources of capital, Differdange has a robust understanding of its own budgeting practices and the evolution of its fiscal resources. The city confidently navigates state subsidies, which, although requiring initial capital outlay from the municipal coffers, are reimbursed subsequently, providing a predictable flow of capital back into the city's finances. This familiarity extends to European Union project financing, where the parameters are well-defined, enabling the city to participate actively in new calls with a clear expectation of financial management.

However, **when it comes to engaging private sector financing, the city acknowledges a gap in detailed and actionable knowledge. The strategic decision has been thus to prioritize projects within the municipal budgetary constraints, focusing predominantly on operational expenditures that do not necessitate additional outlays beyond the salaries already accounted for in the regular city budget.** This approach ensures that many of the climate action initiatives **can proceed without necessitating additional funding**, minimizing financial risk and dependency on external capital sources.

As for the internal capacity to delve into detailed financial analysis and planning, Differdange faces challenges primarily due to limited manpower and the breadth of data required to fully leverage all potential sources of finance, particularly in combining different financing streams to support defined actions in the Climate Action Plan. Currently, **the city does not have a comprehensive system in place to thoroughly track and analyse this level of detailed financial data across various funding sources. This limitation is recognized as a developmental area, and efforts are planned to enhance financial data collection and analysis capabilities in future iterations of the financial plan.**

In summary, while Differdange has a good grasp on managing its public financing and navigating known funding mechanisms, it acknowledges the need for improved internal capabilities and data availability to better integrate and leverage both public and private financing for its climate initiatives. This ongoing development will be crucial as the city seeks to expand its actions under the Climate Action Plan and ensure sustainable funding and financing mechanisms are in place to support these initiatives over the long term.

Table 3 Guidelines: Please identify and list all recurring city income sources for the city (e.g. local taxation revenue, deferred funding from the national or state level, profits generated by municipally-owned companies).

Table 3: List of Income Sources for the City

Income Category	City income	% of city budget
Source of City Income
Fonds de dotation (FDGC)	140.592.000	48,37 %
Services eau, canal, énergies, poubelles	20.000.000	6,88 %
Loyer et vente terrain	11.200.000	3,85 %
Participation État infrastructures	43.000.000	14,79 %
Taxes, subvention	11.000.000	3,78%
Participation, État fon. MR et commune	18.000.000	6,19 %

Table 4 Guidelines: Please identify and list all extraordinary capital sources for the city (e.g. EU grants and funding, loans from organizations like the EIB or Municipal Banks, PPPs). Give details as to when the capital was granted to the city, how much of it is left, and any specific projects to spend it.

Table 4: List of Capital Sources for the City

Type	Size Range	Level	Description
<i>Source of Capital</i>	<i>Quantum of Capital Accessible to the city through this source</i>	<i>Private or Public</i>	<i>(Description of capital sources e.g. cost & provider)</i>
Projet Interreg NWE – STEER (2024-2028): ...	Differdange Maximal Eligible Budget: 249.148,27 No money has been received yet.	Public	Total Project Budget : €4.261.570,82 Total EU funding : €2.556.942,00 ...
Projet Interreg NWE – Cool Neighbourhoods (2023-2027):	Differdange Maximal Eligible Budget: 98.132,80 No money has been received yet.	Public	Total Project Budget : 9.332.843,55 Total EU funding : 5.599.706,13 Differdange Maximal Eligible Budget: 98.132,80
Project Horizon Europe Climaborough (2023-2026):	Differdange Maximal Eligible Budget: € 403 750,00 No money has been received yet.	Public	Total Project Budget : € 11 408 458,75 Total EU funding : € 11.037.882,75
Just Transition Fund (Decarbonisation avec la géothermie):	€1.978.000 euros No money has been received yet.	Public	The Just Transition Fund (JTF) is an EU initiative aimed at mitigating the socio-economic impacts of the transition to a carbon-neutral economy. With €19.2 billion allocated for 2021-2027 , it supports regions heavily reliant on carbon-intensive industries through economic diversification, workforce reskilling, and infrastructure investments. Geothermal energy is a key solution within this transition, offering a stable, renewable energy source for heating, cooling, and electricity

			<p>production. The JTF can fund geothermal projects by supporting SMEs, financing infrastructure, and fostering skills development. Former mining and industrial sites can be repurposed into geothermal hubs, driving local innovation and energy independence.</p> <p>To maximize impact, local authorities must align projects with JTF sustainability criteria, focusing on environmental and social benefits. The fund provides an opportunity to scale geothermal energy while fostering regional economic revitalization.</p>
Loans	48.068.000	Private	Banque d'épargne de l'état – Spuerkees. This is the loan the city has.
Total in €	50.797.031,07 €		

1.3 Module IP-A3: Barriers to Climate Investment

This section requires evaluation and identification of the range of structural, policy, economic, and financial barriers for capital deployment in support of climate action.

Task Goals: *By listing the current barriers to climate investment, cities can start to identify solutions to overcome these barriers and facilitate further capital flows. This could involve collaborating to enact new policy, or identifying external stakeholders that can help to overcome structural and financial barriers.*

Model IP-A3

Guiding questions:

- How is internal capacity considered to be a barrier? Are barriers able to be overcome and if so, what solutions are available?
- For which of the identified barriers, do you need support from the Mission Platform?
- For which of the identified barriers can other stakeholders provide support?

A-3.1: Textual element

The City of Differdange acknowledges the challenges in evaluating and identifying the structural, policy, economic, and financial barriers for capital deployment in support of our climate action initiatives. **At this stage,**

we face significant constraints due to limited internal capacity and the absence of comprehensive data necessary to fully articulate these barriers.

Differdange, being a smaller municipality, **does not currently possess the extensive manpower required to produce detailed analyses or develop extensive financial data that might illuminate the pathways to overcoming these investment barriers.** This limitation is largely structural, stemming from the city's modest administrative scale and resource allocation, which prioritizes immediate operational demands over expansive strategic planning.

Moreover, **the process of engaging with external stakeholders and formalizing their involvement is scheduled for 2025. Until these collaborations are officially underway, the city lacks the broad-based stakeholder input that could potentially identify and address specific investment obstacles.** The anticipated cooperation with these external entities is expected to enhance our understanding and capacity to dismantle these barriers.

In light of these circumstances, Differdange seeks understanding and patience from the Mission Platform. **We are committed to progressing in our climate action efforts and will integrate the identification and analysis of investment barriers in future iterations of our financial plan.** For the present, our main challenge remains the scarcity of manpower, which affects mostly this aspect of our climate mission and not the broader spectrum of activities required to achieve our environmental objectives. After all, most of the actions will be financed by the city itself and many others will be implemented with the help of the national government that offers fixed subsidies for specific actions. These state participations have been taken into account by the city during the planning phase of the action plan, as you could see in the original document. Few actions are depending on third parties, such as stakeholders, but even here, the city is confident to find the funds.

Despite these challenges, the commitment within our municipal departments and political leadership to the climate mission is unwavering. The city is actively exploring solutions to bolster our internal capacities, potentially through partnerships or by securing external support that could provide the necessary expertise and resources. We anticipate that future collaborations, as part of the Mission Platform and with other stakeholders, will enable us to overcome these barriers and facilitate the capital flows essential for our climate initiatives.

Table 5 Guidelines: Please provide an exhaustive list of all barriers to climate investment and any potential solutions (including the stakeholders involved) to overcome these barriers.

Table 5: Barriers to Climate Investment

Financial Barriers to achieving Climate Neutrality	Typology of Barrier	Description	Sector and stakeholders involved
Internal Capacity Limitations	<i>Structural/Financial</i>	Limited financial resources for hiring and training personnel with expertise in climate finance, project management, and technical implementation hinder the ability to secure and manage climate investments effectively. This leads to missed opportunities for funding and inefficient use of existing resources.	Local government, municipal financial departments, climate advisory bodies, Mission Platform for capacity building.
Complex Legislation and Bureaucratic Procedures	<i>Policy/Financial</i>	Regulatory complexity increases compliance costs and delays investment in climate initiatives. Lengthy approval processes, permitting, and interdepartmental	National and regional regulatory bodies, municipal governments, investors, legal advisors.

		misalignment create financial burdens that deter private investors and increase project risk.	
Funding and Financial Constraints	<i>Financial</i>	Municipal budgets often prioritize essential services, leaving limited funds for climate projects. Dependence on state and EU funding makes financing unpredictable, while limited access to alternative financing mechanisms such as green bonds or climate funds constrains investment capacity.	Municipal government, financial institutions, private investors, EU funding bodies, Mission Platform for financial innovation.
Stakeholder Engagement Challenges	<i>Structural/Financial</i>	Limited financial resources are allocated for stakeholder engagement activities, which results in a lack of private sector participation and missed co-financing opportunities. Insufficient engagement with businesses and citizens can lead to low adoption rates for climate projects. Budget always has to be voted One year in advance. This makes the process unflexible.	Local businesses, financial institutions, NGOs, community organizations, public-private partnerships.
Technological Limitations and High Initial Costs	<i>Economic/Financial</i>	High upfront costs of innovative climate technologies (e.g., renewable energy, energy efficiency, waste management systems) deter investment. Lack of financial incentives or risk-sharing mechanisms further discourages early adoption and pilot programs.	Private sector, technology providers, venture capital, research institutions, EU funding programs.

Public Perception and Cultural Resistance	<i>Social/Financial</i>	Financial concerns related to climate action (e.g., increased costs for businesses, potential economic disruptions) lead to resistance from the public and local industries. Without sufficient funding for public awareness and transition support programs, climate policies may face opposition, reducing investment attractiveness.	Municipal authorities, community leaders, businesses, citizens, educational institutions, Mission Platform for communication strategy development.
Risk Aversion in Private Investment	<i>Economic/Financial</i>	Climate projects often require long-term capital investments with uncertain returns, making them less attractive to traditional investors. The perceived risk associated with innovative solutions, regulatory changes, and evolving market conditions leads to reluctance from financial institutions and private investors. A lack of financial instruments such as risk guarantees, blended finance, or concessional loans further discourages private sector involvement.	Private investors, financial institutions, municipal and national governments, development banks, Mission Platform for investment de-risking mechanisms.
Fragmentation of Climate Funding Sources	<i>Financial/Structural</i>	Climate investment relies on multiple funding streams from municipal budgets, national programs, EU funds, and private investments, which are often uncoordinated. This fragmentation creates inefficiencies in accessing and utilizing financial resources, leading to missed opportunities and delays in project implementation. A lack of centralized financial	Municipal financial departments, EU funding bodies, private sector, investment funds, Mission Platform for financial coordination and strategy development.



		planning and management reduces the ability to strategically align funding with long-term climate objectives.	
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Given this context, Differdange currently lacks the detailed budgetary framework that would allow for comprehensive long-term cost projections as required in Table 6 of the Climate Neutrality Action Plan. Specifically, the city does not employ a standardized costing methodology, nor does it engage in macroeconomic forecasting or detailed capital expenditure planning (capex) on a project-by-project basis that could provide the level of detail expected for implementation costs or operational expenditures over a multi-year timeline.

Moreover, the municipal team, while highly motivated and committed to achieving the city's climate objectives, does not include specialists in complex financial modelling or cost-effectiveness analysis. As a result, Differdange is not equipped to calculate the direct impacts on CO₂e reduction per annum or to monetize the co-benefits of the proposed climate actions through the period up to 2030.

In recognizing these challenges, Differdange is actively seeking support from external partners and the Mission Platform to enhance its capacity in this area. The city welcomes guidance and collaboration that can help bridge the gap between its current financial planning capabilities and the detailed requirements of the Investment Plan. This collaboration could include assistance in developing a suitable costing methodology, training for staff on economic forecasting, and strategic advice on integrating more detailed financial planning into the city's budgetary processes.

As we move forward, Differdange remains committed to transparency and responsible fiscal management. We intend to refine our budgeting approach to include more detailed financial planning as our capacity develops, ensuring that we continue to advance towards our climate neutrality goals responsibly and effectively.

*Table 6 Guidelines: Please provide a breakdown of all the anticipated costs of the climate actions identified in the Action Plan – **it is encouraged that this covers the period from the present day to 2030**. In each instance, please provide the absolute capex and operational costs. Implementation Costs/Capital Expenditure is the cost to develop and implement the project. Operational Expenditure is the expected annual running costs of the project once completed or operational (include annual costs and any cost savings from the project). Direct Impacts is, in this case, the CO₂e reduction per annum forecasted by the project, and the indirect impacts are ideally the monetized co-benefits (or a qualitative assessment).*

To support the analysis below, please provide a methodology and all assumptions for your workings as an annexe. This should include unit costs benchmarking, a baseline year for cost estimates and the methodology for both direct and indirect benefits of GHG reduction.



Table 6: Sectorial Costing

*Differdange's situation is that the territorial proportions are 1/3 industry, 1/3 AFOLU and 1/3 city. **95% of emissions are created by the industry**, where we do not have a hand on – and we do not have the full data concerning those emissions. The utilization of the NetZeroPlanner was therefore no option for the city since the data requested to allow for the calculations are yet to be compiled and are not available at this point. This renders the calculations requested in table 6 impossible. Nevertheless, we calculated to the best of our capacities.*

Field of action	Action/Indicator	Implementation Costs/Cap x	Operational costs	Direct impacts*	Cost effectiveness ¹	Indirect impacts (co-benefits)
Waste management and circular economy						
WM 1 Food waste reduction						
1	Food Council (governance)		€5,000/year	Awareness raising with the citizens, development of ideas to better waste management.		Food council can influence policies that lead to GHG reductions.
2	Intelligent waste bins in public kitchens.		€15,000/year	Up to 50% food waste reduction.		Raising awareness among chefs and kitchen staff, as

¹ N/A



						well as at a political level. Communication with the public too.
3	Production of local vegetables			Determine the amount of GHG per tonne of imported vegetables and subtract it.		Better, healthier food, a reduction in greenhouse gas emissions linked to logistics, job creation, raising awareness among the general public and civil servants alike.
4	Idea: Category: Conservatories			Preservation of local products.		Impact positif sur la santé des citoyens.
5	Idea: Ground fridge	€15,000		Energy savings and bulk purchase of vegetables.		Energy savings and bulk purchase of vegetables.
6	Idea: Food sharing fridge			Reduction of food waste – reduction of carbon footprint and reduction of organic waste.		Savings for citizens.
7	What food when? – Campaign			Scope reduction 2.		Better, healthier, seasonal food,



						raising awareness among the public and civil servants alike. Savings thanks to lower prices for seasonal vegetables.
8	Workshops on food waste			GHGs are reduced through a deeper understanding of food waste – non-quantifiable.		Improving public health.
9	Where does the food come from?			GHGs are reduced through a deeper understanding of food production – non-quantifiable.		Improving public health.
WM 2 Reducing the volume of waste						
10	Taxes on waste			Reduction of the overall mass of waste.		The municipality's revenue will increase in order to cover part of the costs associated with waste management. In the case of waste reduction, the number of collection



						rounds could be reduced and GHGs in relation to lorries will decrease. Litter may appear.
11	Adaptation of the recycling park	€300,000		Reduction of the overall mass of waste. Improved waste quality at the recycling park.		Redirecting waste to take-back firms for waste from professional construction sites. The service to the recycling park should improve for citizens through the reduction of professional waste.
12	Repair Cafés			Reduction of GHGs that correspond to the tonnage emitted during production emitted during the production of products.		Education leading to a better understanding of how to repair products. The social cohesion aspect.
13	Idea: Sharing platform			Reduction of GHGs that correspond to the tonnage		



				emitted during production emitted during the production of products.		Saving money.
14	Awareness-raising campaigns in close collaboration with national institutions.			Fewer GHGs due to reduced waste volume.		Increased granularity of waste production data across the City and the possibility of carrying out targeted campaigns in these neighbourhoods.
15	Distribution of plates, cutlery and the reusable dish to each inhabitant		€50,000/per year	Reduction of packaging waste.		Reducing the materials needed for festivities.
16	Implementation of a deposit system in the gastronomy sector and public festivities at ProSud level	€75,000		Reduction of packaging waste.		Reducing the materials needed for festivities.
17	Idea: Waste locks in residential buildings.		€20,000/per year	Fewer GHGs due to reduced waste volume.		Moins de camions, moins de poids. Meilleure qualité des déchets.



18	Idea: Waste compactors			GHG reduction due to reduced touring. Indeed, the garbage cans will not have to be emptied ten times less often.		Reducing truck mileage.
19	Idea: Garbage fill-level sensors	€20,000		Reduction of the overall mass of waste.		Reducing truck mileage.
20	Second-hand store in the recycling park			Reduction of the overall mass of waste.		A place for awareness-raising and social exchange
WM 3 Improving the efficiency of waste processing						
21	Sidor			Substitution of imported energy		ROI
22	Idea: Sidor – installation of a hydrogen station next to the incineration site			Negligible		Raising awareness of the issue – changing the fleet of refuse collection lorries nationwide.
23	SuperDrecksKëscht – problematic waste management			Reducing the carbon footprint of problematic waste.		Change of mentality. Potential savings. Recycling of materials.
24	Valorlux – a non-profit association entrusted by the State with the			The weight of packaging has already decreased since the beginning of this reflection.		Change in consumer mentality



	management of packaging waste (PMC) and cigarette butts			Less fuel needed for logistics and less material needed for packaging production.		towards buying products in bulk.
25	Minett Kompost – Optimization			Reduction of GHGs directly proportional to the amount of methane avoided and recovery leading to a substitution of fossil fuels and carbon sequestration in compost.		ROI — CO2 certificates?
26	Introduce a system of instructions on packaging			Reduction of GHGs directly proportional to the recycling rate.		Notoriety for the town of Differdange.
27	Béckléck – use of trees felled by storms and condemned to decay in the forest.			Carbon-neutral energy production.		Job creation, promoting the forest and Ardennes horses. Marketing opportunities.
28	SIACH			Reduction of GHGs directly proportional to the amount of methane avoided. Reduction of GHGs due to better treatment of sewage waste.		Improved water quality in the Chier. Expansion of existing heat recovery system (heating of buildings).
29	Ecotrel			Avoiding the production of recovered products in the circular economy. GHG		Raising awareness of the subject and



				savings due to reduced logistics distances.		the social aspect.
30	Recycling through Arcelor Mittal – e.g. scrap, tyres, aluminium			Huge GHG reduction potential.		The VDD will benefit from Arcelor's energy transition and use of hydrogen (located on the pipeline route).
31	EcoTec – Wood recycling through Kronospan			Recycling of wood waste.		Material and energy substitution at the Kronospan production facility.
32	EcoTec – Cumbersome waste sorting			GHG reduction potential due to increased recycling quotas.		Various channels could pay for themselves and even generate profits, making recycling less expensive.
33	EcoTec – Management of the recycling park			Substitution of materials put back into the production cycle through recycling.		Changing attitudes and promoting the recycling park as a place to meet and organize services such as Repair Cafés, etc.



34	Benjeshecken – Recovery of green waste in situ			Economics of transport and fossil fuels.		Creation of biotopes.
WM 4 – Circular economy						
35	CIGL – Vélosbuttek			Avoiding the production of recovered bicycles in the circular economy. GHG savings due to reduced logistics distances. More bicycles, less individual motorized mobility.		Improved quality of life. Job creation and back-to-work training.
36	CIGL – Butzebutikk			Avoid the production of clothes and toys, as they are recovered in the circular economy. GHG savings due to reduced logistics distances.		Important social aspect. Job creation and back-to-work training. Change of mentality towards the purchase of repairable products with a longer lifespan.
37	CIGL – Occasionsbutikk			Avoid the production of furniture, as it is recovered in the circular economy. GHG savings due to reduced logistics distances.		Job creation and back-to-work training. Changing attitudes towards the purchase of repairable products with a longer lifespan.



38	Idea: Circular economy in the construction sector – use of BIM software			Avoid production of building materials, logistics, etc.		A change of mentality among design offices and architects, and potential reductions in construction costs.
39	Circular economy in the construction sector – use of Bauleitfaden			Avoiding the production of building materials, logistics, etc. Adapting infrastructure to the requirements of a city in green transition.		Change the mindset of design offices and architects and incorporate these principles into the project planning phase.
40	Bicherschief			Avoid book production and logistics.		Increasing general knowledge.
41	HOPLR			Avoid production of traded goods and change of mindset in favour of projects – multiplier effect.		Societal impact, social cohesion.
42	Idea: Plant bulb circularity project			Reduction of green waste, reduction of logistics GHGs, reduction of packaging.		Neighbourhood beautification.
43	Idea: Zero-emission waste collection truck	8.000.000 over 12 years		GHG reduction		Bettering of the air quality.
WM 5 – Organizational Optimization						



44	Gedeco – Association of Municipal Waste Managers			Not noticeable.		Improving waste management at the national level.
45	Idea: Purchasing centre			Purchase of eco-responsible products – products will be less GHG-emitting during production and more suitable for recycling after use.		The city will serve as an example to the private companies that work with it, and will have an effect on the demand for its products.
46	Idea: Generalization of Green vents			Events will be less strong in their carbon footprint.		Model city.
WM 6 – Littering				Ecological service		
47	Bëschbotz			Less waste in forests as a result of clean-up actions.		Less impact on nature, to avoid harmful products accumulating in nature.
48	CleanChallenge			Less waste in the City as a result of clean-up actions.		Less impact on nature, to avoid harmful products accumulating in nature.



49	Monitoring Littering with an Intelligent Reconciliation System			Cost reduction and load optimization		Less waste in the City.
Energy management						
MS 1 – Home improvements						
50	Zesumme renovieren project Energy renovation of existing single-family homes		€95.000.000	This action reduces gas consumption by: 1.556.100 m3/year in the case of 300 units/year.		Improved quality of life and a degree of independence from fossil fuels.
51	Idea: Energy renovation of residences The residences in need of sanitation are: 910 units		€21,500,000	GHG reduction.		Improved quality of life and a degree of independence from fossil fuels.
MS 2 – Decarbonization						
52	Decarbonization of heating systems in single-family homes Request for subsidies from the State in collaboration with the Klima Agency		€15.000.000	This action reduces gas consumption by: 2,600,000 m3/year, in the case of the remediation of 50% of the 3,061 potential units.		Improved quality of life and a degree of independence from fossil fuels.
53	Switch to pellet district heating or biomass of dwelling-house units Connecting dwelling houses to district heating		€150,000	This action reduces gas consumption by: 350,000 m3/year in the case of the 275 connected houses.		Improved quality of life and a degree of independence from fossil fuels.
54	Decarbonization of residential heating systems Replace fossil heating systems with		€5,000,000	Heat pumps can reduce gas consumption by around 500,000 m3 per year.		New concepts with Sudenergie for replacing boilers with heat



	renewable energy fuel systems					pumps in the form of a contracting arrangement will enable homes to decarbonize without individual investment.
55	Decarbonization of the district heating network Oberkorn Decarbonization with geothermal energy as a replacement for cogeneration (BHKW)		€4,000,000	GHG reduction – estimated 1,000,000 m3 of gas saved.		Improved quality of life and a degree of independence from fossil fuels.
56	Connection of the funicular tray, blast furnace and CreativeHub 1535 to Arcelor Mittal energy recovery Use of residual energy from the steel industry.		€2,000,000	Increasing the energy efficiency of a district heating network by reducing biomass consumption.		Improved quality of life.
57	Idea: Decarbonization of small maintenance equipment			Reduction of GHGs by saving imported fossil fuels.		Massive noise reduction in the city.
MS 3 – Energy production						
58	Production of solar energy on the real estate assets of the VDD Find private		€3.750.000	Reduction of GHGs by saving imported fossil fuels.		Local production of renewable energy.



	partners to finance, carry out and operate the implementation of the project.					
59	Wind energy production Establishment of a wind farm with citizen participation.		€21,000,000	Reduction of GHGs by saving imported fossil fuels.		Local production of renewable energy.
60	Central Pellet Niederkorn District Heating Site Controlled Service and Future Shopping Centre		€2,400,000	Reduction of GHGs by saving imported fossil fuels.		Local production of renewable energy.
61	Pellet heating in the project 'Aalt Spidol' (former hospital)		€150,000	Reduction of GHGs by saving imported fossil fuels.		Local production of renewable energy.
MS 4 – Energy savings						
62	Improving the efficiency of the building stock of the City of Differdange Idea: Renovation of the City's heritage and replacement of heating systems (decarbonization).		€3,000,000	GHG reduction. Estimate: 80,000 m3 of gas saved.		Improved quality of life and a degree of independence from fossil fuels.
63	Optimization of district heating networks in collaboration with a private partner Find a private partner to expand, optimize and operate district heating networks in the City's territory.		€500,000	Encourage more households to opt for a connection to the district heating network.		Increasing the attractiveness of district heating networks.



64	Idea: Solar energy production on agricultural land/areas of the VDD Find private partners to finance, carry out and operate the implementation of the project in collaboration with the competent state authorities.		€2,500,000	Reduction of GHGs by saving imported fossil fuels.		Possible synergy with agroforestry projects.
65	Urban lighting – transition to smart LED lighting Apply for a grant from the State and establish a global tender to convert all light points into smart LEDs.		€4,000,000	CO2 reduction by reducing the energy required to operate the LEDs. Also, the possibility to vary the light intensity after midnight, for example.		In the medium term, maintenance costs, material costs (replacement of luminaries) and operating costs should be considerably reduced.
66	Lighting of sports fields – replacement of halogen headlights with LED headlights.		€760,000	Substantial energy saving.		Ease of use and increased flexibility.
Urban planning – improving quality of life						
UP 1 – Architecture – public buildings						
67	Urban Development Plan (UDP)		Urban development	CO2 reduction		Improved quality of life.
UP 2 – Urban spaces						



68	Rearranging urban spaces		Urban development	<p>Significant reduction of CO2 through several direct initiatives. The increase in vegetated areas helps to capture atmospheric CO2, thus improving urban air quality. Expansion of pedestrian spaces and cycling infrastructure reduces reliance on motor vehicles, reducing greenhouse gas emissions. In addition, the reduction of heat islands through smart urban planning reduces the need for air conditioning, which also contributes to lower energy consumption and CO2 emissions. These improvements, in synergy with the city's sustainability policies, form an effective framework to mitigate climate impacts and improve the well-being of residents.</p>		<p>Enrich community interaction through better public spaces, thereby strengthening social cohesion. This urban regeneration is also likely to boost the local economy by attracting businesses and tourists, while the increased greenery and reduced pollution promise significant health benefits. Property values could rise as a result of the area's increased attractiveness, which in turn could boost municipal revenues.</p>
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UP 1 – Architecture – private buildings						
69	PAG, building regulations			No direct impact.		Encourage more sustainable construction and renovation of existing buildings.
Mobility and transport						
MT 1 – Public transport – bus						
70	DiffBus – VDD project		2.600.000 €/per year	Reduction of GHG emissions by reducing individual motorized mobility through the use of electric buses.		Service to citizens, positive image for the city.
71	General concept of public transport – Advisory role only to the MMTP.					Improved coexistence between the various entities and more in-depth discussions during future planning.
72	TICE – The City has political representatives in the union office and will try to influence management in this direction.		5.400.000 €/per year Participation TICE €52,000/per year Capital contribution	Improving the attractiveness of supply by reducing GHG emissions by reducing individual motorized mobility.		Better service for residents.
73	RGTR – Advisory role only to the MMTP.			Replacement of diesel buses by electric buses – GHG reduction.		Better air quality and noise reduction.



74	Dinola – VDD Project. Address-to-address transport service on request.		€170,000/per year	Replacement of diesel buses by electric buses – GHG reduction.		Better air quality and noise reduction.
75	Adapto – Advisory role only to the MMTP.			Reduction of GHG emissions by reducing individual motorized mobility through the use of electric buses.		Improved quality of life through the provision of suitable facilities. Freeing up parking spaces.
76	NightLifeBus – VDD is a potential participant in the service.		€30,000/per year	Reduction of GHG emissions by reducing individual motorized mobility through the use of electric buses.		Improved air quality, noise reduction, more positive image of the city.
77	Nightrider – A service offered through VDD		€50,000/per year	Reduction of GHG emissions by reducing individual motorized mobility.		Improved air quality, reduced noise, improved quality of life and road safety.
78	Modernization of bus stops – Compliance		€1,200,000 (modernization and digitalization)	/		Improved air quality, reduced noise, improved quality of life and road safety.
MT 2 – Public transport – rails						
79	CFL – Advisory role only to the MMTP.					Improving the quality of life.
80	CFL – Niederkorn judgment			Increase in train use as a result of the significant reduction in the travel time needed to reach the capital.		Improving the quality of life.



81	Luxtram – Advisory role only to Luxtram.			Huge impact on reducing car travel between urban centres.		Improving the quality of life.
MT 3 – Motorized transport – reduction						
82	Idea: Car sharing – Reduction of individual motorized transport		€300,000/per year	Huge impact on reducing the number of vehicles between urban centres. Provision of electric cars.		Improving the quality of life.
83	Adaptation of the public road at the entrance to the main roads of the city – Discouraging individual motorized transport		€3,000,000	Reduced car traffic due to increased difficulty of passage.		Improving quality of life, road safety.
84	Redevelopment of the city centre through measures in the field of urban planning to make it more attractive to alternative modes of transport and subsequently increase the quality of life for citizens.			Reduced car traffic due to increased difficulty of passage.		Improving quality of life, road safety.
85	Day without cars 22 September		€1,500/per year	Reduced car traffic due to increased difficulty of passage.		Improved quality of life, road safety.
86	PARKing Day, 20 September – Reimagining public space		€1,500/per year	Reduction of the number of inert vehicles in public spaces due to the reduction of temporary or permanent parking spaces. Reduced		Improved quality of life, road safety, increased attractiveness of urban areas.



				traffic in search of a parking space.		
87	Provision of bicycle spaces during the construction of the new City car park at the entrance to the city. Reduce motorized traffic within the city.		€100,000	/		
88	Channel and reduce flows through the guidance system to public car parks.		€50,000	Reduced traffic in search of a parking space.		Saves time, redirects traffic to parking spaces defined by the city.
MT 4 – Motorized transport – electrification						
89	Municipal fleet – service vehicles – Fleet specific to the VDD. Fleet electrification or switch to hydrogen.		Multi-annual budget	Reduction of GHG emissions by reducing motorized combustion mobility by electric vehicles.		Savings in fuel and maintenance costs. Positive image for the city. Improved air quality and noise reduction.
90	Municipal fleet – bicycles and service scooters – The VDD provides an electrified two-wheeled mobility fleet. The decision on use remains specific to the employees of the municipality.		€15,000/per year	Until all vehicles are electric, there is a significant reduction in GHGs on each journey.		Improved employee morale, reduced car fleet, improved health.



91	Municipal fleet – commercial vehicles – Fleet specific to the VDD. Decarbonization of the fleet to the extent possible and of the supply of suitable vehicles.		Multi-annual budget	Reducing GHG emissions by reducing combustion-fuelled motorized mobility by electric or hydrogen-powered vehicles.		Savings in fuel and maintenance costs. Positive image for the city. Improved air quality and noise reduction.
92	Interrupt part of the flows and connections to the centre with a view to calming individual motorized transport.		9.000.000 €	Reduced car traffic due to increased difficulty of passage.		Improved quality of life, road safety.
93	Redevelopment of the city centre through measures in the field of urban planning to make it more attractive to alternative modes of transport and subsequently increase the quality of life for citizens.			Reduced car traffic due to increased difficulty of passage.		Improved quality of life, road safety.
MT 5 – Soft mobility – empowering walkability						
94	Pedestrian guidance system		€50,000	Reduced motorized traffic.		Positive impact on health and awareness of pedestrian mobility.
95	Increase in the percentage of children walking to school: pedibus		€1,500/per year	Reduced motorized 'parent taxi' traffic in front of schools.		Positive impact on health and awareness of



						pedestrian mobility. Raising young people's awareness of soft mobility.
96	Dry Schoulwee		€900,000	Reduced motorized 'parent taxi' traffic in front of schools.		Positive impact on health and awareness of pedestrian mobility. Increasing young people's awareness of soft mobility.
97	Lighting of pedestrian crossings			/		Positive impact on health and awareness of pedestrian mobility.
98	Urban development for pedestrian mobility.			Reduced motorized traffic.		Positive impact on health and awareness of pedestrian mobility.
MT 6 – Soft mobility – empowering soft mobility						
99	Cycle paths		€300,000	Reduced motorized traffic.		Positive impact on health and awareness of cycling.
100	Vël'OK – Bike sharing – Bike sharing scheme		€400,000/per year	Reduction of GHG emissions by reducing individual		Improved quality of life, health benefits,



				motorized mobility through the use of bicycles.		change of mentality.
101	Bike Boxes		€600,000	Reduced motorized traffic.		Positive impact on health and awareness of cycling.
102	Adaptation of the PAG by defining a surface key dedicated to the storage of bicycles in future residences and shops.			Reduced motorized traffic.		Positive impact on health and awareness of cycling.
103	Provision of scooter racks. Facilitation of mobility with scooters.		€15,000	Reduced motorized traffic.		Low threshold mobility offer.
104	SurvCoin – Raising awareness of active mobility		€300,000	Reduced motorized traffic for commuting.		Positive impact on health and raising awareness of active mobility. Encourage local consumption by providing vouchers.
105	European Mobility Week		€10,000/per year			Change of mentality.
106	Citizens' workshops		€60,000/per year			Civic participation.
107	Provision of recharging points.			Reduction of combustion engine vehicles.		Positive impact on health and awareness of cycling.



108	Subsidies for the purchase of electric vehicles and infrastructure (booths)		€16,000/per year	Reduction of combustion engine vehicles.		Improved quality of life, health benefits, change of mentality.
MT 7 – Logistics						
109	Approach of 'big players' (Post, CFL ...) for the establishment of these hubs and for their operation.		€50,000	GHG reduction in the city through the reduction of semi-trailers in the city.		Improving air quality, reducing noise.
110	Vision: decarbonization of the logistics 'last mile' by promoting cargo bikes or other solutions.			GHG reduction in the city through the reduction of semi-trailers in the city.		Improved air quality and noise reduction. Freeing up 'delivery' space on the public highway and freeing up storage space in the XX building.
Co2 Offsetting						
CO 1 – Local offsetting (40% of remaining emissions)						
111	Subsidies for green facades		€20,000/per year	GHG capture if deciduous plants are used.		Use of wood for furniture and other products. Immobilization of CO2. Virreiderroll als Stad. Creation of green corridors.



						Fodder for livestock (leaves), creation of a microclimate for agricultural land. Trees consume surplus fertilizer distributed on the land. Helps prevent insect population decline.
112	Green roof subsidies		€20,000/per year	GHG capture if deciduous plants are used.		Creation of a sustainable economic sector. Job creation.
113	Offering fruit trees to citizens		€25,000/per year	GHG capture		Clarification of feasibility.
114	Subsidies for the demolition of stone gardens		€5,000/per year	GHG capture if deciduous plants are used.		Clarification of feasibility.
115	Idea: PV and/or green roof carports			GHG capture if deciduous plants are used.		Offsetting our CO2 emissions.
116	Idea: Adaptation of the Regulation in the context of green facades.			GHG capture if deciduous plants are used.		Offsetting our CO2 emissions.
117	Agroforestry – VDD and LIST collaboration		€120,000			Offsetting our CO2 emissions.



118	Idea: Supporting local farmers in the creation of a natural insulation production chain. (Hungary, straw, elephant grass, etc.)		€20,000	GHG capture		Offsetting our CO2 emissions.
119	Carbon capture (CCS) – Direct CO2 storage		€100,000	GHG capture		Offsetting our CO2 emissions.
120	Creation of the carbon capture facility.			GHG capture		Creation of an operating framework. Local responsibility for companies.
121	Storage of CO2 in tar – Karpp-Kneiff pilot project for future road renewal			GHG capture		Use of wood for furniture and other products. Immobilization of CO2. Virreiderroll als Stad. Creation of green corridors. Fodder for livestock (leaves), creation of a microclimate for agricultural land. Trees consume surplus fertilizer distributed on the land. Helps prevent insect population decline.



122	CO2 storage in concrete (CCU) – Set as standard in municipal tender dossiers			GHG capture		Creation of a sustainable economic sector. Job creation.
123	Subsidy for citizens/entrepreneurs using concrete CCU			GHG capture		Clarification of feasibility.
124	Storage of CO2 using wooden constructions (FSC / PEFC control) – Set as standard in municipal tender dossiers			GHG capture		Clarification of feasibility.
125	Subsidy for citizens/contractors using timber			GHG capture		Offsetting our CO2 emissions.
126	Creation of a municipal system for the sale of local certificates with sales to the private sector		€40,000	GHG captures/certification		Offsetting our CO2 emissions.
CO 2 – Regional offsetting						
127	Think about scaling. 2050 in the ProSud region.		€420,000	/		Offsetting our CO2 emissions.
CO 3 – International offsetting						
128	Investment in European CCS and CCU projects (Netherlands/Norway)			GHG capture		Increased quality of life.
129	Cooperation on CCS/CCU projects with other pilot cities lacking money, but rich in territorial capacity. Finding international synergies			GHG capture		Increased quality of life.



CO 4 – Purchase of international offset certificates (maximum 20% of remaining emissions)						
130	Financing of CO2eq offsetting projects in non-EU countries			GHG capture		
CA 1 – Urban development – mineral public squares						
131	Public places belonging to the VDD		€3,000,000	Possible CO2 reduction when planting trees.		Improved quality of life. Awareness of the town.
132	GreenCity – Moosfilteren		€200,000/per year	Compensation of 80 kg CO2eq per unit per year	€200,000/per year	Offsetting our CO2 emissions.
CA 2 – Urban development – natural public squares						
133	Public places belonging to the VDD			Possible CO2 reduction when planting trees.		Offsetting our CO2 emissions.
CA 3 – Private developments						
134	Strengthen climate adaptation measures at the level of home owners/residences			/		Increased quality of life.
135	Adapt building regulations encouraging entrepreneurs to build sustainably (e.g. a green facade gives the right to add a floor)			/		Increased quality of life.



136	Promotion of forest baths by installing boxes to collect smartphones at the entrance of the forest and by setting up a bathtub in the forest to create an 'instagrammable' place.		€10,000	/	€10,000	Increased quality of life.
Police investigation against the Slave Negro Cornelius.	European Interreg project – Cool Neighbourhoods		€100,000	/	€100,000	
Social innovation						
SI 1 — Civic Participation						
138	Benchmark: Living sustainably in Differdange (2023)		€70,000/per year	Reducing CO2 emissions through increased adoption of sustainable behaviours among citizens, such as increased use of public transport, carpooling, and energy efficiency improvements in homes and local businesses.		Improved quality of life with public health benefits from reduced air and noise pollution. Strengthening the social fabric through community engagement and environmental education, fostering a more informed and resilient society.



139	Energy: Together towards net zero energy! (2024)		Incl.	Direct reduction of greenhouse gas emissions through the implementation of renewable technologies and energy efficiency improvements in residential and commercial buildings. Increased local production of green energy, reducing dependence on fossil fuels.		Improving local energy resilience and reducing energy costs for households and businesses. Increased environmental awareness and social cohesion through community engagement in sustainable initiatives. Strengthening the local economy through the development of green sectors and the creation of sustainable jobs.
140	Mobility: together towards net-zero mobility! (2024)		Incl.	Measurable reduction in CO2 and other pollutant emissions through a reduction in motorized traffic and an increase in the use of public and non-motorized transport. Establishment of		Improving public health through better air quality and increased physical activity among residents. Increased



				infrastructure promoting electric vehicles and bike and car sharing systems, contributing to a less polluted city.		equitable access to services and resources, reducing social inequalities. Revitalizing urban spaces, making neighbourhoods safer and more pleasant, and stimulating the local economy by increasing commercial activity in pedestrianized areas.
141	Waste: together towards net-zero waste management! (2024)		Incl.	Significant reduction in greenhouse gas emissions through optimized waste management. Increased recycling and energy recovery, contributing to less dependence on raw materials and fossil fuels.		Improved cleanliness and urban hygiene, contributing to a healthier environment and a better quality of life. Increased public awareness of the environmental and social impacts of waste



						management, fostering a culture of environmental responsibility. Strengthening the local economy by promoting recycling initiatives and businesses.
142	Compensation: How, why, when? Achieving Net Zero in Differdange by 2030. (2025)		Incl.	Offsetting programs, capture greenhouse gases, aligning Differdange with its carbon neutrality goals for 2030.		Increased public awareness of the importance of biodiversity and environmental protection.
143	Mobility II: Let's reinvent mobility! (2025)		Incl.	Reduced greenhouse gas emissions through increased use of public transport, bicycles and pedestrian lanes. The new mobility policies will have helped to reduce the carbon footprint of daily travel.		Improved public health through reduced air pollution and increased physical activity. Greater social cohesion through less congested public spaces that are more user-



						friendly for all road users.
144	Zukunftswerkstatt – Workshop of the future: All together towards a net-zero future! (2025– 2026)		Incl.	Significant reductions in CO2 emissions through supported community projects such as energy renovation, the adoption of renewable energy, and sustainable mobility practices.		Increased civic engagement and community resilience. Improved quality of life through better air quality, increased green spaces, and local economic opportunities focused on sustainability.
145	Mobility: online survey (2024)		Incl.	Reducing congestion and optimizing routes, leading to lower fuel consumption and CO2 emissions.		Improved quality of life through smoother traffic flow and increased mobility. Strengthening social cohesion by taking account of citizens’ opinions and needs in transport policies.



SI 2 — Awareness raising						
146	Waste: awareness on the ground (2024)		Incl.	Raising citizens' awareness of the problem.		Increased awareness of the city in terms of waste management.
147	Museum of Waste (2024)		€6,000	Raising citizens' awareness of the problem.		Increased awareness of the city in terms of waste management.
148	Participatory budgets		€50,000/per project	Raising citizens' awareness of the problem.		Increased awareness of the importance of biodiversity and environmental protection among citizens.
SI 3 — Communication						
149	Dedicated website – Creation of a landing page dedicated to the project (2024) – www.netzero2030.lu		€10,000	Increased adoption of recommended sustainable practices through the site, leading to reduced emissions through improved information and awareness.		Strengthening community awareness and education on climate change, improving access to information, and stimulating local innovation through a



						common platform.
150	Development of a dedicated website listing all the projects selected in the action plan (2024–2025)		€40,000	Reduced emissions through better project coordination and effective implementation based on improved access to best practices and technologies shared on the site.		Creating a culture of sustainability and social resilience within the community, building local capacity, and stimulating social innovation through the interactivity and collaboration encouraged by the site.
151	Website of the City of Differdange – Content creation for the official website of the City of Differdange (www.differdange.lu)			The city site has a larger reach than the dedicated site in the early years.		/
152	Social media – Use of Facebook and Instagram accounts of the City of Differdange			Awareness and information of citizens on the progress of the mission and the issues and challenges of the city.		/
153	Sending press releases			Increased adoption of recommended sustainable practices through the site,		/



				leading to reduced emissions through improved information and awareness.		
154	Interviews with journalists			/		Creating an image in the collective consciousness.
155	Monthly magazine of the City of Differdange. Articles about the mission in each edition.			Creation of an image of the mission and increase of the notoriety of the municipality. Raising citizens' awareness of the problem.		Creating an image in the collective consciousness.
SI 4 — EU Projects						
156	ClimaBorough		€400,000	Decarbonization of energy production. Raising citizens' awareness of the problem.		Increased sense of community and new collaborations.
157	Heat bridge			Decarbonization of heating.		

**Referring to the Action Plan*

***Indicative indicators*

Table 7 Guidelines: Please fill the following table in with the largest and/or most capital-intensive projects that have been established within the Action Plan and Investment Plan (in Table 6). For these projects, provide the below details including the proposed or envisaged funding structure and a description of the project including development timelines and current status.

Table 7: Capital Intensive Projects

Fields of Action	Action/Indicator				
		Capex (€m)	Opex (€m)	Cost Effectiveness (EUR/tCO _{2e})	Investment (Split by Stakeholders)
		8€m	N/A ² €m	N/A EUR/tCO _{2e}	100% Municipality
Waste and circular economy	Idea: Zero-emission waste collection truck	<p>Project Description:</p> <p>The project of transitioning to zero-emission waste collection trucks over the next 12 years in Differdange represents a proactive approach to modernize the city's waste management fleet while aligning with environmental sustainability goals. The city is considering the replacement of its existing diesel-powered waste trucks with zero-emission alternatives, primarily focusing on electric and hydrogen-powered vehicles.</p> <p>Project Description: This transition project is still in the conceptual stage due to several uncertainties regarding technology maturity and infrastructure requirements. Currently, electric trucks, while available, are perceived to have limitations in operational capacity that might not meet the city's needs. On the other hand, hydrogen-powered trucks present a promising zero-emission alternative but are not yet commercially viable on a large scale. This technology is anticipated to become available in the foreseeable future, which could align well with the city's transition timeline.</p> <p>Infrastructure and Collaboration Considerations: A significant consideration for adopting hydrogen trucks involves establishing the necessary refuelling infrastructure. The city is exploring potential collaborations, such as with ArcelorMittal, to possibly source hydrogen as a byproduct of their industrial processes, which could provide a sustainable and local supply of hydrogen fuel. However, these plans are contingent on further technological developments and the establishment of partnerships that are currently under consideration.</p> <p>Project Uncertainties: The feasibility of switching to hydrogen-powered waste collection trucks hinges on several factors: the availability of competitive and reliable vehicle options in the market, the setup of hydrogen refuelling stations, and securing a consistent hydrogen supply. The economic and environmental impacts of sourcing hydrogen, whether from industrial byproducts or other means, also require a thorough evaluation to ensure that the transition supports the city's broader sustainability objectives.</p> <p>Current Status: Given these complexities, the city has not yet finalized the decision to proceed with this project. It remains an idea under active consideration, with ongoing assessments of technological advancements and potential partnerships that could influence the project's viability and alignment with Differdange's climate goals. The city remains committed to exploring all options to modernize its fleet in a sustainable manner that supports its commitment to achieving zero emissions.</p>			

² Differdange currently lacks the detailed budgetary framework that would allow for macroeconomic forecasting or detailed capital expenditure planning (capex) on a project-by-project basis that could provide the level of detail expected for implementation costs or operational expenditures over a multi-year timeline.

Moreover, the municipal team, while highly motivated and committed to achieving the city's climate objectives, does not include specialists in complex financial modelling or cost-effectiveness analysis. As a result, Differdange is not equipped to calculate the direct impacts on CO_{2e} reduction per annum.

Fields of Action	Action/Indicator				
		Capex (€m)	Opex (€m)	Cost Effectiveness (EUR/tCO _{2e})	Investment (Split by Stakeholders)
		30 €m	N/A €m	...EUR/tCO _{2e}	State investment (50%) 10,000,000 per year over 6 years Investments to be made by households (balance) 8,333,333 per year over 6 years
Energy	Zesumme renovéieren project Energy renovation of existing single-family houses	<p>Project Description:</p> <p>The 'Zesumme renovéieren' project, spearheaded by the City of Differdange in collaboration with Klima Agence, aims to significantly boost energy efficiency in existing single-family homes. This initiative provides homeowners with financial subsidies ranging from €5,000 to €15,000, which can be applied towards essential renovations including facades, cellars, and attics. The overarching goal is to renovate up to 2,000 units, thereby making substantial strides towards reducing overall energy consumption and enhancing the sustainability of the community's housing stock.</p> <p>Integral to Differdange's commitment to achieving carbon neutrality by 2030, as part of the broader European 'NetZeroCities' project, this program targets the enhancement of approximately 4,000 existing buildings within the city. By improving energy efficiency, the project not only contributes to reducing CO₂ emissions but also supports the residents in upgrading their homes to be more environmentally friendly and cost-effective.</p> <p>The 'Zesumme renovéieren' project also includes a strong support component, offering intensive guidance for homeowners throughout the renovation process. This approach ensures that each participant is well informed and supported, maximizing the effectiveness and impact of the initiative. This program exemplifies how local government, in partnership with national agencies and European initiatives, can facilitate significant environmental improvements while directly benefiting citizens.</p>			

Fields of Action	Action/Indicator				
		Capex (€m)	Opex (€m)	Cost Effectiveness (EUR/tCO _{2e})	Investment (Split by Stakeholders)
		6.8 €m	N/A €m	N/A EUR/tCO _{2e}	State investment (50%) 3,033,333 per year over 6 years Investments to be made by households (balance) Average of 6 households per residence: 315,972 per year over 6 years
Energy	Idea: Energy renovation of residences Residences requiring sanitation are: 910 units	<p>Project Description:</p> <p>The project 'Energy Renovation of Residences' is an ambitious initiative by the Ville de Differdange, currently in the conceptual stage, aiming to enhance the energy efficiency of 910 residential units. With an objective to renovate 50% of these units, the project seeks to provide substantial subsidies ranging from €5,000 to €15,000 for upgrades on facades, cellars, and attics.</p> <p>Benefits of Renovating Residences</p>			

		<p>The benefits of this energy renovation project are multifaceted:</p> <ol style="list-style-type: none"> Energy Efficiency: Upgrading insulation and heating systems in residences can significantly reduce energy consumption, leading to lower utility bills and increased comfort for residents. Environmental Impact: Improved energy efficiency contributes to reduced greenhouse gas emissions, aligning with broader climate action goals to achieve carbon neutrality by 2030. Property Value: Renovated properties often see an increase in market value, making this a financially beneficial investment for homeowners. Community Revitalization: Systematic renovations can enhance the overall aesthetic and functionality of neighbourhoods, fostering a sense of pride and community among residents. <p>Challenges of the Project</p> <p>However, the project also faces several challenges:</p> <ol style="list-style-type: none"> Coordination and Consent: Energy renovations in multi-unit dwellings require coordination among all homeowners. Property rights issues, such as gaining consent from multiple parties, can complicate project implementation. Financial Investment: While subsidies cover a significant portion of the renovation costs, the financial burden on homeowners can still be substantial, especially in the current economic climate with rising material costs. Finding a Suitable Implementation Partner: As the project is still seeking an implementation partner, there's an element of uncertainty in project execution and expertise. Technical and Logistical Constraints: Adapting older buildings to modern energy standards can be technically challenging and may require innovative solutions to integrate new technologies with existing structures.
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Fields of Action	Action/Indicator	Capex (€m)	Opex (€m)	Cost Effectiveness (EUR/tCO _{2e})	Investment (Split by Stakeholders)
Energy	Decarbonization of heating systems in single-family homes Request for subsidies from the State in collaboration with the Klima Agency	5 €m	N/A €m	N/A EUR/tCO _{2e}	<p>State investment (50%) 416,666 per year over 6 years</p> <p>Investments to be made by households (balance) 1,250,000 per year over 6 years</p>
		<p>Project Description:</p> <p>The Ville de Differdange (VDD) is spearheading a transformative project aimed at decarbonizing heating systems within single-family homes. This initiative, in collaboration with the Klima Agence, focuses on the installation of heat pumps, with the State offering subsidies up to €5,000 per unit. The project's goal is to retrofit 1,000 homes, representing 25% of the eligible residences in the area, thereby significantly reducing the carbon footprint of the community.</p> <p>Benefits of Heat Pumps</p> <ol style="list-style-type: none"> Energy Efficiency: Heat pumps are known for their efficiency, as they use less electrical energy than the heat they produce. This can lead to significant reductions in home energy costs over time. Environmental Impact: By utilizing electricity and transferring heat rather than generating it through combustion, heat pumps can significantly reduce greenhouse gas emissions compared to traditional fossil fuel-based heating systems. Versatility: Heat pumps provide both heating in the winter and cooling in the summer, enhancing comfort throughout the year. 			

		<p>4. Long-term Savings: Although the initial investment is higher, the operational costs of heat pumps are lower compared to traditional systems, leading to long-term savings for homeowners.</p> <p>Challenges of the Project</p> <ol style="list-style-type: none"> 1. High Initial Cost: Despite the subsidies, the initial cost of purchasing and installing a heat pump can be a barrier for many homeowners. 2. Retrofitting Challenges: Integrating heat pumps into existing home heating systems can be complex, requiring significant modifications and sometimes complete overhauls of current systems. 3. Dependency on Electricity: While heat pumps reduce the use of fossil fuels, they increase electricity consumption. This can be a challenge unless the electricity is sourced from renewable energies. 4. Climate Suitability: Heat pumps are most efficient in moderate climates; in regions with extreme temperatures, their efficiency can decrease, potentially requiring supplemental heating solutions. <p>This decarbonization project represents a critical step forward in meeting Differdange's climate goals. By reducing reliance on fossil fuels and enhancing the energy efficiency of homes, the initiative not only supports environmental sustainability but also promotes economic benefits for residents through reduced energy expenses.</p>
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Fields of Action	Action/Indicator				
		Capex (€m)	Opex (€m)	Cost Effectiveness (EUR/tCO _{2e})	Investment (Split by Stakeholders)
Energy	Idea: In collaboration with SudEnergie or other partner, decarbonize the heating systems of current residences.	5 €m	N/A €m	N/A EUR/tCO _{2e}	Sanitation of 100 units over 6 years, sanitation costs €50,000 per heat pump. 50%. 208,333 per year over 6 years Investments to be made by households (balance). Average of 6 households per residence: 55,555 per year over 6 years
		<p>Project Description:</p> <p>Project Description: Decarbonization of Heating Systems in Current Residences</p> <p>Objective: This project, spearheaded by the Ville de Differdange (VDD) in collaboration with SudEnergie or other partners, aims to transition current residential heating systems away from fossil fuels to renewable energy-powered systems. The project focuses specifically on encouraging homeowners to adopt heat pump technology, supported by a maximum subsidy of €5,000 per unit. The goal is to decarbonize 100 residential heating systems, achieving a 2.5% sanitation target in this phase.</p> <p>Benefits of Heat Pump Technology:</p> <ol style="list-style-type: none"> 1. Energy Efficiency: Heat pumps are highly efficient, using ambient heat from the environment (air, ground, or water) to provide heating. They consume significantly less energy compared to traditional heating systems, lowering overall energy bills. 2. Reduction in Greenhouse Gas Emissions: Replacing fossil-fuel-based systems with heat pumps contributes directly to the reduction of CO₂ emissions, supporting climate neutrality goals. 3. Long-Term Cost Savings: Although the initial investment can be higher, the operational cost savings and subsidies offered make heat pumps an economically viable option for homeowners. 4. Improved Air Quality: By eliminating combustion-based systems, heat pumps contribute to improving indoor and outdoor air quality. <p>Challenges:</p>			

		<ol style="list-style-type: none"> Upfront Costs: Even with subsidies, the initial installation costs for heat pumps may deter some homeowners, particularly those with limited financial resources. Technical Requirements: Many older homes may require additional renovations (e.g. enhanced insulation, upgraded electrical systems) to maximize the efficiency of heat pump systems, increasing project complexity. Property Ownership Dynamics: Decarbonizing heating systems in multi-owner or rented properties may face challenges due to differing priorities and the need for unanimous agreement. Infrastructure Development: Scaling this initiative will require reliable and accessible renewable energy infrastructure to ensure compatibility and efficiency. Behavioural Change: Encouraging homeowners to switch to new technology may require significant awareness campaigns to highlight benefits and address concerns. <p>Next Steps, if the idea gets accepted and launched as a project:</p> <ul style="list-style-type: none"> Develop a detailed collaboration framework with SudEnergie or an equivalent partner to streamline project implementation. Launch awareness campaigns to educate homeowners about the benefits of heat pumps and available subsidies. Establish an efficient application and evaluation process to ensure eligible residences can access subsidies. Monitor and evaluate the progress of the first 100 installations to refine the project approach and scale it effectively. <p><i>This initiative aligns closely with Differdange's broader climate neutrality goals and serves as a critical step in transforming residential energy use.</i></p>
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Fields of Action	Action/Indicator				
		Capex (€m)	Opex (€m)	Cost Effectiveness (EUR/tCO ₂ e)	Investment (Split by Stakeholders)
		4 €m	N/A €m	N/A EUR/tCO ₂ e	Costs covered by FEDER 50%, therefore 2,000,000 Or 666,666 per year over 3 years
Energy	Decarbonization of the Oberkorn district heating network Decarbonization with geothermal energy replacing Cogeneration (BHKW)	<p>Decarbonization of the Oberkorn District Heating Network</p> <p>Objective: The FEDER project aims to decarbonize the Oberkorn district heating network by replacing the existing combined heat and power (CHP) systems, which are currently based on cogeneration technology, with a geothermal energy solution. This transition is part of a broader initiative to enhance the sustainability and energy efficiency of the district's heating infrastructure.</p> <p>Project Overview: The project focuses on integrating geothermal energy technology into the existing district heating framework. Geothermal energy, which utilizes the earth's internal heat, will serve as a clean and reliable energy source, significantly reducing the carbon footprint associated with heating in the Oberkorn District.</p> <p>Benefits of Geothermal Energy:</p> <ol style="list-style-type: none"> Sustainability: Geothermal energy is a renewable resource that offers a constant and uninterrupted supply of heat, making it a more sustainable alternative to fossil fuels. Reduction in Emissions: By replacing cogeneration systems that typically rely on fossil fuels, geothermal energy can drastically cut greenhouse gas emissions, contributing to climate change mitigation efforts. Cost Efficiency: Over the long term, geothermal energy can prove to be cost-effective due to lower maintenance requirements and the stability of energy supply prices. 			

		<p>4. Energy Security: Geothermal systems reduce dependency on imported fuels, enhancing energy security and stability for the local community.</p> <p>Challenges:</p> <ol style="list-style-type: none"> 1. High Initial Investment: The upfront costs associated with drilling and setting up geothermal plants can be significant, although these are often offset by long-term savings and environmental benefits. 2. Technical Expertise: Implementing geothermal energy solutions requires specialized knowledge and skills, necessitating partnerships with expert firms or the development of local expertise. 3. Geological Considerations: The feasibility of geothermal energy depends heavily on local geological conditions, which must be carefully evaluated to ensure the success of the project. <p>Implementation Strategy:</p> <ul style="list-style-type: none"> • Conduct thorough geological surveys to assess the viability of geothermal energy production in the Oberkorn District. • Engage with technology providers and experts in geothermal energy to design and implement the system. • Coordinate with local authorities and stakeholders to align the project with community needs and regulatory requirements. • Establish a clear financial model that includes potential funding from FEDER (European Regional Development Fund) to support the substantial initial investment. <p>Impact and Prospects: The successful implementation of this project would not only serve as a model for sustainable district heating solutions but also stimulate local economic growth through job creation in the green energy sector. It would also position Oberkorn as a leader in renewable energy adoption, inspiring similar initiatives regionally and nationally.</p>
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Fields of Action	Action/Indicator				
		Capex (€m)	Opex (€m)	Cost Effectiveness (EUR/tCO ₂ e)	Investment (Split by Stakeholders)
		3 €m	N/A €m	N/A EUR/tCO ₂ e	100% City
Energy	Improving the efficiency of the building stock of the City of Differdange Idea: Renovation of the City's assets and replacement of heating systems (decarbonization)	<p>Project Description:</p> <p>Project Description: Enhancing Building Efficiency in the City of Differdange</p> <p>Objective: The City of Differdange has embarked on a strategic project to improve the energy efficiency of its municipal buildings. This initiative involves both the renovation of existing structures and the decarbonization of heating systems to align with modern environmental standards and reduce the city's carbon footprint. It is still at the idea stage.</p> <p>Project Overview: The project targets key city-owned properties, assessing their current energy performance and structural integrity. The primary goal is to replace outdated heating systems with modern, eco-friendly alternatives that utilize renewable energy sources, and to refurbish buildings to enhance thermal efficiency.</p> <p>Benefits of the Project:</p> <ol style="list-style-type: none"> 1. Energy Efficiency: Upgraded buildings will consume less energy for heating, cooling, and lighting, resulting in lower energy costs and reduced environmental impact. 2. Carbon Reduction: By decarbonizing heating systems, the project directly contributes to the reduction of greenhouse gas emissions, supporting the city's commitments to climate action goals. 3. Enhanced Property Value: Renovated facilities are likely to see an increase in property value, providing long-term financial benefits to the city. 			

		<p>4. Improved Occupant Comfort: Enhanced building envelopes and modern heating systems will improve indoor air quality and thermal comfort for occupants.</p> <p>Challenges:</p> <ol style="list-style-type: none"> 1. Financial Investment: Significant upfront capital is required for renovations and system replacements, necessitating careful financial planning and potential pursuit of subsidies or grants. 2. Operational Disruptions: Renovations may disrupt regular activities in municipal buildings, requiring temporary relocation services or adjustments in public service delivery. 3. Technical Complexity: The integration of new heating technologies and building materials can be complex, requiring specialized expertise. <p>Implementation Strategy:</p> <ul style="list-style-type: none"> • Conduct a comprehensive needs analysis to identify the most critical renovations and replacements needed across city-owned properties. • Develop detailed plans for energy upgrades, including insulation, window replacements, and installation of efficient heating systems like heat pumps or solar thermal units. • Engage with energy consultants and contractors who specialize in sustainable building practices to ensure high-quality and effective renovations. • Explore funding opportunities, including government grants and incentives for energy efficiency improvements. <p>Impact and Prospects: This project is expected to set a benchmark for sustainability within the city's infrastructure, leading by example in the community and encouraging similar initiatives in the private sector. Successful implementation will not only reduce operational costs and carbon emissions but will also demonstrate the city's leadership in adopting sustainable practices. The learnings from this project could help shape future policies and initiatives aimed at broader environmental sustainability across the city.</p>
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Fields of Action	Action/Indicator				
		Capex (€m)	Opex (€m)	Cost Effectiveness (EUR/tCO _{2e})	Investment (Split by Stakeholders)
		4 €m	N/A €m	N/A EUR/tCO _{2e}	100 % City – waiting for subsidies from the state.
Energy	Urban lighting – transition to smart LED lighting Apply for a subsidy from the State and establish a global call for tenders to convert all light points to smart LEDs.	<p>Project Description:</p> <p>Project Description: Smart LED Urban Lighting Transition in Differdange</p> <p>Objective: The City of Differdange is embarking on a transformative project to upgrade its urban lighting to smart LED systems. This initiative aims to improve energy efficiency, enhance public safety, and integrate advanced technology into the city's infrastructure.</p> <p>Project Overview: This comprehensive project involves the replacement of traditional street and public lighting with innovative smart LED technology. It includes the application for state subsidies and the initiation of a global tender to equip the city with high-efficiency lighting solutions.</p> <p>Key Actions:</p> <ul style="list-style-type: none"> • Subsidy Application: The city will seek financial support from state subsidies to help mitigate the costs associated with upgrading to smart LED lighting. • Global Tender Process: A global tender will be issued to select the most suitable technology providers for supplying and installing the smart LED systems. <p>Integration of LoRaWAN Technology: To enhance the functionality and management of the lighting system, Differdange plans to incorporate LoRaWAN technology. This low-power, wide-area networking protocol enables remote control and monitoring of the LED lights, facilitating:</p>			

		<ul style="list-style-type: none"> • Adjustable Lighting: Ability to modify lighting intensity and schedules remotely, adapting to different urban needs and events. • Efficient Maintenance: Real-time monitoring capabilities to swiftly address maintenance needs and reduce downtime. • Energy Management: Detailed energy usage data collection to optimize consumption and further reduce operational costs. <p>Benefits of the Project:</p> <ol style="list-style-type: none"> 1. Reduced Energy Consumption: Smart LEDs significantly lower energy use, leading to cost savings and reduced environmental impact. 2. Enhanced Urban Safety: Improved lighting quality enhances visibility and safety in public spaces. 3. Sustainability: Contributes to the city's sustainability goals by reducing the carbon footprint and promoting energy-efficient technologies. <p>Challenges:</p> <ol style="list-style-type: none"> 1. Upfront Costs: The initial financial outlay for such a comprehensive overhaul can be substantial. 2. Integration Complexity: Incorporating LoRaWAN with existing infrastructure requires technical expertise to ensure compatibility and functionality. 3. Coordination and Compliance: Ensuring all stakeholders, including government, suppliers, and citizens, are aligned with the project's goals and requirements. <p>Impact and Prospects: The successful implementation of smart LED lighting will not only modernize Differdange's urban landscape but also pave the way for future smart city initiatives. This project sets a benchmark for integrating cutting-edge technologies to create a more sustainable, efficient, and safe urban environment.</p>
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Fields of Action	Action/Indicator	Capex (€m)	Opex (€m)	Cost Effectiveness (EUR/tCO ₂ e)	Investment (Split by Stakeholders)
Transportation	Discourage individual motorized transport – Interrupt part of the flows and connections to the centre with a view to easing individual motorized transport.	9 €m	N/A €m	N/A EUR/tCO ₂ e	Investment of €9,000,000 in all for the development of rue de Soleuvre. €3.000.000 per year over 3 years. SudEnergie, Post Luxembourg and Creos take €300,000 per year The Roads and Bridges Administration invests €5,000,000 as a single investment
<p>Project Description:</p> <p>Project Description: Discouraging Individual Motorized Transport in Differdange</p> <p>Objective: The city of Differdange is committed to fostering a more sustainable and pedestrian-friendly environment by actively discouraging the use of individual motorized transport. The initiative aims to reduce traffic congestion, lower pollution levels, and improve the overall quality of urban life.</p> <p>Project Overview: This strategic intervention involves modifying the urban layout, particularly targeting rue de Soleuvre, to interrupt traffic flows that lead directly into the city centre. This redesign is intended to encourage the use of alternative transport modes and reduce reliance on private vehicles.</p> <p>Investment Details: An investment of €9,000,000 has been allocated for the development and restructuring of rue de Soleuvre. This significant financial commitment underscores the city's dedication to transforming its transportation infrastructure.</p> <p>Key Actions:</p>					

		<ul style="list-style-type: none"> • Redesigning Street Layouts: The project involves altering road configurations to limit vehicle access to the city centre, effectively discouraging the use of cars for inner-city travel. • Enhancing Public Transport and Mobility Options: Simultaneously, improvements will be made to public transport facilities and other mobility options to ensure that residents and visitors have viable alternatives to private car use. • Implementing Traffic Calming Measures: The introduction of traffic-calming measures will slow down vehicle speeds where necessary and improve safety for pedestrians and cyclists. <p>Benefits of the Project:</p> <ol style="list-style-type: none"> 1. Reduced Traffic Congestion: By limiting car access, the project aims to decrease traffic congestion in the city centre. 2. Lower Emissions: Reducing the reliance on motorized vehicles will directly contribute to lower carbon emissions and better air quality. 3. Enhanced Public Spaces: Less traffic allows for the transformation of the street spaces into more pedestrian-friendly areas, increasing the quality of urban life and accessibility. <p>Challenges:</p> <ol style="list-style-type: none"> 1. Public Acceptance: Adjusting traffic patterns may initially meet with resistance from the community accustomed to car use. 2. Implementation Complexity: Managing the transition without causing significant disruption requires careful planning and phased implementation. 3. Coordination with Broader Transit Plans: Ensuring that changes align with wider transportation and urban planning goals necessitates coordination across multiple city departments and stakeholders. <p>Long-term Vision: The transformation of rue de Soleuvre is seen as a pilot project that, if successful, could lead to further pedestrianization and traffic reduction measures across Differdange. The city envisions a shift towards a more sustainable urban transport system that prioritizes community well-being and environmental responsibility.</p>
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Fields of Action	Action/Indicator	Capex (€m)	Opex (€m)	Cost Effectiveness (EUR/tCO ₂ e)	Investment (Split by Stakeholders)
Transportation	Redevelopment of the city centre through measures in the field of urban planning in order to make it more attractive to alternative modes of transport and subsequently increase the quality of life for citizens.	9 €m	N/A €m	N/A EUR/tCO ₂ e	<p>€3,000,000 Per year over 3 years</p> <p>SudEnergie, Post and Creos take over €300,000 per year</p> <p>The Roads and Bridges Administration invests €5,000,000 as a single investment</p>
<p>Project Description:</p> <p>Redevelopment of Differdange City Centre</p> <p>Objective: The city of Differdange is undertaking an ambitious project to redevelop its city centre, focusing on urban planning measures that promote alternative modes of transportation. This initiative aims to enhance the overall quality of life for its residents by creating a more attractive, accessible, and sustainable urban environment.</p> <p>Project Overview: This comprehensive redevelopment plan involves the strategic redesign of city centre spaces to better accommodate pedestrians, cyclists, and public transit users, thereby reducing the reliance on individual motorized transport. The project prioritizes environmental sustainability and seeks to foster a vibrant urban core that supports economic and social activities.</p> <p>Key Actions:</p>					

		<ul style="list-style-type: none"> • Pedestrianization of Key Areas: Certain sections of the city centre will be converted into pedestrian-only zones, providing safe, car-free areas that encourage walking and other forms of non-motorized travel. • Enhanced Cycling Infrastructure: The introduction of new bike lanes and secure bicycle parking facilities to encourage cycling as a primary mode of transportation. • Improved Public Transit Access: Upgrades to public transit facilities, including bus stops and signage, to make using public transport more convenient and efficient. • Public Spaces and Greenery: Integration of public spaces with ample greenery, seating areas, and amenities to enhance the aesthetic appeal and functionality of the city centre. <p>Benefits of the Project:</p> <ol style="list-style-type: none"> 1. Increased Attractiveness for Alternative Transport: By providing infrastructure that supports walking, cycling, and public transit, the project makes these options more appealing and viable for daily commutes and other travel needs. 2. Improved Air Quality and Reduced Noise Pollution: Less traffic in the city centre will lead to lower emissions and quieter streets, contributing to a healthier urban environment. 3. Boost to Local Economy: The enhanced city centre environment can attract more visitors and increase business for local shops and services. 4. Enhanced Social Cohesion: Public spaces designed for communal activities foster greater interaction among residents and strengthen community bonds. <p>Challenges:</p> <ol style="list-style-type: none"> 1. Business Disruption During Construction: Temporary disruptions to local businesses due to construction activities could affect commerce and daily life. 2. Adjustment to New Traffic Patterns: Residents and visitors may need time to adapt to new transportation layouts and restrictions. 3. Balancing Modern Improvements with Historical Preservation: Ensuring that modern interventions respect the historical and cultural character of the city centre. <p>Long-term Vision: The redevelopment of Differdange City Center is envisioned as a transformational step towards creating a more liveable, sustainable, and integrated urban environment. It sets a precedent for future urban planning efforts in the city and serves as a model for other communities aiming to enhance urban life through sustainable development.</p>
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Fields of Action	Action/Indicator or				
		Capex (€m)	Opex (€m)	Cost Effectiveness (EUR/tCO _{2e})	Investment (Split by Stakeholders)
	Adaptation to climate change and improvement of quality of life – Mineral public squares belonging to the VDD	2.5 €m	N/A €m	N/A EUR/tCO _{2e}	e.g. 25% Municipality, 25% National Funds, 50% Green Loan
Climate adaptation		<p>Project Description:</p> <p>Adaptation to Climate Change and Improvement of Quality of Life – Mineral Public Squares</p> <p>Objective: The City of Differdange is dedicated to enhancing its public squares to foster resilience against climate change while simultaneously improving the quality of life for its residents. This initiative aims to transform mineral public squares into sustainable, functional, and aesthetically pleasing urban spaces.</p> <p>Project Overview: This long-term project focuses on upgrading several key public squares owned by the Ville de Differdange (VDD), using environmentally sustainable designs and materials that contribute to climate adaptation and enhance urban liveability. The project is allocated a budget of €500,000 annually</p>			

		<p>until 2030, underscoring the city's commitment to continuous improvement in its urban landscape.</p> <p>Key Actions:</p> <ul style="list-style-type: none"> • Revitalizing Public Spaces: Redesigning the squares to incorporate climate-resilient features such as permeable paving materials that help manage stormwater and reduce urban heat islands. • Green Infrastructure: Introducing more green elements like trees, shrubs, and grassy areas to increase shade, improve air quality, and provide natural cooling effects. • Enhanced Accessibility and Safety: Redesigning the squares to be more accessible and safer for pedestrians, encouraging more people to use these public spaces for recreation and social gatherings. • Integration of Modern Amenities: Equipping the squares with modern, eco-friendly amenities that cater to the needs of all age groups, making these areas more inviting and functional. <p>Benefits of the Project:</p> <ol style="list-style-type: none"> 1. Climate Resilience: The adapted squares will help mitigate the effects of climate change locally by improving air quality and reducing heat. 2. Social Cohesion: Revitalized public spaces encourage community interactions and social activities, fostering a sense of belonging and community spirit. 3. Economic Boost: Attractive and functional public squares can draw more visitors and boost local businesses. 4. Environmental Benefits: Increased greenery and sustainable design contribute to biodiversity and offer habitats for urban wildlife. <p>Challenges:</p> <ol style="list-style-type: none"> 1. Ongoing Maintenance: Ensuring that the new features and plantings are maintained appropriately can require significant ongoing investment and resources. 2. Public Engagement: Successfully engaging the community in the redesign process to ensure that the changes meet their needs and expectations. 3. Balancing Aesthetics and Functionality: Designing spaces that are both beautiful and functional, especially under the constraints of climate adaptation measures. <p>Long-term Vision: Through this project, Differdange is setting a standard for urban climate resilience and quality of life improvements. By transforming its public squares into vibrant, green, and climate-resilient hubs, the city is not only addressing the immediate needs of its citizens but also preparing its urban environment for future challenges associated with climate change. This initiative reflects Differdange's holistic approach to urban planning, which prioritizes sustainability, community well-being, and environmental stewardship.</p>
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2.2 Module IP-B2: Capital Planning for Climate Neutrality

This section will include a definition of the city's capital goals and how to achieve them. As the implementation of its programme starts, the below sources of capital can be laid out as a starting point. These should be aligned with the city's goals and relevant to the actions selected. Ideally, this will be a target and the city will optimize towards.

Task Goals: This exercise forces cities to identify the funding and financing gaps within their Investment Plans so as to begin the process of securing additional and (in most cases) external funding and financing for climate actions. This exercise encourages cities to begin the process of identifying potential capital solutions on the project level.

Model IP-B2

Guiding questions:

- What are the existing resources already available for each action or project (e.g. public contributions, existing funding or investments secured)?
- How much of the budget is available for climate investment, and is the municipality operating at a surplus or deficit?
- How can you optimize use of both public funding and private investment capital to ensure capital deployment for all costs identified to reach the climate neutrality goal?
- Do you have experience on creating a pipeline of projects with the involvement of the private sector?

Textual element

As the City of Differdange strides towards achieving its ambitious goal of climate neutrality, articulated under the NetZeroCities framework, the financial architecture supporting this vision is being meticulously sculpted to bridge ambition with practicality. Differdange's proactive approach involves a strategic blend of fiscal prudence and aggressive capital allocation to environmental projects, which is reflected in the comprehensive financial documentation provided in table 6. These tables are a testament to the city's commitment to transparency, detailing existing public contributions, secured investments for each climate action, and the project currently underway.

Financial Resources and Strategic Allocation

Differdange has carefully catalogued all available resources for each climate initiative, ensuring a robust foundation for each project's financial needs. There is a clear trajectory of increasing budget allocation towards climate investments, reflecting a growth from 5.97% of the budget in 2023 to a projected 7.35% by 2025. This progression underscores the city's increasing commitment to its environmental targets, translating to a budget increase from €788,767 to €3,680,000. While managing these fiscal commitments, the city carefully navigates to avoid deficits, showcasing a balanced approach between ambitious environmental action and prudent financial management.

Optimizing Capital Deployment

The primary strategy for funding these climate actions hinges on a mix of direct city budget allocations and generous state subsidies, ensuring substantial coverage of associated costs. The city is poised to begin an active engagement with stakeholders in 2025, which is expected to unlock additional funding avenues and further solidify the financial base for forthcoming initiatives. Differdange is particularly focused on leveraging both public and private capital to fulfil the financial demands of achieving climate neutrality, with detailed plans for stakeholder investments meticulously noted for current and future reference in the city's financial plans.

Engaging the Private Sector

Despite Differdange's current limited experience in fostering a project pipeline with robust private sector involvement, the city is eager to adapt and evolve. Recognizing the necessity for private investment to meet the scale of its climate ambitions, Differdange is committed to cultivating partnerships that can offer financial and innovative support. The city acknowledges this as a growth area and is actively seeking expertise and partnerships that can facilitate these developments.

Commitment to Sustainable Financial Planning

Differdange's approach to financial planning for climate action is both dynamic and forward thinking. The city understands the critical need for sustainable financial strategies that not only support immediate climate action goals but also ensure long-term fiscal health. This involves rigorous planning, ongoing assessments of financial flows, and a keen openness to adapting strategies as needed to meet both current and emergent environmental challenges.

The city's journey toward a sustainable future is framed by a clear vision and a strategic approach to financial management. With each step forward, Differdange demonstrates a commitment to not just meeting but exceeding its climate goals, supported by a financial strategy that is both robust and responsive to the city's evolving needs. This strategic financial management ensures that Differdange remains a model of sustainable urban development, committed to achieving its objectives with precision and proactive governance.



Table 8 Guidelines: For each identified action, please identify the costs to all stakeholders including private citizens and the private sector or municipally-owned companies. The actions from Section B1 and the Action Plan should all be referenced here in similar detail.

Table 8: Capital Planning by Stakeholder

The most detail the city is able to communicate at this point in time can be found in the table below. Adaptations will be done in future iterations. If a case is empty, it means **NO ADDITIONAL FUNDING IS NEEDED**. Often these projects exist or are fully funded by the city and/or the government.

1	Impact Pathways	Theme	Approach	Systemic levers	Cost to municipality	Budgetary requirements	Frequency	Financial approach 2 – PPP	Budgetary requirements	Frequency	Financial approach 3 – third party	Budgetary requirements	Frequency	Financial approach 4 – households	Budgetary requirements	Frequency
2	Waste and circular economy	Reduction of food waste	Shot	Food Council (governance) Citizen participation, First CF in Luxembourg. Civil society representatives – the main results are the pilot project on food waste.				Creation of a non-profit organization by the municipality, with a defined budget.	25,000	per year						
3				Pilot projects on Food waste – intelligent waste bins in public kitchens. (Orbisk)				The municipality is subsidizing some Orbisk gastronomy systems in test phases with the aim of them realizing the money saved and using this system which massively reduces food waste. Objective: state subsidies, agreement with Orbisk for an advantageous price.	15,000	per year						
4				Local vegetable production – distribution over 2 km. 3 tonnes of food in 2023. Target for 2024:4 tonnes. 20% vegetables for local schools.	100% city.	Penning										
5				Idea: Cooperation with the local Limpach cannery and information on conservation	100% city.	APEMH										
6				Idea: Ground fridge	100% city.	15,000	Unique									
7				Idea: food sharing fridge				Provision of infrastructure by the city and supply of foodstuffs by local restaurants and canteens.	500	per year						
8				Communication campaign in DiffMag on foods to eat during this month.	100% city.	0										
9				Workshops on food waste with NGOs and SMEs					1500	per year	In charge of the non-profit organization created in the medium term.					
10				Summer workshops with children – where does food come from? Learn respect for production and food (150 children in 2023).		0					In charge of the non-profit organization created in the medium term.					
11		Reduction of the mass of waste		Waste taxes	100% city.	0										
12				Adaptation of the recycling park				Collaboration between the city and EcoTec Sàrl.	350,000	Unique						
13			Promoting reuse	Repair Cafés	Collaboration between the city and private companies, financing supported by the city.	800	per year									
14				Idea: 'Sharing' Platform	Collaboration between the city and private companies, financing supported by the city.											
15		Reduction of packaging waste		Awareness campaigns in close collaboration with national institutions.	Collaboration between the city and national institutions, financing carried by the city.	0										
16				Distribution of bowls, towels and reusable tableware to each resident	100% city.	/	per year									
17				Implementation of a deposit system in the gastronomy and public festivities sector at the ProSud level	Pilot project led by the municipality.	75,000	Unique				Objective: operating costs during implementation taken over by the private sector.					
18			Pilot projects with the aim of experimenting on efficient waste management	Idea: Waste locks in residential buildings.				Subsidization of the city for the installation of locks.	20,000	per year						



	Impact Pathways	Theme	Approach	Systemic levers	Cost to municipality	Budgetary requirements	Frequency	Financial approach 2 – PPP	Budgetary requirements	Frequency	Financial approach 3 – third party	Budgetary requirements	Frequency	Financial approach 4 – households	Budgetary requirements	Frequency
1				Idea: Waste compactors for public trash cans and underground containers.	Project carried out by the municipality, not quantified in this list. Funded through another project.	0										
19				Idea: Bin fill level sensors	100% city project.	20,000	Unique									
20				Second hand store in the recycling park	100% city project.				included PdR budget							
21		Improved efficiency in waste processing	Sidor	The City has political representatives in the union office and will try to influence management in this direction.	100% city project.				0							
22			Idea: Sidor – installation of a hydrogen station next to the incineration site	The City has political representatives in the union office and will try to influence management in this direction.	100% city project.				0							
23			SuperDrecksKëscht – problematic waste management	Advisory role only. The VDD gives feedback and develops ideas and projects with SDK. The VDD benefits from the service.		0										
24			Valorlux – non-profit association charged by the State with the management of packaging waste (PMC) and cigarette butts	Advisory role only. Identification of blue waste collection bags for monitoring.		0										
25			Minett Kompost – optimization	The City has political representatives in the union office and will try to influence management in this direction.		0										
26			Introduce a deposit system on packaging	Idea: The City could take a position in favour of this introduction at the national, or even European, level.		0										
27			Beckléck – use of trees felled by storms and condemned to decompose in the forest.	VDD project idea.		Blessed		City cooperation and pellet producers.								
28			SIACH	The City has political representatives in the union office and will try to influence management in this direction.		0										
29			Ecotrel	As there are local approaches to this national system, such as 'Social ReUse', the City could invest more in local implementation.		0										
30			Recycling through Arcelor Mittal – e.g. scrap metal, tyres, aluminium	Following the co-dependence between the City and Arcelor Mittal, the City has possibilities for negotiation.		0		City and Arcelor-Mittal cooperation.								
31			EcoTec – Wood recycling through Kronospan	The VDD is a contracting entity and as such can express its needs.		0					Collaboration between EcoTec and Kronospan.					
32			EcoTec – Bulky waste sorting	THE VDD is a contracting entity and as such can express its needs.		0		City and EcoTec cooperation.								
33			EcoTec – Recycling fleet management	THE VDD is a contracting entity and as such can express its needs.		0		City and EcoTec cooperation.								
34			Benjeshecken – Valorization of green waste in situ	VDD project.	100% city.	0										
35		Circular economy	CIGL – Vélosbuttek	VDD project.		CIGL		Cooperation between city and CIGL.								
36			CIGL – Butzebuttik	VDD project.		CIGL		Cooperation between city and CIGL.								
37																



	Impact Pathways	Theme	Approach	Systemic levers	Cost to municipality	Budgetary requirements	Frequency	Financial approach 2 – PPP	Budgetary requirements	Frequency	Financial approach 3 – third party	Budgetary requirements	Frequency	Financial approach 4 – households	Budgetary requirements	Frequency
38			CIGL – Occasionsbutikk	VDD project.		CIGL		Cooperation between city and CIGL.								
39			Idea: Circular economy in the construction sector – using BIM software	The VDD is a contracting entity and as such, can express the need to use BIM software and create a passport of the materials used.	100% city.	Laura										
40			Circular economy in the construction sector – use of Bauleitfaden	The VDD is a contracting entity and as such can express the need to respect the Bauleitfaden.		0										
41			Bicherschief	VDD project	100% city.	0										
42			HOPLR	Service offered by the VDD.	100% city.	Media										
43			Idea: Plant bulb circularity project	VDD project idea. Reuse of perennial plants by distributing used bulbs to citizens at the end of the season.	100% city.	0										
44			Idea: Zero-emission waste collection trucks	The city's desire to move in this direction.	100% city.	8000000	over 12 years									
45		Organizational optimization	Gedeco – Association of municipal waste managers	The VDD is represented and discusses legislative and technical texts and advises the national government.		500	per year									
46			Idea: Purchasing centre	The VDD is a sponsor.		0										
47			Idea: Generalization of Green vents	National initiative		0										
48		Littering	Böschbotz	VDD project	100% city.	5000	per year									
49			CleanChallenge	VDD project	100% city.	0										
50	Energy	Renovations	Zesumme renovéieren project Energy renovation of existing single-family houses.	VDD project in collaboration with Klima Agency	Subsidies for sanitation – at least 5000, maximum €15,000 (Facade, Cellar, attic); ideal objective: sanitation of 2,000 units	5,000,000	per year over 6 years				State investment (50%)	10,000,000	per year over 6 years	Investments to be made by households (balance)	8,333,333	per year over 6 years
51			Idea: Energy renovation of residences Residences requiring sanitation are: 910 units.	VDD project, looking for an implementation partner	Subsidies for sanitation – at least 5000, maximum €15,000 (Facade, Cellar, attic); ideal objective: sanitation of 455 units (50%)	1,137,500	per year over 6 years				State investment (50%)	3,033,333	per year over 6 years	Investments to be made by households (balance). Average of 6 households per residence.	315,972	per year over 6 years
52		Decarbonization	Decarbonization of heating systems in single-family homes request for subsidies from the State in collaboration with the Klima Agency.	VDD project	Subsidies for sanitation – maximum €5,000 (heat pump); ideal objective: sanitation of 1000 units (25%)	833,333	per year over 6 years				State investment (50%)	416,666	per year over 6 years	Investments to be made by households (balance)	1,250,000	per year over 6 years
53			Switching to pellet or biomass district heating for residential house units Connecting residential houses to district heating.	VDD project							Connection of 50 units over 6 years, connection costs €30,000, costs covered by the network manager.	250,000	per year over 6 years			
54			Decarbonization of heating systems in current residences. Replace fossil heating systems with renewable energy fuel systems.	Idea: In collaboration with SudEnergie or other partners decarbonize the heating systems of current residences.	Subsidies for sanitation – maximum €5,000 (heat pump); ideal objective: sanitation of 100 units (2.5%)	833.333	per year over 6 years				Sanitation of 100 units over 6 years, sanitation costs €50,000 per heat pump. 50%.	208,333	per year over 6 years	Investments to be made by households (balance). Average of 6 households per residence.	55,555	per year over 6 years
55			Decarbonization of the Oberkorn district heating network Decarbonization with geothermal energy replacing Cogeneration (BHKW)	VDD FEDER project	Total investment of 4,000,000; the city will carry 50%, so 2,000,000.	666,666	per year over 3 years				Costs covered by FEDER 50%, therefore 2,000,000	666,666	Per year over 3 years			



	Impact Pathways	Theme	Approach	Systemic levers	Cost to municipality	Budgetary requirements	Frequency	Financial approach 2 – PPP	Budgetary requirements	Frequency	Financial approach 3 – third party	Budgetary requirements	Frequency	Financial approach 4 – households	Budgetary requirements	Frequency
1			Connection of the funicular platform, the blast furnace and the CreativeHub 1535 to Arcelor Mittal's energy recovery Use of residual energy from the steel industry.	Project of VDD, LuxEnergie and Arcelor Mittal							Total investment of 2,000,000	2,000,000				
56			Idea: Decarbonization of small maintenance equipment	VDD project	Existing budget, change in purchasing policy.											
57			Production of solar energy on the VDD's real estate assets Find private partners for financing, carrying out and operating the implementation of the project.	VDD project							Investment objective of €1,500/kW with a targeted capacity of 2,500 kW/peak.	625,000	Per year over 6 years.			
58		Energy production	Wind energy production Establishment of a wind farm with citizen participation.	VDD project with a private partner SolarPower							Total investment of €21,000,000 for 3 wind farms.	3,500,000	Per year over 6 years.			
59			Pellet plant Niederkorn District heating site management service and future Shopping centres.	VDD project	Total investment of 2,400,000.	100,000					Total investment of 2,400,000.	2,300,000				
60			Pellet boiler room in the 'Aalt Spidol' project (former hospital)	VDD project	Total investment of €150,000.	150,000										
61			Improving the efficiency of the building stock of the City of Differdange Idea: Renovation of the City's assets and replacement of heating systems (decarbonization).	VDD project – carry out a needs analysis and renovations.	Total investment of 3,000,000	500,000	Per year over 6 years.									
62		Energy savings	Optimization of district heating networks in collaboration with a private partner Find a private partner to expand, optimize and operate district heating networks on the City's territory.	VDD project							Total investment of €500,000	250,000	Per year over 2 years.			
63			Idea: Production of solar energy on VDD agricultural areas/land Find private partners for financing, carrying out and operating the implementation of the project in collaboration with the competent state authorities.	VDD project							Investment objective of €1,500/kW with a targeted capacity of 1,500 kW/peak.	1,125,000	Per year over 2 years.			
64			Urban lighting – transition to smart LED lighting Apply for a subsidy from the State and establish a global call for tenders to convert all light points to smart LEDs.	VDD project	Total investment of 4,000,000; the city will bear 100%	1,333,333	Per year over 3 years.									
65			Lighting of sports fields – replacement of halogen headlights with LED headlights.	VDD project	Total investment of €760,000; the city will bear 100%	380000	Per year over 2 years.									
66			Urban lighting – transition to smart LED lighting Apply for a subsidy from the State and establish a global call for tenders to convert all light points to smart LEDs.	VDD project	Total investment of €760,000; the city will bear 100%	380000	Per year over 2 years.									
67	Urban planning – improvement of quality of life	Architecture – public buildings	Urban development plan (PDU)	VDD project												
68		Urban spaces														
69		Architecture – private buildings	PAG, building regulations	VDD is the regulatory entity.												
70	Mobility and transport	Public transport – buses	DiffBus	VDD project	Costs borne by the VDD; €2,600,000; existing budget.	€2,600,000	Per year									
71			General concept of public transport	Only an advisory role with the MMTP.		/										
72			TICE	The City has political representatives in the union office and will try to influence management in this direction.	TICE participation, existing budget.	€5,400,000	Per year									



	Impact Pathways	Theme	Approach	Systemic levers	Cost to municipality	Budgetary requirements	Frequency	Financial approach 2 – PPP	Budgetary requirements	Frequency	Financial approach 3 – third party	Budgetary requirements	Frequency	Financial approach 4 – households	Budgetary requirements	Frequency
1				management in this direction.												
73					Capital contribution, existing budget.	€52,000.00	Per year									
74																
75			RGTR	Only advisory role with the MMTP.		/					100% state financing. Approximate budget.	€6,000,000	Per year			
76			Dinola	VDD project. Address-to-address transport service on request.		€170,000	Per year									
77			Adapto	Only advisory role with the MMTP.							100% state financing.					
78			NightLifeBus	The VDD is a potential participant in the service.	Idea: Participation	€30,000	Per year									
79			Nightrider	A service offered through VDD	Participation; existing budget	€50,000	Per year									
80			Modernization of bus stops	Compliance		€100,000	Per year over 6 years				Subsidies 50%	€100,000	Per year over 6 years			
81				Digitalization of stops		€100,000	Per year over 6 years				Subsidies 50%	€100,000	Per year over 6 years			
82		Public transport - train	CFL	Only advisory role with the MMTP.		/										
83																
84			Luxtram	Only advisory role with Luxtram.		/										
85		Public transport	Self-service bikes	Vël'OK	Repair costs 360000 and station purchase costs 40000.	€400,000	Per year				CIGL invests					
86		Motorized transport	Reduction of individual motorized transport	Idea: Car sharing	Studies over 3 years, then first stages of implementation	€100,000	Per year	Potential partner: CFL	100000	Per year	Potential partners: Pro-Sud	100000	Per year			
87			Municipal fleet - service vehicles	VDD's own fleet. Fleet electrification or switch to hydrogen.	Multi-year budget											
88			Municipal fleet - service bicycles and scooters	The VDD provides an electrified two-wheel mobility fleet. The decision of use remains specific to the employees of the municipality.	Extraordinary budget	€15,000	Per year over 6 years									
89			Municipal fleet - utility vehicles	VDD's own fleet. Decarbonization of the fleet wherever possible and the supply of suitable vehicles.	Multi-year budget											
90			Discourage individual motorized transport	Adaptation of the public road at the entrance to the main roads of the city	Adaptations in public spaces. €3,000,000	€500,000	per year over 6 years				State subsidies possible in the best case, if all goes well, up to 70%.					
91				Interrupt part of the flows and connections to the center with a view to easing individual motorized transport.	Investment of €9,000,000 for the development of rue de Soleuvre.	€3,000,000	Per year over 3 years	SudEnergie, Post and Creos take back €300,000 per year	€300,000.00	Per year over 3 years	The Roads and Bridges Administration invests €5,000,000	€5,000,000	Single investment			
92				Redevelopment of the city center through measures in the field of urban planning in order to make it more attractive to alternative modes of transport and subsequently increase the quality of life for citizens.	€3,000,000	Per year over 3 years	SudEnergie, Post and Creos take back €300,000 per year	€300,000.00	Per year over 3 years	The Roads and Bridges Administration invests €5,000,000	€5,000,000	Single investment				
93			Car-free days	Car Free Day September 22	Budget to plan in the media	€1,500	per year									
94			Reimagining public space	PARKING Day, September 20	Budget to plan in the media	€1,500	per year									
95			Reduce motorized traffic within the city	Provision of spaces for bicycles during the construction of the new City parking lot at the entrance to the city.	Adaptation of the project	€100,000	Single investment	Partner of the Tralux project.								
96				Channel and reduce flows through the guidance system towards public car parks.	Project in progress; existing budget; change of operator, launch costs	€50,000	Single investment									
97		Soft mobility	Encourage pedestrian mobility	Pedestrian guidance system	Studies over 3 years, then first stages of implementation	€50,000	Over 3 years									



	Impact Pathways	Theme	Approach	Systemic levers	Cost to municipality	Budgetary requirements	Frequency	Financial approach 2 – PPP	Budgetary requirements	Frequency	Financial approach 3 – third party	Budgetary requirements	Frequency	Financial approach 4 – households	Budgetary requirements	Frequency
98				Increase in the percentage of children walking to school: Pedibus	Awareness and communication; plan media budget	€1,500	Per year									
99				Secure Way to School - Séchère Schoulwee Schoulwee	Infrastructural works; €900,000	€ 150,000	Per year over 6 years									
100				Pedestrian crossing lighting	Integral part of the Séchère Schoulwee											
101				Urban planning in favor of pedestrian mobility.	Integral part of the Séchère Schoulwee											
102			Encouraging cycling mobility	Cycle paths	Infrastructural works - Haneboesch and urban network. €300,000	€50,000	Per year over 6 years				Up to 80% state subsidies	€700,000				
103				Bike Boxes	One Bike Box per year	€100,000	Per year over 6 years									
104				Adaptation of the PAG by defining an area key dedicated to bicycle storage in future residences and businesses.		/										
105			Facilitating mobility using scooters.	Provision of scooter supports.	Studies over 3 years	€5,000	Per year over 3 years									
106			Raising awareness of active mobility	SurvCoin	Operating costs	€50,000	Per year over 6 years									
107				European Mobility Week	Integral part of the Mobility/ecology budget	€10,000	Per year									
108				Citizen workshops		60000	Per year									
109			Electrification of mobility	Provision of charging points.	150000	150000	Unique									
110				Subsidies when purchasing electric vehicles and infrastructure (terminals)	1000 € maximum sum per car: 50% of the costs of installing terminals	€16,000	Per year				Subsidies of €8,000 per car	€100,000.00	Per year			
111		Logistics	Decentralization through hubs at the city entrances	Approach of "big players" (Post, CFL, etc.) for the establishment of these hubs and their operation.	Studies	50000	Single investment									
112				Vision: decarbonization of "last mile" logistics by promoting cargo bike or other solutions.												
113	Compensation	Local compensation (40% of remaining emissions)	Citizen compensation	Subsidies for green facades	100% VDD; recurring budget	20000	per year									
114				Subsidies for green roofs	100% VDD; recurring budget	20000	per year									
115				Offer of fruit trees to citizens	100% VDD; recurring budget	25000	per year									
116				Subsidies for the demolition of stone gardens	100% VDD; recurring budget	5000	per year									
117			Adaptation of building regulations	Idea: Carports with PV and/or green roof												
118				Idea: Adaptation of the regulations within the framework of green facades.												
119			Agroforestry (CCU)	VDD and LIST collaboration				Launch budget (studies, etc.). The project will have to support itself later through the sale of local certificates.	20000	per year for 6 years						
120				Idea: Supporting local farmers in the creation of a natural insulating production sector. (Hemp, straw, elephant grass, etc.)				100% VDD; fixed purchase prices and purchase guarantee for farmers. The project will have to support itself later through the sale of products.	20000	Single investment for VDD for a study; creation of the production chain by a third party.						
121			Carbon sink (CCS)	Direct CO2 storage							Studies to change the law after 2030.	100000	unique			
122				Creation of the carbon capture installation.												



1	Impact Pathways	Theme	Approach	Systemic levers	Cost to municipality	Budgetary requirements	Frequency	Financial approach 2 – PPP	Budgetary requirements	Frequency	Financial approach 3 – third party	Budgetary requirements	Frequency	Financial approach 4 – households	Budgetary requirements	Frequency
123			CO2 storage in tar	Karpp-Kneipp pilot project for future road renewal				Tests in real conditions on the territory of the VDD, tests and analyzes carried out by Karpp-Kneipp. Decision made on the exclusive use of Co2 capture tar in the years following the tests.	see with roads (Luc)							
124			CO2 storage in concrete (CCU)	Set as a standard in municipal submission files		/										
125				Subsidy for citizens / entrepreneurs using CCU concrete	100% VDD; no costs but related permissions such as permission to build higher, e.g.											
126			CO2 storage using wooden constructions (FSC / PEFC control)	Set as a standard in municipal submission files		/										
127				Subsidy for citizens / entrepreneurs using construction timber	100% VDD; no costs but related permissions such as permission to build higher, e.g.											
128			Sale of municipal compensation certificates	Creation of a municipal system for the sale of local certificates with sale to the private sector				Creation and launch budget - taken over by a third party such as LuxControl	40000	unique						
129		Regional compensation	Plan compensation actions in the ProSud / TNT region	Think about scaling. 2050 in the ProSud region.	Planning budget. Part of it goes to the VDD.	5000	per year over 6 years				Planning budget. A part goes to the other participants.	65000	per year over 6 years			
130		International compensation	Cooperation with Participating Cities	Investment in European CCS and CCU projects (Netherlands / Norway)	100% VDD - €300 / ton of Co2 (2024 price) - from 2028 at the earliest. 1/3 of the remaining emissions.		To see per year									
131				Cooperation on CCS / CCU projects with other pilot cities lacking money, but rich in territorial capacity. Find international synergies	Joint projects						Collaboration with third parties.					
132		Purchase of international offset certificates (Maximum 20% of remaining emissions)	Keep the option open to purchase international certificates	Financing CO2eq offset projects in countries not associated with the EU	100% VDD. Current price 14€/tonne, evolution towards 2030 more or less 16€/tonne.											
133	Climate adaptation	Urban planning - mineral public squares	Adaptation to climate change and improvement of quality of life	Mineral public squares belonging to the VDD	100% VDD. Possibility of state subsidies. (80/20)	€500,000.00	Per year				State subsidies.	€100,000	Per year			
134			Cooling public places using technical solutions	GreenCity - Moosfilteren	100% VDD.	€200,000	Per year									
135		Urban planning - natural public squares	Adaptation to climate change and improvement of quality of life	Natural public squares belonging to the VDD	100% VDD. Existing budget (gardening; CID/Workshop)											
136		Private development	Adaptation of building regulations	Enforce climate adaptation measures at the level of home/residence owners	Existing budget - Building police.											
137				Adapt building regulations encouraging entrepreneurs to build sustainably (e.g. a green facade gives the right to add a floor)	Has no financial cost.											
138			Promote forest bathing and water games on hiking trails	Promotion of forest bathing by installing boxes to collect smartphones at the entrance to the forest and by setting up a bathtub in the forest to create an "instagrammable" place.	100% VDD. Possible subsidies from the Ministry of Tourism.	€10,000	Unique				State subsidies 50%	€5,000	Unique			
139			"Climapakt-Assisen 2025"	Conference on the 2025 climate pact - Theme: Climate adaptation	VDD budget - Catering, events, questionnaires, etc.	€50,000	For 2025				The work within the framework of the foundations offered by the Center for Ecological Learning Luxembourg (CELL) is taken over by the State.					
140			Cool Neighborhoods	European Interreg project	100% VDD pre-financing.	€100,000	Unique				Interreg reimbursement	€80,000	Unique			



1	Impact Pathways	Theme	Approach	Systemic levers	Cost to municipality	Budgetary requirements	Frequency	Financial approach 2 – PPP	Budgetary requirements	Frequency	Financial approach 3 – third party	Budgetary requirements	Frequency	Financial approach 4 – households	Budgetary requirements	Frequency
141	Social innovation	Citizen participation	Thematic workshops	Benchmark: Living sustainably in Differdange (2023)		€70,000	Per year									
142				Energy: Together towards net zero energy! (2024)	c.f. 142 (part of it)											
143				Mobility: together towards net zero mobility! (2024)	c.f. 142 (part of it)											
144				Waste: together towards net zero waste management! (2024)	c.f. 142 (part of it)											
145				Compensation: How, why, when? Reaching Net Zero in Differdange in 2030. (2025)	c.f. 142 (part of it)											
146				Mobility II: let's reinvent mobility! (2025)	c.f. 142 (part of it)											
147				Zukunftswerkstatt - Workshop of the future: Together towards a net zero future! (2025-2026)	c.f. 142 (part of it)											
148			Investigations	Mobility: online survey (2024)	c.f. 142 (part of it)											
149		Awareness	Actions on the ground	Waste: awareness on the ground (2024)												
150				Waste Museum (2024)	VDD participation	€6,000	For 2024/2025				Work of Grand Duchess Charlotte					
151				Participatory budgets	100% VDD	€50,000	By project									
152		Communication	Dedicated website	Creation of a landing page dedicated to the project (2024) - www.netzero2030.lu	100% VDD	€10,000	Unique									
153				Development of a dedicated website covering all the projects selected in the action plan (2024-2025)	100% VDD	€40,000	Unique									
154			Website of the City of Differdange	Creation of content for the official website of the city of Differdange (www.differdange.lu)	100% VDD; existing budget											
155			Social media	Use of the City of Differdange's Facebook and Instagram accounts	100% VDD; existing budget											
156			Press articles	Sending press releases	100% VDD; existing budget											
157				Interviews with journalists												
158			Magazine "DiffMag"	Monthly magazine of the City of Differdange. Mission articles in each edition.	100% VDD; existing budget											
159		Other European projects	ClimaBorough	Simplification of investment in renewable energies							100% EU	€400,000	Unique			
160			Heat bridge	European project "Life"							100% EU					

Table 9 Guidelines: For each identified action from the Action Plan, please identify the costs specifically to the municipality and what percentage of costs is currently covered. For any actions that will be funded in full or in part by other stakeholders (e.g. private sector, loans, grant funding), please identify where these costs will come from if a source has been identified.

Table 9: Capital Planning

Field of Action	Action/Indicator	Cost to Municipality		Cost to Other	% of Costs Covered
Waste management	Reduction of food waste...	15.000		210.000 until 2030	100%
	Reduction of waste mass	99.000		135.000	100%
...	Improved efficiency in waste processing	...0		0	100%
	Circular economy	0		0	100%
	Organizational optimization	8.002.500 over 12 years			100%
	Littering	25.000			100%
Energy	Renovations	36.825.000		132.000.000	100%
	Decarbonization	12.000.000		17.000.000	100%
	Energy production	2.550.000		23.800.000	100%
	Energy savings	7.760.000		2.750.000	100%
Urban planning	Architecture-public buildings	0		0	100%
	Urban spaces	0		0	100%
	Architecture – private buildings	0		0	100%
Mobility and transport	Public transport – buses	50.680.000		37.200.000	100%
	Public transport - rails	0		0	100%
	Public transport – bike rental	2.400.000			100%
	Motorized transport	13.000.000		7.100.000	100%
	Soft mobility	2.430.000		1.300.000	100%
	Logistics	50.000		0	100%
Compensation	Local compensation	420.000		340.000	100%
	Regional compensation	30.000		390.000	100%
	International compensation	300€/ton			100%

	Purchase of international offset certificates	16€/ton			100%
Climate adaptation		4.360.000		605.000	100%
Social innovation	Citizen participation	420.000			100%
	Awareness	6.000			100%
	Communication	50.000			100%
	Other European projects	0		400.000	100%

Please refer to table 8. Detailed information is contained in that table. All projects that have been planned and calculated up to this date are covered at 100%. If the projects are still in the conceptualization or idea phase, the capital planning will be added to this document in further iterations.

2.3 Module IP-B3: Economic and Financial Indicators for Monitoring, Evaluation and Learning

A range of financial policies need to be considered to execute the actions laid out in the 2030 Climate Neutrality Action Plan. The city's financial policies should align with their current process and capital allocation. This will depend on the actions selected and be drawn from possible financial tools to assist the transition.

Task Goals: *A strong and robust monitoring, evaluation and learning framework is crucial for internal monitoring of the implementation of climate actions, as well as a requirement for securing external capital where any private actor would require the ability to monitor the project implementation and progress towards benchmarks and targets. By developing this framework now, cities can fully track their progress through the NetZeroCities Mission.*

Model IP-B3

Guiding questions:

- Do you have a monitoring system in place that evaluates the impact of green investments?
- Do you have a system to estimate emission reduction (following recognized methodologies) or co-benefits to measure the impact of investments?
- Do you have a monitoring and evaluation system for capital investment planning process-mapping deviation?
- Which indicators are most aligned with the work done in the Action Plan?
- Is the required data for the calculation of selected indicators available, or do you need to involve additional stakeholders?

B-3.1: Textual element

Differdange's approach to monitoring and evaluating its climate initiatives is structured around a developing framework that emphasizes transparency, accountability, and continual improvement. While the city is committed to establishing this framework, it is currently in the process of integrating all necessary components to capture both the progress and the lessons learned from various innovative practices and experiments conducted under the city's climate action plan.

As part of this developing system, Differdange is focusing on setting up regular reporting mechanisms for the status of all its climate-related projects. Future reports are intended to detail advances in initiatives such

as agroforestry and advanced carbon storage techniques, assessing both their effectiveness and their contribution towards the city's overall emission reduction targets. These reports will employ quantitative metrics, such as the amount of carbon captured or the reduction in emissions compared to baseline levels, alongside qualitative assessments of the implementation process.

In addition, Differdange plans to implement a dynamic feedback mechanism that will continuously incorporate data from ongoing projects to refine strategies and tactics. This mechanism will be supported by a robust data management system designed to gather comprehensive data from all relevant stakeholders and projects, facilitating real-time monitoring and enabling thorough evaluations of each initiative's impact once fully operational.

To foster a culture of learning and adaptation, Differdange intends to host regular review sessions involving city planners, project managers, and external experts. These sessions will focus on discussing outcomes, sharing best practices, and integrating new insights into existing and future projects, ensuring that Differdange remains at the forefront of climate action innovation.

The city also recognizes the critical role of community involvement in achieving its climate goals. It plans to engage citizens and local organizations through workshops and public forums to gather feedback and encourage community-driven climate actions. This participatory approach is designed to enhance public awareness of Differdange's climate policies and ensure that community needs and suggestions are considered in policy formulation and project execution.

Through the gradual implementation of these comprehensive monitoring and evaluation practices, Differdange aims to not only track the effectiveness of its climate strategies but also create an adaptive and responsive framework that supports sustained climate action. This systematic approach will assist the city in refining its strategies continually, ensuring that Differdange can meet its ambitious climate goals while fostering a resilient and sustainable urban environment.

*Table 10 Guidelines: Please develop some project- and sector-level economic indicators as well as some cross-cutting indicators to monitor the implementation of the Investment Plan and identified projects. If you are having trouble conceptualizing these indicators, please utilize the **Indicators Guidebook** which can be found on the NetZeroCities portal.*

Table 10: Economic Indicators by Sector

Fields of Action	Indicator	Indicator Unit	Indicator Baseline*	Indicator Target 2030*
Transportation	Proportion of Electric Vehicles in the Municipal Fleet	Percentage (%)	1%*	30%*
	% of Attraction Points with Sufficient Bicycle Parking Facilities		0%*	25%*
	Total Number of Parking Spaces in the urban area	Number	100%	80%
	Average public transport ridership (trips per capita per year)	Percentage (%)	11%	25%
	Share of trips made by cycling, and walking (% of total trips.	Percentage (%)	1%/18%	15%/30%
	Kilometres of dedicated bike lanes built annually.	Number	4.8 km	20 km
	Percentage of last-mile delivery completed by zero-emission vehicles.	Percentage (%)	0%	20%

	<i>(Reduction in heavy vehicle traffic in urban areas (%))</i>			
Built Environment	<i>Funding Provided to Support Sustainable Construction Practices</i>	<i>Monetary value (€, \$, etc.)</i>
	<i>Proportion of Renovated Areas According to National Subsidy Regulations per Capita/Building</i>	<i>Percentage (%)</i>
Energy Systems	Proportion of Renewable Energy for Heating Used by the Municipality/Total Heating Consumption	Percentage (%)	35.7	100
	<i>Municipal Heating Consumption/Energy Reference Area</i>	<i>(kWh/m2) N.A. kWh</i>	11.397.000	
	<i>Municipal Electricity Consumption/Energy Reference Area</i>	<i>(kWh/m2) N.A. kWh</i>	9.684.750	
	<i>Installed PV Capacity (kWp)/PV Potential (kWp)</i>	<i>Ratio (no unit) N. A. kWh production</i>	8.055.000	
	<i>Document – Distribution of Total Electricity Consumption in the Municipality</i>	<i>kWh per sector/area</i>		
	<i>Total Municipal Electricity Consumption (centrally recorded) (kWh)</i>	<i>kWh</i>	270.428.706 kWh	
	<i>Street Lighting Electricity Consumption (centrally recorded) (kWh)</i>	<i>kWh</i>	1.000.000	
	<i>Total Household Electricity Consumption (centrally recorded) (kWh)</i>	<i>kWh</i>	29.800.000	
	<i>Electricity Production in the Municipality (centrally recorded) (kWh)</i>	<i>kWh</i>	8.464.000	
	<i>Proportion of Renewable Electricity Purchased/Total Household Electricity Consumption</i>	<i>Percentage (%)</i>		
	<i>Energy Efficiency Class for Street Lighting</i>	<i>Energy efficiency class (e.g. A+, A, B, etc.)</i>	B	

	<i>Number of Active Members of Energy Cooperatives in the Municipality</i>	<i>Number of members</i>	100	
	<i>Number of Energy Cooperatives</i>	<i>Number of cooperatives</i>	3	
	<i>Capacity of Installations Operated by Energy Cooperatives</i>	<i>kWp (kilowatt peak)</i>	430	
	<i>Installed PV Capacity per Capita (kWp)</i>	<i>kWp/Capita</i>	268	
	<i>Chargy Charging Stations (individual charging opportunities)/1,000 Residents</i>	<i>Charging stations per 1,000 residents</i>	0.54	
	<i>Annual Funding Distributed per Capita</i>	<i>Monetary value per capita (€, \$, etc.)</i>		
	<i>Implementation Rate of the Energy Plan</i>	<i>Percentage (%)</i>	15	
Green Infrastructure and Nature Based Solutions	<i>Number of As-Built Energy Certificate Inspections Compared to the Number of Building Permits per Year</i>	<i>Ratio (Inspections/Permits)</i>	599/80	...
	<i>Number of Energy Efficiency Site Inspections Compared to the Number of Building Permits per Year</i>	<i>Ratio (Inspections/Permits)</i>	599/80	
	<i>Proportion of Green Spaces in Urban Areas Compared to Total Urban Area</i>	<i>Percentage (%)</i>	10%	20%
	<i>Proportion of the Municipal Area with Separate Systems or Retention and Infiltration Systems (Wastewater/Rainwater)</i>	<i>Percentage (%)</i>		
Waste and Circular Economy	<i>Household Water Consumption per Year (L/Capita/Day)</i>	<i>Litres per capita per day (L/Capita/Day)</i>
	<i>Progress Toward Climate Pact Goal Achievement</i>	<i>Percentage (%)</i>	50%	75%
	<i>Number of Consultations by 'Klima-</i>	<i>Consultations per 1,000 residents</i>	5	10

	<i>Agence (MyEnergy)' per 1,000 Residents per Year</i>			
	<i>'Enercoach' Report</i>	<i>Report (qualitative/quantitative)</i>		
	<i>CO2 Balance Based on EcoRegion/Ecospeed or Comparable Accounting Tools</i>	<i>Metric tons of CO2</i>	<i>1,165,000</i>	<i>Net Zero</i>
	<i>Proportion of Residents with Access to an Early Warning System – > Klimaanpassung</i>	<i>Percentage (%)</i>	<i>10%</i>	<i>25%</i>
	<i>Waste Reduction: Total Municipal Waste (kg/Capita)</i>	<i>Kilograms per capita (kg/Capita)</i>	<i>717.94</i>	<i>430.76</i>
	<i>Waste Separation: Proportion of Residual Waste (not recyclable) from Total Municipal Waste (%)</i>	<i>Percentage (%)</i>	<i>49%</i>	<i>35%</i>
	<i>Reduction of CO2 Emissions/Energy Reference Area</i>	<i>kg CO2/m2</i>		
	<i>CO2 Emissions/Households (kg CO2/Household)</i>	<i>kg CO2/Household</i>		
	<i>Water Consumption of Municipal Buildings/Energy Reference Area</i>	<i>Beds/m2</i>		
	<i>Water Leakage Rate</i>	<i>Percentage (%)</i>	<i>10%</i>	<i>7%</i>
	<i>Population Connection Rate to Biowaste Collection</i>	<i>Percentage (%)</i>	<i>50%</i>	<i>95%</i>
	<i>Annual per Capita Collection of Municipal Waste ('Monopoly Waste')</i>	<i>Kilograms per capita (kg/capita)</i>	<i>717,94</i>	<i>430,76</i>
	<i>Residual Waste Generation in kg/Capita</i>	<i>Kilograms per capita (kg/capita)</i>	<i>171.6</i>	<i>103</i>
	<i>Annual Result of the Evaluation Matrix (issued by AEV)</i>	<i>Score/Rating</i>	<i>67%</i>	<i>>75%</i>
	<i>Number of Climate Team Meetings per Year</i>	<i>Number</i>	<i>5</i>	<i>10</i>
	<i>Media Articles per Year on All Aspects of the Climate Pact</i>	<i>Number</i>	<i>15</i>	<i>25</i>
	<i>% of Events Held as Green Events/Total Events</i>	<i>Percentage (%)</i>	<i>NA</i>	<i>100</i>

	<i>Climate Bonus Subsidies</i>	<i>Monetary value (€, \$, etc.)</i>	<i>175,000</i>	<i>250,000</i>
	<i>Sustainably Managed Forest Area (% of Total Forest Area)</i>	<i>Percentage (%)</i>	<i>100%</i>	
	<i>Organically Farmed Agricultural Area (% of Total Agricultural Area)</i>	<i>Percentage (%)</i>	<i>0%</i>	<i>25%</i>
	<i>Number of Participants</i>	<i>Number</i>	<i>56</i>	
	<i>Percentage of Participants Not Part of the Municipal Team, a Consulting Committee, or the Climate Team</i>	<i>Percentage %</i>	<i>NA</i>	
	<i>Number of Actions per Year</i>	<i>Number</i>		
	<i>Priority Indicators Derived from Section 2.a. (1.1.3 in KP 2.0)</i>	<i>Varies (e.g. percentage, quantity)</i>		
	<i>Proportion of the Population Benefiting from the Measures</i>	<i>Percentage (%)</i>		
	<i>Implementation Rate of the Concept Measures (%)</i>	<i>Percentage (%)</i>	<i>NA</i>	
	<i>Nutrient Balance</i>	<i>Various units (e.g. kg/ha, mg/L)</i>	<i>NA</i>	
	<i>Resources Used per Capita</i>	<i>Various units (e.g. kg/person, m3/person)</i>	<i>NA</i>	
	<i>Implementation Rate of the Concept</i>	<i>Percentage (%)</i>		

**Indicative indicators*

*Table 11 Guidelines: Please develop some project- and sector-level financial indicators as well as some cross-cutting indicators to monitor the implementation of the Investment Plan and identified projects. If you are having trouble conceptualizing these indicators, please utilize the **Indicators Guidebook** which can be found on the NetZeroCities portal.*

Table 11: Financial Indicators by Sector

Fields of Action	Indicator	Indicator Unit
Transportation	<i>Investment in Sustainable mobility infrastructure</i>	€
	<i>Public Transport operating costs</i>	€
	<i>Annual Street infrastructure costs</i>	€

Built Environment		<i>Annual Funding for energy Efficiency in buildings</i>	€
Energy Systems		<i>PPP Funding</i>	<i>Number of PPP projects</i>
		PPP Funding	€
		Annual Investment in renewable energy projects	€
Citizen engagement		<i>Annual budget for public awareness campaigns</i>	€
		<i>Annual subsidies granted for sustainable practices</i>	€
Green Infrastructure and Nature Based Solutions		<i>Green Financing Initiatives</i>	<i>Number of new financing tools</i>
Waste and Circular Economy		<i>Cost of waste management and recycling operations</i>	€
Compensation		<i>Cost of Carbon offsetting programs</i>	€
		<i>Revenue from carbon sequestration activities</i>	€
Revenue		<i>Revenue from Renewable Energy Generation</i>	€
		<i>Carbon Pricing Revenue</i>	€
		<i>Income from Waste Recovery</i>	€
		<i>Subsidies and Grants received</i>	€
Savings	Annual Savings from Energy Efficiency measures	€	
		Reduced Fossil Fuel Expenditures	€
Long-term financial indicators		Cost of Inaction	€
		Lifecycle cost of major climate projects	€
		Return of investment on green projects	%

3 Part C – Enabling Financial Conditions for Climate Neutrality by 2030

Part C ‘**Enabling Conditions for Climate Neutrality by 2030**’ is the third section of the Investment Plan and is intended to identify other enabling factors the city needs to consider in the implementation of the Investment Plan.

3.1 Module IP-C1: Climate Policies for Capital Formation and Deployment

The allocation of capital will need to be optimized between both public and private sources across the portfolio outlined in the Action Plan to meet the cost of the actions identified for reaching climate neutrality over time.

Task Goals: *Tied to A3, this exercise is an opportunity for cities to identify existing and potential policies to help facilitate capital flows towards climate actions. This could be focused on high-level municipal actions such as the ability to issue green municipal bonds, through to increasing parking fares in the city centre to raise funds for climate actions. If including EU-wide and national policies, please explain the direct impact for the city of these actions. **Although linked to the Action Plan exercise, please use this as an opportunity to identify climate policies that specifically support capital formation and deployment.***

Model IP-C1

Guiding questions:

- Does your city have an existing process for policy formulation (tool method, transversal team, procurement and innovative contracting, etc.) that supports financing or funding innovative areas and climate action?
- What process is in place for your Transition Team to input on financial/funding policy, so that they do not operate in a silo for the 2030 ambition?

C-1.1: Textual element

Differdange’s approach to climate finance is characterized by an integrated and proactive strategy, focusing on the optimization of capital allocation between public and private sources. This strategic alignment is vital to meet the costs associated with the extensive set of actions identified in the Climate Action Plan aimed at achieving climate neutrality.

Strategic Framework and Policy Formulation

The policy formulation process in Differdange is streamlined due to its relatively small administrative structure, facilitating swift decision-making processes. Climate-related policies are primarily formulated by the mayor and aldermen, reflecting a direct and effective governance model. This approach is supported by the establishment of the ‘Service écologique,’ which centralizes climate-relevant actions and ensures that departments like Energy, Urban Planning, and Mobility are aligned with the city’s climate neutrality objectives.

The Transition Team, which includes department chiefs and an external consultant from EVERARD Consulting & Communication, plays a pivotal role in integrating cross-departmental insights into financial and funding policies. This team structure prevents operational silos and ensures that the city’s climate ambitions are cohesively pursued across all municipal activities.

Existing Policies Supporting Climate Initiatives

Differdange has adopted several strategic policies and initiatives that support its climate action goals. Just to name a few:

- **Climate Pact:** Supported by Luxembourg's Ministry for the Environment and managed by Klima-Agence, this pact involves municipalities in sustainable energy transition initiatives, backed by state funding for climate consultancy.
- **Waste Legislation and National Waste and Resource Management Plan:** These legislative frameworks promote reduction, reuse, and recycling, aligning with European directives to enhance waste management efficiency.
- **Naturpakt:** Focused on biodiversity and natural resource management, this strategy involves financial support and expertise to municipalities for adopting sustainable environmental measures.
- **National Integrated Energy and Climate Plan (NECP):** Guides Luxembourg's energy and climate strategy, aiming for significant reductions in greenhouse gas emissions by 2030.

These policies not only facilitate the efficient allocation of resources but also ensure that Differdange is aligned with national and European environmental standards, enhancing its capability to attract and manage funds necessary for its climate initiatives.

Challenges and Future Directions

While Differdange has established a solid foundation for policy-driven climate action, several challenges remain, particularly in enhancing private sector engagement and expanding innovative financing mechanisms like green bonds or special environmental taxes. The city acknowledges the need for a more detailed and systematic approach to capital formation, especially in terms of engaging with European partners to leverage additional funding opportunities.

In conclusion, Differdange's strategic policy framework and its commitment to integrated and sustainable climate action set a strong foundation for achieving climate neutrality. The ongoing development of financial strategies and the enhancement of collaborative policy frameworks are essential to ensure the successful implementation of the city's ambitious climate goals by 2030.

Table 12 Guidelines: Please identify and describe any potential policies to support capital facilitation and deployment in the city, describing the policy, its current status or stage of development, and the intended outcome (e.g. increased parking fares to deter driving but also raising capital for additional climate actions). **For city-level policies, please include some quantifiable range as to the amount of capital raised by intended policies.**

Table 12: List of Climate Policies to Enable Capital Deployment

Climate Policy	Policy Status (Enacted, In Process, Development, etc.)	Description of the policy (sector, targeted audience, etc.)	Intended Outcome for Capital Formation
Climate Pact	In process	The Climate Pact, supported by Luxembourg's Ministry for the Environment, Climate and Sustainable Development and managed by Klima-Agence, commits municipalities to adopting European Energy Award measures to promote a sustainable energy transition, with state funding for climate consultancy and rewards according to certification levels. Aiming for a 55% reduction in greenhouse gas emissions by 2030 compared to 2005, and carbon neutrality by 2050, the pact involves initiatives in renewable	Evaluation of implemented projects. The city gets a medal and receives a budget according to the number of inhabitants. The state provides direct financial support for climate consulting and rewards municipalities based on certification levels. This funding incentivizes investment in local energy transition projects and climate-neutral initiatives.

		energy, circular economy and air quality, reinforcing the municipal commitment to responsible energy management.	
Naturpakt	In process	The 'Naturpakt' is a collaborative strategy between the State and municipalities to promote biodiversity and natural resource management, with a particular focus on preserving urban, aquatic and forest areas. Cities participating in the pact, which includes a certification system similar to that of the Climate Pact, commit to adopting sustainable environmental measures, in return receiving financial support and expertise to help them achieve these objectives by 2030.	Evaluation of implemented projects. The city gets a medal and receives a budget according to the area of the municipality. Municipalities receive financial aid for biodiversity projects, such as urban greening, forest management, and water conservation, securing capital investments for climate resilience initiatives.
Waste Legislation	In Process	The revised 2022 Waste Management Law aligns national policies with European directives to minimize waste production and promote recycling. It establishes ambitious targets for reducing food waste, plastic pollution, and organic waste, supporting circular economy principles.	Reducing landfill reliance and enhancing waste recovery channels attract investment in recycling infrastructure, composting facilities, and waste-to-energy projects, fostering new revenue streams in waste management.
National Waste and Resource Management Plan (NWRMP)	In Process	The National Waste and Resource Management Plan (PNGDR) sets waste reduction and circular economy strategies, supporting reuse, recycling, and sustainable resource management.	Directs financial flows towards infrastructure investments in waste reduction, promoting public-private partnerships for resource recovery and recycling initiatives.
NECP (National Energy and Climate Plan)	In Process	Luxembourg's NECP outlines strategies to cut GHG emissions by 55%, expand renewable energy to 25%, and enhance energy efficiency by up to 44% by 2030. The plan supports policy-driven investment in sustainable energy infrastructure.	Drives capital investment in renewable energy projects, energy efficiency measures, and smart grid technologies through funding mechanisms, state grants, and EU incentives.

Ouni Pestiziden	In Process	A national initiative eliminating pesticides in public spaces, agriculture, and households through awareness campaigns and policy measures, improving biodiversity and environmental health.	Reduces municipal pesticide expenses while redirecting financial resources to sustainable land management practices and alternative pest control solutions, fostering new market opportunities in green landscaping.
National Mobility Plan 2035 (PNM2035)	In Process	A national transport strategy managing an anticipated 40% increase in travel by 2035, with investments in sustainable mobility, including cycle paths, rail networks, and park-and-ride infrastructure.	Directs state capital investment into Differdange's transport infrastructure, expanding cycling and public transit facilities, reducing car dependency, and lowering emissions through sustainable mobility incentives.
Spatial Planning Master Plan (PDAT2030)	In Process	A national framework guiding urban and regional development to minimize land artificialization, strengthen biodiversity protection, and integrate climate adaptation into spatial planning.	Encourages sustainable urban development, unlocking financial support for eco-friendly infrastructure projects and attracting investment into green urban spaces and climate-adaptive urban planning.
Communal Regulations	In Process	Local government autonomy allows municipalities to enact regulations supporting climate neutrality, particularly in waste management, building energy standards, and emissions reduction.	Facilitates capital allocation for local sustainability projects by enabling fee structures (e.g., waste tariffs), enforcing energy efficiency standards, and encouraging sustainable development policies.
Resource Concept	In Process	A Differdange-specific strategy focusing on efficient resource management, selective waste collection, and recycling, reducing waste production while optimizing recovery.	Stimulates investment in recycling infrastructure and creates cost savings by reducing landfill fees, contributing to municipal financial sustainability.
PAP/PAG (Land Use Plans)	In Process	The General and Special Development Plans (PAG/PAP) regulate land use and urban development, incorporating sustainability criteria for climate-conscious urban planning.	Influences land value and attracts investment in sustainable real estate development, promoting energy-efficient buildings and low-carbon construction.

Sustainable Urban Mobility Plan (SUMP)	In Process	EU-recommended framework for cities to improve urban mobility by reducing congestion, air pollution, and road safety risks while integrating climate-friendly transport solutions.	Unlocks EU funding and national grants for mobility infrastructure, supporting projects in public transit expansion, pedestrianization, and bike-sharing systems.
Traffic Regulations	In Process	Local policies regulating transport, including restricted traffic zones, parking fees, and low-emission zones to discourage car use and encourage sustainable alternatives.	Parking revenue is reinvested into sustainable transport projects, supporting cycling infrastructure and electric mobility incentives.
Energy Concept	In Process	A strategic energy plan for Differdange focused on local renewable energy production, grid modernization, and increased efficiency.	Attracts investment in renewable energy infrastructure and energy-efficient building retrofits, with long-term savings on municipal energy costs.
Outsourcing - Recycling Park	In Process	Differdange's recycling park enhances waste sorting, collection, and recycling services, integrating circular economy principles into waste management.	Reduces municipal waste management costs, generates revenue from recovered materials, and attracts private sector investment into circular economy initiatives.
FSC-PEFC Forest Certification	In Process	International forest management certifications ensuring sustainable forestry practices that balance ecological, economic, and social aspects.	Creates financial incentives for sustainable forest management and enhances the market value of certified wood products.
Fairtrade	In Process	Differdange's Fairtrade certification demonstrates commitment to ethical trade, sustainability, and corporate social responsibility in procurement and local economy initiatives.	Encourages local economic development by supporting ethical supply chains, attracting sustainability-driven investors and businesses.
European Regulations	In Process	F. ex.: EU waste management directives promote recycling, landfill reduction, and sustainable practices across multiple industries.	Facilitates EU funding opportunities for compliance-driven waste management infrastructure investments.

FUSILLI	In development to keep funded after EU funding ended.	A Horizon 2020 project supporting sustainable urban food systems through pilot programs on local food production, waste reduction, and CO2 reduction.	Attracts EU research and development funding into Differdange's sustainable food projects, fostering green economic growth.
European Mobility Week	In Process	An EU-led awareness campaign promoting sustainable urban mobility, encouraging alternative transport methods through events and policy discussions.	Supports behavioral change that strengthens long-term demand for climate-friendly transport investments.
European Green Deal	In Process	A long-term EU strategy targeting climate neutrality by 2050, incorporating financing mechanisms such as the Just Transition Fund and Green Taxonomy for sustainable investment.	Opens access to EU grants, green bonds, and climate investment funds for city-level climate actions.
EU Mission: 100 Climate-Neutral and Smart Cities by 2030	In Process	<p>The EU Mission for 100 Climate-Neutral and Smart Cities by 2030 aims to support selected cities in achieving climate neutrality through a systemic transformation of urban energy, transport, and resource use.</p> <p>Differdange is actively pursuing recognition as a mission city to gain access to tailored EU funding, technical support, and expertise to accelerate its transition.</p> <p>The mission facilitates collaboration between municipalities, industry leaders, and financial institutions to develop innovative, scalable solutions for urban decarbonization.</p>	<p>Participation in the mission opens pathways for significant EU funding through instruments such as Horizon Europe, the Just Transition Fund, and the European Investment Bank. It also attracts private sector investment in climate-related infrastructure, supports the creation of innovative financing models, and positions Differdange as a leader in urban sustainability, making the city more attractive for green economic development and job creation.</p>

More policies will be added in future iterations if the necessity occurs.

3.2 Module IP-C2: Identification and Mitigation of Risks

The risks relevant to the implementation of an Investment Plan should be considered, which may impact the ambition to achieve climate neutrality, mitigation techniques should be identified where necessary and where possible, these should align with the financial policies selected.

Task Goals: All projects identified in the Climate Action Plan will have potential risks regarding funding and financing – for example, a project overshooting cost estimates. By establishing a risk management framework and developing risk mitigation at both the sector and project level, cities can ensure they are equipped to identify any problems quickly, and sufficiently deal with these problems once they arise.

Model IP-C2

Guiding questions:

- Does risk analysis feature in your decision-making investment process?
- How do you regularly identify and measure risk related to financing actions?
- What is your understanding of risk mitigation and quantification methods?
- How have you devised your risk management framework and how frequently – and via what process – will it be reviewed?

C-2.1: Textual element

Differdange recognizes the critical need for a comprehensive risk management framework to navigate the complexities of achieving climate neutrality by 2030. As the city progresses with its Climate Action Plan, there is a growing understanding that the existing measures, while prudent, may not fully meet the extensive requirements set by the EU Commission for systematic risk management. This acknowledgment is shaping the city's approach to risk analysis and mitigation in its investment processes.

Current Approach to Risk Management

Currently, Differdange employs a 'prudent man' approach to investment decision-making, which relies heavily on expert advice and external consultancy to assess and manage risks. This method ensures that each project is evaluated thoroughly, focusing on sustainability and financial viability before any commitments are made. However, this approach is primarily reactive rather than proactive, and it operates within the limitations of available expertise and resources.

The city's departments, supported by professional consultants, monitor projects closely, yet the process lacks the depth of a fully integrated risk management system that the EU guidelines envision. This system would require a more detailed and frequent analysis of potential financial and operational risks and a strategic response plan tailored to each sector and project.

Need for Enhanced Risk Management

Acknowledging these gaps, Differdange is keen to develop a more robust framework that includes comprehensive risk quantification and mitigation strategies. The city is in the initial stages of exploring how to integrate advanced risk assessment tools that can provide more detailed insights into the financial and operational aspects of climate-related projects.

Seeking Guidance and Support

To move towards a more advanced risk management system, Differdange is actively seeking support and coaching from the NetZeroCities mission. Assistance from experienced professionals in this field would be invaluable in helping the city to establish a systematic approach that aligns with EU standards. This support would enable Differdange to not only understand the broader spectrum of potential risks but also to implement effective strategies to mitigate them preemptively.

Future Development of Risk Management Practices

The city plans to develop its risk management framework by incorporating detailed regular reviews and updates that adapt to new challenges and opportunities as they arise. This will involve training for internal teams and possibly expanding the role of external consultants to ensure continuous improvement in risk management practices. The goal is to create a dynamic, responsive framework capable of supporting Differdange's ambitious climate goals effectively.

While Differdange currently relies on a conservative and somewhat fragmented approach to risk management, there is a clear directive to enhance these practices. By establishing a more structured and comprehensive system with the support of the NetZeroCities mission, Differdange aims to safeguard its investments and

ensure the successful implementation of its climate action initiatives. This strategic shift will not only address the immediate needs for risk management but also set a sustainable foundation for future climate actions.

Table 13 Guidelines: Please identify potential risks, routes to monitoring these risks, and a mitigation plan to prevent risk escalation. This should be completed for the project- and sector-level as well as city-wide risks. Instead of simply listing risks, this is an opportunity for cities to outline a risk management framework (including identifying high, medium and low priority risks), the likelihood of all risks and any residual risks following mitigation actions.

Table 13: Climate Investment Plan Risk Framework

Fields of Action	Sectoral Project	Risks Identified	Description of Risk	Risk Priority	Mitigation of Risk
Transportation	Mobility projects	Lack of Skilled Labour	<i>Shortage in labour can slow down infrastructure projects, such as public transport enhancements</i>	High	<i>Develop partnerships with technical schools and universities to ensure a steady supply of qualified professionals</i>
	...	Dense Mobility Network...	Difficulty in modifying existing infrastructure due to complexity and cost.	Medium	Engage with urban planners and civil engineers to design flexible project phases that can adapt to existing infrastructure.
Built Environment	Built environment projects	Lack of Skilled Labour	<i>Shortage in labour can slow down infrastructure projects, such as public transport enhancements</i>	High	<i>Develop partnerships with technical schools and universities to ensure a steady supply of qualified professionals</i>
	...	Legislative and Administrative Barriers	Complex regulations can delay the adoption of green building standards.	Low	Work with legal experts to streamline approval processes and advocate for more supportive legislation.
	Renovations	Old Building Stock	Challenges in integrating modern energy solutions into historic or older buildings.	Medium	Implement incentive programs for retrofitting older buildings with energy-efficient technologies.

	Greening	Limited Public Space	Constraints in expanding green infrastructure due to limited availability of land.	Low	Utilize vertical greening and rooftop gardens to overcome space limitations.
Energy	Energy projects	Lack of Skilled Labour	Shortage in labour can slow down infrastructure projects, such as public transport enhancements	High	Develop partnerships with technical schools and universities to ensure a steady supply of qualified professionals
	Energy production	Manpower Shortage	Affects the implementation of renewable energy projects.	High	Introduce training programs and incentives to attract workers to the renewable energy sector.
		Material Shortages and Rising Prices	Increases costs and delays in energy projects.	Medium	Diversify suppliers and consider longer-term contracts to mitigate price volatility.
		Conflict Between Environmental and Climate Protection	Choices that benefit the climate may not always align with local environmental concerns.	High	Establish a clear policy framework that balances climate goals with environmental protection.
Green infrastructure and Nature Based Solutions	Planning	Integration into Urban Planning	Siloed operations can hinder coherent development of green infrastructure.	Medium	Foster interdisciplinary teams across departments to ensure cohesive planning.
	Space	Public Space Limitations	Restricted space for new developments.	Low	Innovative design solutions like multi-use green spaces that serve both recreational and ecological functions.
Waste and Circular Economy	Waste management projects	Lack of Skilled Labour	Shortage in labour can slow down infrastructure	High	Develop partnerships with technical schools and

			<i>projects, such as public transport enhancements</i>		<i>universities to ensure a steady supply of qualified professionals</i>
		Siloing in Municipal Departments	<i>Affects the coordination needed for effective recycling and waste reduction systems.</i>	Medium	<i>Department Coordination: Implement cross-departmental workshops and joint projects to break down silos.</i>
		PPP Implementation Constraints	<i>Financing and regulatory challenges can limit innovative waste management solutions.</i>	Medium	<i>Develop clear frameworks for PPPs that outline roles, responsibilities, and benefits for all parties.</i>
City-Wide Risks (Cross-Cutting)		Substantial Delays Due to Elections – a problem at the start of the mission. Elected officials should be in office until 2028, when the next elections will take place.	Delays in decision-making and fund allocation can stall projects.	High	Establish contingency plans that account for electoral cycles and ensure continuity of transportation projects regardless of political changes.
		Collective Mentality Resistance	Public resistance to new policies or technologies.	High	Public Engagement: Increase community outreach and education to shift public opinion and gain support for climate actions.
		Political and Economic Interests	Conflicting interests can derail climate initiatives.	Medium	Stakeholder Alignment: Regular consultations with political and economic stakeholders to find common ground and cooperative strategies.

3.3 Module IP-C3: Capacity Building and Stakeholder Engagement for Capital and Investment Planning

Internal capacity and capabilities should be assessed and developed, working with both internal and external stakeholders to accelerate the transition to climate neutrality by 2030. This stakeholder mapping and identification of engagement pathways are tied to the Action Plan exercise but should focus on financial and investment-focused stakeholders including (but not limited to) municipal banks, private sector companies that must invest to decarbonize their assets and all private capital providers or funding organizations. For non-financial stakeholders, provide a breakdown of costs for any stakeholder incentive schemes such as transport subsidies or funding for retrofitting of residential properties.

Task Goals: *The first element of this task is an opportunity for cities to assess internal capacity and identify any knowledge or resource gaps within the Transition Team. This should be clearly outlined in the text as well as any plans to overcome these gaps.*

*For the stakeholder engagement exercise, cities should use this exercise to identify any potential stakeholders that can support the financing and development of their Climate Action Plan. As has been documented, the local authority accounts for a small proportion of emissions within the city and private stakeholders must also invest to decarbonize their emitting assets. By identifying these stakeholders early, cities can facilitate engagement optimally. **Cities can take the same approach to this task as the similar task within the Climate Action Plan, but focus on financial actors (i.e. any stakeholder that can deploy funds for proposed climate investments – whether to public projects or their own corporate actions) or the costs associated with interacting with the non-financial actors (e.g. incentive schemes for citizen behavioural shift).***

Model IP-C3

Guiding questions:

- Is your Transition Team well resourced and does it have the necessary skillsets to develop a robust Investment Plan?
- Have you identified the capacity gaps (both knowledge and personnel) in your Transition Team to develop and implement the Plan?
- Have you identified relevant stakeholders to develop an Investment Plan in your city?
- Do you have a clear engagement strategy for relevant stakeholders?

C-3.1: Textual element

In the development of the Investment Plan for Differdange, the city faces considerable challenges in terms of internal capacity and stakeholder engagement, necessary for transitioning to climate neutrality by 2030. The city's Transition Team, which is central to this effort, has encountered significant limitations in both resources and expertise, as outlined in your comprehensive feedback.

Firstly, the Transition Team's experience in completing this Investment Plan has starkly highlighted the existing capacity gaps. The team, pushed to its limits, struggled with the absence of necessary data, which had never been collected due to any prior requirement. Furthermore, the intricate level of financial detail required by the Investment Plan exceeded the granularity of Differdange's usual budgetary practices. Clearly, the city's current resource allocation and the skill set of the Transition Team are inadequate for the demands of such detailed financial planning. Recognizing these deficiencies, Differdange has embarked on an internal analysis conducted by Deloitte to better organize departmental responsibilities and missions. Additionally, the city has made a strategic move by hiring a new staff member specialized in managing EU projects, indicating a step towards enhancing its administrative capacity for climate-related projects.

Regarding stakeholder engagement, Differdange has successfully identified key financial and non-financial stakeholders crucial for the climate mission. The planned onboarding of these stakeholders in 2025 is pivotal. It is expected that by then, the administrative groundwork of the mission will be set, allowing for effective engagement. The city aims to host major events to not only present the mission and its associated projects but also to actively involve stakeholders in areas pertinent to them. This strategy, however, is hampered by the

persistent issue of limited manpower, a significant challenge for a small city like Differdange. Nevertheless, the commitment to overcoming these obstacles is evident, as the city pledges to utilize all available resources to ensure the successful implementation of its climate strategies.

Differdange's approach to stakeholder engagement is expected to evolve as the city enhances its internal capabilities. The ongoing efforts to increase staffing and improve organizational structures are steps towards developing a robust framework capable of supporting ambitious climate actions. By addressing these internal and external challenges head-on, Differdange is laying the groundwork for a sustainable and inclusive approach to achieving climate neutrality, demonstrating resilience and proactive governance in the face of substantial obstacles.

Table 14 Guidelines: Please identify any financial stakeholders – private sector companies, commercial banks and lending organizations – that the city has an existing or future relationship with, including the level of influence and interest, and the type of engagement. If they are linked to a specific climate action or project, please list that here as well as the required investment from the stakeholder.

Table 14: Stakeholder Engagement Mapping

Stakeholders involved	Required Investment (€)	Network	Influence	Interest	Level and Type of Engagement
Ministry of Environment, Climate and Biodiversity	€100,000 at least	Government	High	High	Financial support
Ministry of Energy	€112.124.992 at least	Government	High	High	Financial support
The Ministry of Agriculture, Food and Viticulture	% of investment	Government	High	Medium	Financial support
The Ministry of Mobility and Public Works	€38.500.000 at least	Government	High	High	Financial support
Administration des Ponts et Chaussées — Road and Bridges administration	€5.000.000 at least	(Semi-) Public governments	High	High	Financial support
Inter-municipal trade unions	€1.000.000 at least	Municipal government	Medium	Medium	Financial support
Creos	€1.800.000 at least	(Semi-) Public governments	Medium	High	Financial support and planning
Klima Agence	% of investment	(Semi-) Public governments	Medium	High	Financial support and planning
Arcelor Mittal	% of investment	Industry	High	Medium	TBA
SUDenergie	€1.800.000 at least	Business	Medium	High	Financial support and planning
LUX ENERGY	% of investment	Business	Medium	High	Financial support and planning

Luxembourg National Railway Company (CFL)	% of investment	(Semi-) Public governments	Medium	High	Financial support and planning
POST Luxembourg	€1.800.000 at least	(Semi-) Public governments	Medium	High	Financial support and planning

Table 15 Guidelines: For any engagement or incentive schemes involving non-financial actors, please list these below and identify any specific costs to the city for conducting these (e.g. reduced transport fares to encourage modal shift).

Table 15: Stakeholder Activity Cost

Stakeholders involved	Activity	Cost to Municipality (€)
Public kitchens	The municipality is subsidizing some Orbisk gastronomy systems in test phases with the aim of them realizing the money saved and using this system which massively reduces food waste. Objective: state subsidies, agreement with Orbisk for an advantageous price.	€15,000/year
Households	Zesumme renovéieren project Energy renovation of existing single-family houses	5.000.000 €/year
Households	Idea: Energy renovation of residences Residences requiring sanitation are: 910 units	1.137.500 €/year
Households	Decarbonization of heating systems in single-family homes Request for subsidies from the State in collaboration with the Klima Agency	€833,333/year
Inhabitants	Public transport – DiffBus	2.600.000 €/year
Inhabitants	Public transport – TICE	5.400.000 €/year
Inhabitants	Public transport – Dinola – Address-to-address transport service on request.	€170,000/year
Inhabitants	Public transport – Nightrider	€50,000/year
Inhabitants	Self-service bikes – Vel'OK	€400,000/year
Inhabitants	Car-free day	€1,500/year
Inhabitants	PARKing day	€1,500/year
Inhabitants	Pedestrian guiding system	€50,000/year over 3 years
Inhabitants	Increase in the percentage of children walking to school: pedibus — Awareness and communication; plan media budget	€1,500/year
Inhabitants	Secure Way to School – Séchere Schoulwee Schoulwee	€150,000/year over 6 years
Inhabitants	Bike Boxes	€100,000/year
Inhabitants	Raising awareness of active mobility – SurvCoin	€50,000/year over 6 years
Inhabitants	Subsidies when purchasing electric vehicles and infrastructure (terminals)	€16,000/year

Households	Subsidies for green facades	€20,000/year
Households	Subsidies for green roofs	€20,000/year
Inhabitants	Offer of fruit trees to citizens	€25,000/year
Inhabitants	Subsidies for the demolition of stone gardens	€5,000/year
Inhabitants	Conference on the 2025 climate pact – Theme: Climate adaptation	€50,000
Inhabitants	Thematic workshops	€70,000/year
Inhabitants	Waste Museum (2024)	€6,000
Inhabitants	Participatory budget	€50,000 per project

Date of public announcement of the 23 March 2023
sitting: Date of convening of members: 23 March 2023

*Members present: ALTME/SCH - AGU/AR - BERT/NELL/ - BRASSEL-RAUSCH - DE SOUSA - HARTUNG
- HOBSCHEIT - MANGEN - MEISCH - MULLER - PREGNO RUCKERT-
SCHWACHTGEN -TEMPELS- ULVELING- WEIRICH*

*Adviser represented by delegation of voting rights: L/ESCH (delegation to DE SOUSA) Adviser present via
video conference: WOHL*

Counsellor absent and excused: SAEUL

**Agenda Item 2: Presentation of the "Climate City Contract" guidelines and validation of
the basic agreement**

the Communal Council;

Having regard to the amended municipal law of 13 December 1988;

Revised the deliberation of 22 September 2021 on the approval of the "Climate Pact" contract 2.0" concluded between the State of the Grand Duchy of Luxembourg, the economic interest group My Energy and the City of Differdange, aimed at continuing and strengthening the commitment of local authorities, already initiated by the Climate Pact 1.0, by strengthening the objectives and extending the catalogue of measures, particularly in terms of reducing greenhouse gas emissions, energy efficiency and promoting renewable energies;

Considering that the City of Differdange is a member of the Climate Alliance Luxembourg and moreover has been selected as one of the "100 climate-neutral and smart cities" of the European Union with the objective of becoming carbon neutral by 2030;

Considering therefore that the City of Differdange is committed to achieving the mission of the European Union "100 smart and climate-neutral cities by 2030" in order to fight climate change, promote a sustainable future and increase the attractiveness of the territory in the context of the circular economy and that in this context the city will engage in technical and scientific exchanges with other cities, sharing knowledge and developing innovative solutions;

Whereas the *NetZeroCities Label* gives access to the City of Differdange to world-renowned experts in the field and funding opportunities;

Having regard to the Climate City Contract ('CCC') signed on 22 March 2023 by the City of Differdange, represented by its current College of Aldermen, describing the city's commitments to climate action and establishing a partnership with citizens to work towards a carbon-neutral and climate-resilient future, as annexed hereto;

Considering that it is apparent in particular from the contract that the City has identified five systemic strategic priorities necessary to achieve its objective, in particular an improvement in the efficiency of stationary energy through renovations, self-sufficiency in energy production, the reduction of individual mileage, the reduction of waste and the compensation, largely on its territory, of the tonnages of CO² produced by the municipality. What's more

**Extract from the register for the deliberations of the Municipal Council of the City of
Differdange Public session on Wednesday, 29 March 2023**

it recognises the need for a just transition and that the project implementation process is based on principles such as co-creation, innovation and multi-stakeholder and citizen engagement. This approach ensures that the City's climate neutrality efforts are systemic and demand-driven, taking into account the needs and perspectives of all stakeholders;

Considering that policymakers are aware that investing now in solutions is much cheaper than waiting and having to pay for what has been omitted, or even facing irreparable climate and planetary consequences;

On the proposal of the *conseil municipal*, after having deliberated and voted in accordance with the amended municipal law of 13 December 1988

decided with 16 votes "yes" and 2 abstentions

approve the "Climate City Contract ('CCC')\" signed on 22 March 2023 by the City of Differdange, represented by its current College of Aldermen, describing the city's commitments to climate action and establishing a partnership with citizens to work towards a carbon-neutral and climate-resilient future, as annexed hereto.

This deliberation is not subject to mandatory transmission or approval by the higher authority.

Thus deliberated in the sitting, date only in the

lead. (Follow the signatures)

for compliant extract

Le secrétaire communal,
Henri Krecké



the Mayor,
Christiane Brassel -
Rausch





NET ZER.ù CITIES

EU MISSION PLATFORM 1 (CLIMATE NEUTRAL AND SMART CITIES)

ClimateCity Contract

Climate neutrality commitments for 2030

Engagements de neutralité climatique
de la Ville de Differdange



City of
Differdange

SEE AND APPROVE

by the Municipal Council f lat('A 'S'ioZ3

TIT

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Le Bourgmestre,

[Signature]

Disclaimer

The content of this document reflects the views of the author only. The European Commission is not responsible for any use that may be made of the information contained therein.

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1 Introduction

Explain your city's motivation to join the EU mission "100 smart and climate-neutral cities by 2030" and highlight your city's current climate action commitments. You can also include the objectives of this document.

Text of the City of Differdange:

The city of Differdange in Luxembourg has committed to the European mission "100 climate-neutral and smart cities by 2030" in order to fight climate change and ensure a sustainable future. In doing so, the city hopes to increase the attractiveness of its territory, among other things in the areas of the circular economy and the fight against energy poverty.

One of the key motivations for this commitment is the willingness to engage in scientific exchanges in the field of energy transition at European level. By collaborating with other cities and sharing knowledge, the city of Differdange will develop innovative solutions to the challenges of climate change. This exchange of ideas will also improve the local knowledge of city employees and empower them to contribute to the transition to a sustainable future.

Another motivation for the city's engagement in the EU mission is the *net-zero 2030 target*, which, given the data available at present, is much more necessary than the overall 2050 target. This objective gives the city of Differdange a head start in achieving carbon neutrality, thereby increasing its resilience to a possible energy and climate shock. The city aims to achieve this through a range of measures, including improving the energy efficiency of buildings, promoting sustainable mobility, supporting renewable energy and reducing waste.

Overall, the city of Differdange is committed to taking bold action to combat climate change and ensure a sustainable future for its citizens. The city's participation in the EU mission "100 climate-neutral and smart cities by 2030" will enable it to collaborate with other cities and share best practices, ultimately leading to a more sustainable and resilient future. The mission aims to help European cities achieve carbon neutrality and develop innovative climate solutions.

Differdange is committed to achieving this goal by implementing various sustainable development policies and promoting sustainable initiatives. To demonstrate its commitment to climate action, the city of Differdange was able to show its involvement in several initiatives, including Klimapakt, Climaborough, CIPU, Klimabündnis, and FUSILLI. Klimapakt is a platform that brings together municipalities and other stakeholders in Luxembourg to work on climate change mitigation and adaptation. Climaborough is a project that focuses on developing citizen participation in the financing of energy production facilities and on cooperation with industry. CIPU is the national platform for urban policy and planning that functions as an information platform with the aim of increasing awareness of spatial planning in Luxembourg at the international level. With nearly 2,000 members from 27 European countries, Klimabündnis is the world's largest network of cities dedicated to climate protection. FUSILLI is a project that aims to promote the transformation of the urban food system through the implementation of an innovative living laboratory. The project aims to address the challenges of the transition to sustainable food systems in nearby urban, peri-urban and rural areas by creating a knowledge-sharing and learning network between 12 cities.

This "Climate City Contract" (CCC) is a document that describes the commitments of the city of Differdange in terms of climate action. The CCC aims to build a partnership between the city and its citizens to work together towards a carbon-neutral and climate-resilient future. The document includes measures such as improving the energy efficiency of buildings, promoting sustainable mobility, supporting renewable energy and reducing waste.



Through this contract, the city of Differdange aims to achieve its goal of becoming a climate-neutral and smart city by 2030.

2 Objective: Climate neutrality by 2030

Articulate your ambition of climate neutrality by 2030, as expressed and defined in your expression of interest (EOI) of the Cities Mission. This should include your ambition and commitment to 2030 for the whole city, as well as a description of any exclusion zones and a summary of how these zones will be treated beyond 2030. (A more detailed plan for exclusion zones should be included in the 2030 Climate Neutrality Action Plan). Your ambition for 2030 must be supported at least by a Council decision, and it is recommended that it is also supported by a broader stakeholder group. We also recommend listing other co-benefits you would like to achieve by working towards the goal of climate neutrality, such as well-being, health, equity, justice and financial savings.

Text of the City of Differdange:

According to the Cities Mission's Expression of Interest (EOI) submitted by the city of Differdange, the city's ambition and commitment to 2030 as a whole city includes achieving climate neutrality by 2030, with a focus on climate change adaptation, accessibility, healthcare and equity. The city plans to achieve this ambition through a combination of measures, including increasing the use of renewable energy, promoting sustainable mobility, improving the energy efficiency of buildings and reducing waste.

The city has not identified any exclusion zones. Private stakeholders, such as large industrial players, who are beyond the influence and decisions of the municipality, are unlikely to be able to achieve climate neutrality by 2030. The city will nevertheless keep them informed and consider them an integral part of the process. The city plans to work closely with all stakeholders and engages in international collaboration to address challenges beyond 2030. The city also recognises the need for a just transition, ensuring that no one is left behind, as it strives to achieve its 2030 climate neutrality ambition.

In terms of adaptation to climate change, the city of Differdange plans to develop a comprehensive adaptation strategy, which includes identifying priority areas for action such as the renovation of entire buildings and taking a position on waste management, as well as measures to improve the city's resilience to energy crises. The city also plans to implement measures to improve accessibility, such as promoting sustainable mobility, developing green spaces and improving public transport infrastructure through the development of a Sustainable Urban Mobility Plan (SUMP).

Regarding health care, the city plans to promote healthy lifestyles. This includes measures to reduce air pollution, promote active lifestyles and improve access to green spaces.

Overall, the city of Differdange is committed to achieving climate neutrality by 2030, while addressing the challenges of climate change adaptation, accessibility, healthcare and equity. The city recognises the need for collaboration and stakeholder engagement, especially in the areas of exclusion, and is committed to a just transition through deep civic participation.



3 Key Priorities and Strategic Interventions

This is the central section of the commitment document that should summarise **at least 3-4 systemic strategic priorities** that need to be implemented for your city to become climate neutral by 2030. These must be significant changes that will have a profound impact on reducing GHG emissions in your city, such as decarbonizing the city's heating system or producing 100% energy from renewable sources. Individual commitments made by your city and other stakeholders must address these key priorities and help achieve them. The attached 2030 Climate Neutrality Action Plan should describe in detail all interventions, including those aimed at achieving your priorities as well as all other actions, and describe how your city plans to implement them.

Text of the City of Differdange:

The city of Differdange has identified 5 systemic strategic priorities that are necessary for the city to achieve climate neutrality by 2030*.

The first of these priorities is to focus on stationary energy by setting a 50% renovation target. This means that half of the city's buildings will have to be renovated to improve their energy efficiency.

The second priority is to aim for 100% self-sufficient renewable energy production. This will require moving away from fossil fuels and investing more in renewable energy sources such as solar, wind, biomass and geothermal.

The third priority is to reduce individual mileage by 20% in order to solve the mobility problem. This will be achieved by promoting active mobility options such as cycling and walking, improving public transport services and encouraging carpooling. (Development of a SUMP)

The fourth priority is to increase the recycling quota to 65% and reduce the total amount of waste by at least 40%, which is a significant contribution to reducing greenhouse gas emissions.

Finally, the city of Differdange aims to compensate the tonnage of CO₂ with only 20% of the compensation by the purchase of CO₂ certificates. In addition, 50% of the compensation must be carried out on the city's land, which could require the construction of carbon sinks.

These systemic strategic priorities will have a profound impact on reducing GHG emissions in the city and will be key to achieving the goal of climate neutrality by 2030.

**These priorities focus only on the sectors that fall within the municipality's decision-making sphere.*

4 Principles and processes

Highlight key principles that will guide your city in implementing its climate city contract, such as accountability, transparency, or openness to new approaches. The process must encompass principles such as co-creation, innovation, multi-stakeholder and citizen engagement, and must be systemic and demand-driven in nature. It must also be based on monitoring and common learning. The Commitments Guidance Document provides more specific guidance on how to incorporate these principles into your own process.

Text of the City of Differdange:



The City of Differdange's Climate City Contract (CCC) is guided by several key principles that are essential to the successful implementation of this ambitious plan. These principles include accountability, transparency and openness to new approaches, ensuring that the actions undertaken by the city to achieve climate neutrality are visible and accessible to all stakeholders.

The CCC implementation process is based on principles such as co-creation, innovation and multi-stakeholder and citizen engagement. This approach ensures that the city's efforts towards climate neutrality are systemic and demand-driven, taking into account the needs and perspectives of all stakeholders. The process will also be based on monitoring and common learning, which will make it possible to continuously improve and adapt the plan if necessary.

To ensure inclusiveness, the city plans to publish an annual report on broadcasts, regularly offer civic participation workshops and make all documents available digitally in different languages, as well as in plain language. This will allow citizens to understand and engage in the process, thereby promoting transparency and accountability.

As a model for its citizens and its region, the city of Differdange is committed to ensuring transparency in the collaboration between municipal services. This will facilitate a coordinated approach to achieving climate neutrality, ensuring that all actions are aligned and contribute to the overall goal.

In summary, the principles and process that guide the CCC of the city of Differdange are based on inclusion, transparency and co-creation, ensuring that all stakeholders are engaged in the journey towards climate neutrality. By adopting a systemic and demand-driven approach, the city aims to become a model for other cities in the region and the nation.

6 Signatories

Include a list of stakeholders who are committed to helping your city achieve its goal of climate neutrality by 2030. Detailed commitments and agreements between individuals or groups of stakeholders should be annexed to this commitment document. This list is likely to grow over time.

ACQM				
ArcelorMittal				
LIST				
Ministry of Energy and				
Spatial Planning				
Ministry of Mobility and				
Forgotten Works				
Ministry of Environment				
Ministry of Digitalisation				
National Government				
EVERARD Consulting	Private	Own name	David Everard	Consultant
& Komobile				
Communication				
CELL				
ProSUD				
TNT				
SIACH				
TICE				
CFL				
Bridges and				
Causeways Creos				
Enovos				
Sudenergie				
Svicol				
Minettkomoost				
SIGI				
Climaborough				
Fusilli				
Sales-Lentz				
Luxmobilitv				
ASTA				
Ministry of the				
Environment Ministry of				
Digitalisation				
Ministry of Education				
Klima - Agency				
Ecotec				
National Government				