



# NET ZERO CITIES

EU MISSION PLATFORM | CLIMATE NEUTRAL AND SMART CITIES

## Climate City Contract 2030 Climate Neutrality Action Plan

### 2030 Climate Neutrality Action Plan of Reykjavík City



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## Abbreviations and acronyms

The list of abbreviations and acronyms identifies the abbreviations (a shortened form of a word used in place of the full word) and acronyms (a word formed from the first letters of each of the words in a phrase or name) used in the CCC Action Plan.

Abbreviations and acronyms	Definition
AFOLU	Agriculture, forestry and other land use
BAU	Business-As-Usual
CAP	Climate Action Plan
CCC	Climate City Contract
CoR	City of Reykjavík
ETS	EU's internal Trading System
GHG	Greenhouse gases
IPPU	Industrial Process and Product Use
LULUCF	Land Use, Land-Use Change and Forestry
RGD	Reykjavík Green deal
SECAP	Sustainable Energy and Climate Action Plan
SSH	Association of Municipalities in the Capital area



# 1 Introduction

- Reykjavík is the capital and largest city of Iceland. It is located in southwestern Iceland with the latitude of 64°08' N. The city is the world's northernmost capital of a sovereign state. Reykjavík's population is 135,000 and the Reykjavík Capital Area which includes 6 other municipalities, has a population of nearly 244,000. The total population in Iceland is 385,000 so the Reykjavík Capital Area holds the largest share of the population in Iceland. Despite the northern latitude of Reykjavík, it enjoys a temperate climate as the North Atlantic Current, an extension of the Gulf Stream shapes a relatively mild winter (average 0°C) and cool summer (10-15°C). Reykjavík is one of seven municipalities partnering in the Association of Municipalities in the Capital Area (Samtök sveitarfélaga á höfuðborgarsvæðinu or SSH) and one of 62 municipalities forming the Icelandic Association of Local Authorities (Samband íslenskra sveitarfélaga or Sambandið).
- Reykjavík has a domestic airport just south of the city center. The Keflavik international airport is located 40 km south of the city. Reykjavík is surrounded by sea and has two seaports, the older harbor near the city center, which serves fishing vessels, and the port Sundahöfn, which is the largest cargo and cruise ship port in Iceland.
- In Reykjavík's CCC, there will be an overview of suggested citizen engagement, renewable energy within the city, transportation, waste management, the building sector, emissions, tourism, and the 2030 Climate Target in relation to the city's Climate Action Plan and the Municipal Plan. Due to Reykjavík's unique emission profile, the Action Plan will focus on transportation, waste management and the building sector laying out a pathway for green growth within the city.

## 1.1 Citizen Engagement

- As a relatively small city, engaging with our citizens has been a top priority for the city since 2011 and is enshrined in the city's Democracy Policy [1] published in 2021. Reykjavík is a world-leader in citizen engagement and democracy and offers a participatory democracy portal (íbúalýðræðisvef) [2], which provides an overview of different ways residents can engage directly with the city.
- These pathways will be used to discuss specific issues related to carbon neutrality and will allow the city to actively and effectively engage with residents e.g., the existing suggestion portal (ábendingavefur) [3], where residents can submit suggestions for improvements. In the past, the city has used this portal to receive suggestions from residents regarding improvements, safety issues and feedback on core services in the city.
- The same portal can be used for suggestions regarding ways to achieve carbon neutrality. In addition, there are active neighborhood councils that have monthly open meetings where residents can discuss neighborhood issues with city officials on a regular basis. These councils can be asked to discuss specific emission challenges such as transportation within their neighborhoods.
- In the city's consultation portal (samráðgátt), residents, businesses and/or third parties can be asked to comment on various in-progress strategic and executive initiatives [4]. The aim is to use the consultation portal for large or small proposals related to the city's climate neutrality journey including core services, new policies, and specific issues related to idea development or solutions. A recent example is the open-ended request for ideas that would increase air quality in the city [5].

## 1.2 Renewable energy

- The city transitioned to renewable energy for both power production and geothermal central heating half a century ago. The central heating system was built in response to the 1970s oil shortage when the price of oil for house heating fluctuated greatly and it was considered better to rely on domestic resources. The benefits have been innumerable including accumulative climate and cost related benefits as has been documented by the National Energy Authority (Orkustofnun) [6]. While these numbers are nationwide, they are especially relevant to Reykjavik and the capital area as where two-thirds of the total population lives, and most businesses are registered.

## 1.3 Transportation

- Thanks to this historical switch to renewable energy, a mix of geothermal and hydropower for both electricity production and central heating, Reykjavik has a unique emissions profile where most of the emissions come from transportation. Reykjavik is a spread-out city where most of its urban area consists of low-density suburbs. Car dependency in Reykjavik is high, or 707 vehicles per 1.000 inhabitants, which is much higher than the EU average of 516. It is clear that our efforts to become carbon neutral must focus on the transportation sector. The focus will be to decrease the population's dependency on private cars. Doing so will require substantial engagement with different stakeholders, the general public as well as local governmental agencies and businesses. A special focus will be placed on the tourism sector. For the vehicles that will still be required, an energy transition will be necessary, it is likely that this will be done with a mix of electrification, methane and hydrogen.
- The main emission sector of the city is due to transport, as both electricity and heating are already generated by geothermal and hydropower.
- The city's policies emphasize increasing services for a car-free lifestyle such as increasing density to implement 15-minute districts, increasing infrastructure for walking, bicycling, public transport and micro mobility, while limiting parking spaces and increased charging for parking. Emissions due to transportation are 67% of emissions including Scope 1 and Scope 2 emissions from all the scopes within the city in the base year 2019. The largest part of transportation emissions is due to private cars and service vehicles (mostly in private ownership). Very few companies in the city report on emissions and when they do, the emphasis is on Scope 1 and 2 of their own operations. The emissions from employee's private cars fit into Scope 3 sector (private employers). When GHG of operations are calculated, the emissions from employers are rarely calculated, as Scope 3 emissions are optional [7]. These emissions are included in Scope 1 for the city, so input from individuals and the largest workplaces are extremely important to accelerate the climate-neutrality goal to 2030.
- Emissions due to transportation are divided into the following traffic categories (passenger vehicles, public buses, ship traffic and air traffic):
  - **Passenger vehicles:** Extensive work on the development of transportation infrastructure is in the 2024 regional Transport Treaty of the Capital Area 2024 (Samgöngusáttmáli) [8], where one of the four goals of the agreement is a carbon-neutral society. In the treaty, the national government and the seven capital area municipalities (SSH) agreed to develop the infrastructure and operate the public transport system in the capital area.

- In addition to the Transport Treaty, the national government supports financial incentives and the enactment of laws and regulations to encourage the use of electric cars and electric bicycles.
- Core stakeholders for city infrastructure are the Planning Officer, Office of Transport and Urban Design, Office of Construction and Maintenance for Urban Density, Infrastructure Planning for Eco-Friendly Travel Design and Implementation of Infrastructure for Eco-Friendly Travel.

The above parties work on infrastructure projects that support changing travel habits, but it is essential to follow through so that residents actually make the change in travel behaviour. There are several parties that influence travel habits. Large workplaces and schools within Reykjavík can encourage staff to reduce the use of private cars with positive incentives such as transport agreements and negative incentives such as parking fees. It is important that the city ensures a just transition in the planning and development of infrastructure and in all actions related to changing travel behaviour.

- **Public buses (Strætó) and privately owned bus companies** can impact how fast things will progress by completing an energy transition in their fleets. The same can be said about trucks, with actions from transport companies, tourism companies and companies that handle home deliveries.
- **Ship traffic** accounts for a large part of transport emissions. The owner of city ports, Faxaflóhafnir, is instrumental in leading the reduction of emissions including the fishing fleet, commercial cargo ships and cruise ships.
- **Air traffic.** When evaluating GHG emissions from aviation, flight figures from the Icelandic airport and navigation service provider (ISAVIA) are used. This first version of the CCC does not include actions that will address air traffic emissions.

## 1.4 Waste

- The second-largest emissions factor within the scope of the mission is waste. The capital area biogas and composting facility (GAJA) and a common waste collection system that was recently implemented, have already made a significant impact. The Action Plan aims to further improve the services and reduce emissions from waste by taking measures to implement a circular economy within the city and its surrounding area.
- Extensive work, due to the implementation of recycling laws and changed waste management, has been carried out in the seven municipalities operating in the Capital Area [9] with a unified system in place to ensure that all residents follow the same procedures for waste segregation and recycling. Core stakeholders in the city are the Planning Officer, Office of Environmental Quality, City Land Office, and Sorpa as well as private waste management companies and all companies operating within the city (including the operation of Reykjavík City itself) as well as all residents.

## 1.5 Growth & the Building Sector

- The third focus area for our climate contract is the building sector, which mainly falls under Scope 3 emissions. The building sector is out of the scope of the mission but will be included in this CCC. Reykjavík is a fast-growing city and has the goal of building 1,000-1,500 new apartments per year until 2030 in dense, mixed-use development with neighborhood sustainability as a guiding principle. In addition, the city's comprehensive

plan includes large infrastructure projects that will be built within city boundaries in the near future, aimed at better connecting different parts of the city.

- Building sector - materials: Extensive work on green structures has been carried out in a broad consultation under the umbrella of a collaborative project between the government and building sector stakeholders called "Building a Greener Future", and the City of Reykjavík is participating in that project [10]. A number of stakeholders participated in that work and the follow-up of the actions that were put forward there are important to achieve carbon-neutrality.

## 1.6 Other Scope 3 Emissions

- Industrial processes and product use (IPPU): The government is an important actor due to the follow-up on establishing rules for the phasing out of F gases. Fisheries companies (due to the use of F gas in freezer trawlers) and the national hospital (Landspítali-hákólasjúkrahús) are especially important stakeholders for this action. Retail stores and other businesses that use refrigerants in their operations would also be affected. The government's climate Action Plan lists actions to reduce these emissions that are addressed in this CCC.
- Domestic food production. Emissions from food production are calculated as a percentage of Iceland's emissions and are small compared to, for example, emissions from construction materials. Actions regarding food production are not anticipated in this first version of the CCC.

## 1.7 Tourism

- Reykjavík is a popular tourist destination, with 90% of visitors to Iceland visiting the city during their trip. The number of tourists visiting Iceland per year has grown from roughly 1 million guests in 2014 to over two million guests in 2024 with projections for 2030 as high as 3,5 million guests [11]. In 2023, approximately 200,000 hotel nights were sold in Reykjavík each month.
- Visitors come to Reykjavík to experience nature. The city is by the sea and surrounded by mountains. It is easy to do day trips to visit popular tourist destinations such as black sand beaches, waterfalls, and hot springs, and in winter there is also a chance of viewing the northern lights. The city also has a bustling cultural scene and boasts of its own opera and symphony despite its small population size.
- The most popular transportation choice for tourists is a rental car. With rapidly growing numbers of tourists presenting an additional challenge for the city's carbon neutrality goal. Visitors must have access to sustainable transportation in order for the city to reach these climate goals. This will require better connections to Keflavik Airport by bus or train, as well as a higher proportion of car rental cars being electric. Working towards a more sustainable tourism sector is in line with the government's Tourism Policy until 2030 (published in 2024), *Leading in Sustainability: Icelandic Tourism Until 2030* [12].
- The city's tourism policy (Ferðamálastefna Reykjavíkur 2020-2025 [13]) has a weak emphasis on sustainability but will need to be replaced in 2025 with a stronger emphasis on sustainability in the next version. The marketing of Reykjavík City as a destination for tourists has been outsourced to the capital area marketing office (Markaðsstofa höfuðborgarsvæðisins) which now runs the website Visit Reykjavík to attract tourists on behalf of the capital area. The marketing office will also publish a Destination Plan (Áfangastaðaáætlun [14]) which includes the future-vision for the area. The next

Destination Plan is scheduled to be published, by 2026 and will have a strong focus on sustainability. Through the capital area marketing office we can work together with the tourism sector and the other municipalities in the Capital Area.

## 1.8 2030 Climate Neutrality Target

- The goal stated in the Expression of Interest EOI was the goal Reykjavik set in 2016 to become carbon neutral by the year 2040, and that adaptation to climate change will take place in an environmentally sound and human friendly manner. The city supports the goal of the Paris Agreement to maintain global warming within 1.5°C. Actions will be revised in 2025 and then every 5 years after that. The milestone towards 2030 in the current CAP was to reduce GHG emissions by 300.000 tonnes CO<sub>2</sub>eq, or 57%, based on the baseline year of 2019 according to the current CAP 2021-2025. The target needs to be accelerated to reach the minimum of 80% reduction by 2030 and this CCC is an important milestone to reach this goal.
- The goal to reach carbon neutrality by 2040 included emissions within BASIC+ (Scope 1, 2 and 3 in the waste sector) but the new 2030 climate neutrality target will be expanded and include Scope 3 emissions as well, as there are considerable emissions from building materials for new construction within city boundaries. The target is to meet the requirements of the mission and reduce the emissions by 80% of the GHG emitted in 2019. As Scope 3 emissions are added at the same time as carbon neutrality accelerates, there is an increased need for collaboration with a number of parties. How this will be done will be outlined later in this document. The target will cover the entire administrative territory of the city as it has done since the first CAP was made in 2016.

## 1.9 Formal Procedures and Planning Frameworks

- The Reykjavik City Municipal Plan (Aðalskipulag Reykjavíkur [15]), is the statutory framework for the city's future planning. The CCC Action Plan must be in accordance with the municipality plan, especially regarding large scale development that controls the city's growth and minimizes sprawl. Growth boundaries are also targeted in the Capital Area Regional Plan, developed by the seven capital area municipalities (SSH) [16] and the national planning legislation and regulatory framework. All actions that require the expenditure of funds must go through a formal process of the Finance and Risk Management Division and actions that require political approval must be approved by the official planning council and and/or the city council.
- The CCC Action Plan's objectives will be in accordance with the current CAP with a strong focus on transportation issues although more actions will be added, both actions that are already in place and others that will be developed by external parties such as municipally-owned companies, the government, SSH, the private sector and the general public. Additional actions are intended to accelerate carbon neutrality to 2030.

## 1.10 The Role of this CCC and Connection with Current Climate Action Plan

- The CCC will include the current CAP 2021-2025 which replaced the CAP 2016-2020, which replaced the SECAP in 2015. This first CCC will bring together existing efforts in the current CAP and the actions that will be taken with the participants in the Climate City Agreement that are listed in the commitments.
- The first CCC Action Plan covers actions needed to accelerate the transition to the climate neutrality goal from 2040 to 2030. However, this cannot be done only by the

city. Reykjavik has a detailed CAP until 2025 where the biggest challenges are addressed. The actions that are not completed in that Action Plan will be continued. In addition, actions from external stakeholders will be added. These are actions that have already been put on paper in a broad consultation with a number of parties, such as actions by city- and government owned companies, but also the formulation of actions on how resident consultation in Reykjavik will be linked to the climate debate.

- BAU will not be used to calculate the emissions gap. The emissions gap is the difference between what Reykjavik's current CAP delivers in terms of reduction in emissions and the standard that is the requirement in the CCC, i.e. that the estimated emissions in 2030 do not exceed 20% of the emissions in 2019.
- As in previous climate action plans, there will be actions in all emission categories, but it is important to highlight two things.
- Reducing emissions from road traffic will be a major challenge. Population growth is expected in the city. Further reducing CO<sub>2</sub> eq emissions in the transport sector will not be achieved solely by transitioning to electricity. It requires reducing road traffic, i.e., changing travel behaviours. Information is needed on why the car culture is so strong in Reykjavik and how it is possible to accelerate the needed change in travel modes to reach carbon neutrality by 2030. This information will be created and sourced as part of the *Pilot cities project Cohort 3 – Piercing Through the Gridlocks*.
- The increase in the population of Reykjavik also affects the amount of waste, energy consumption and the use of construction materials used in the construction of housing. Overall, it will be a challenge to reach the 20% mark without further tightening the actions listed in this first CCC.
- It will also be a big challenge to assess which actions are most suitable if it becomes necessary to buy carbon credits. The carbon offsetting market in Iceland is currently immature [17]. At the end of 2024, a working group on behalf of the government made a report on carbon offsets and recommendations for the next steps.

Table I-1.1: Climate Neutrality Target by 2030			
Sectors	Scope 1	Scope 2	Scope 3
Stationary energy	Included	Included	Included
	No exclusions	No exclusions	No exclusions
Transport	Included	Not applicable	Not applicable
	No exclusions		
Waste/ wastewater	Included	Not applicable	Included
	No exclusions		No exclusions
IPPU	Included	Not applicable	Included



	No exclusions		
<b>AFOLU</b>	Included	Not applicable	Not applicable
	No exclusions	Not applicable	Not applicable
<b>Other</b>			
<b>Geographical boundary</b>	<b>Same as city administrative boundary</b>	<b>Smaller than city administrative boundary</b>	<b>Larger than city administrative boundary</b>
(Tick correct option)	x		
Specify excluded/additional areas	None		

### Map of Reykjavik



Figure 1: Map of the capital area. City of Reykjavik is coloured green in the map.



## Part A – Current State of Climate Action

### Module A-1 Greenhouse Gas Emissions Baseline Inventory

Reykjavik has been a member of the Global Covenant of Mayors for Climate and Energy (GCoM) and its predecessors since 2012. Part of this covenant is the publication of the GHG emissions inventory of the member municipalities, and the City of Reykjavik has published the GHG emissions inventory in the CDP web portal since 2015. In recent years, the accounting has been done by an external consultant from EFLA consulting company. The following is a summary of the last memorandum regarding Reykjavik's 2022 GHG emissions inventory [18].

The methodology used for the assessment for Reykjavik is called the City Inventory Community-Scale Greenhouse Gas Emission Inventories (GPC), which is published by the GHG Protocol. A similar methodology has been used to estimate GHG emissions from Reykjavik every other year between 2007 and 2019, and every year thereafter. With each publication, both the information gathering and the data collected have improved, and therefore it is not appropriate to compare the total figures obtained in those submissions, but rather what is calculated based on the current data and emission factors, especially within each category. The climate inventory comes with a dashboard that can be used to compare all the available categories. In the climate inventory, emissions of carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O) are taken into account and converted into CO<sub>2</sub> equivalents. Factors are based on AR5, the IPCC Fifth Assessment Report of the United Nations Intergovernmental Panel on Climate Change and are 28 kg/kg for methane and 265 kg/kg for nitrogen oxide. In the AR6 report, the nitrogen oxide factor changes to 273 kg/kg.

Emission sources of GHG are divided into Scopes based on origin and use. Scope 1 is emissions of GHG from sources within the city limits. Scope 2 is GHG emissions resulting from electricity, heat, steam or cooling used within city limits and distributed by a utility or distribution system. Scope 3 is all other GHG emissions outside the city limits that occur as a result of activities that take place within the city limits, that is, indirect emissions that occur further up or down the value chain. Results are displayed as BASIC, BASIC+ and BASIC+ & Scope 3. Under BASIC, only Scope 1 and 3 waste management, scope 1 transport and scope 2 energy consumption are considered. The BASIC+ model adds to this product use, industrial activity as well as emissions from agriculture and land use, and BASIC+ & Scope 3 additionally adds other items that belong under Scope 3. Thus, the available GHG emission inventory for BASIC+ emissions meets the requirements set forth in the Cities Mission's Info Kit for Cities. In addition to the requirements, Reykjavik will include Scope 3 emissions from the building sector, as the city is growing and aims to build thousands of apartments over the next years.

Emissions accounting has been compiled every year since 2019 and submitted to the CDP porta. The climate inventory for the year 2023 was submitted to the CDP web portal in October 2024.

The result of the climate inventory has had a significant impact on the strategic planning that has taken place in the Municipal Plan, the Climate Policy and the RGD, as transport is by far the largest part of the emissions when looking at BASIC +. The focus of these policies is to reduce the need for travel through the densification of settlements and the development of 15-minute districts that reduce GHG emissions in the long term. The city's CAP and RGD also emphasize the promotion of public transport, active modes of travel and especially the Cycling Plan, the energy transition of vehicles, including public transport in the Climate Policy and the RGD. The main actions in the current Action Plan [19] are highlighted in Figure 2, and the estimated reduction of those actions until the year 2030 is stated. The emissions inventory for the city includes energy, transportation, waste, AFOLU and IPPU



Figure 2: 15 actions in Climate action plan 2021-2025 [19].



- **Energy:** Emissions are divided into 3 categories: electricity, heating, and fuel consumption at construction sites. Emissions due to electricity and heating fall under Scope 2 due to connections to the distribution and transmission system that is managed by Reykjavík Energy, which plans on carbon-neutral energy production in 2030, which coincides with the City's CAP. The City's role is to control and support those actions, but it is not directly involved. However, the city is yet to put forward actions to reduce local fuel consumption at construction sites except those that have been mapped by the Green Building Council (Grænni byggð), and set out in Ecological Construction (Vegvísir að vistvænni mannvirkjagerð, 2030), which the city takes part in.
- **Transportation:**
  - **Passenger vehicles:** Extensive work on the development of transport infrastructure and its financing has been carried out under the umbrella of the Transport Treaty of the Capital Area, where one of the four goals of the agreement is a carbon-neutral society [20]. The central government and the surrounding regional 7 municipalities (SSH) agree to that agreement for the development of infrastructure and the operation of the public transport system in the Capital Area.
  - **Due to changing travel habits:** A change in priorities regarding the densification of settlements and an added emphasis on changing travel habits appeared in the 2040 Municipal Plan, which was published in 2014 and was followed up in the Climate Plan and the RGD. These priorities have been followed up on during the development of neighborhoods and infrastructure, as well as raising awareness through participation in a variety of incentive projects, such as Cycling to work, Transport Week, the Car-Free Day, and Green Steps in the City's activities.
  - The main challenge remains to change travel modes and electrify the fleet.
- **Waste:** Great success has been achieved with the changed waste collection system, which includes the development of infrastructure (GAJA) and changed behaviour, increased sorting of waste by city residents. In the resolution on waste management in Reykjavík, it is stated that private companies are required to sort waste at source in the same waste categories as citizens. The sorting of individuals is strictly enforced by Reykjavík's waste collection staff. It is not known how the resolution is being enforced by private waste management companies that provide collection for private companies. This will be addressed in this Action Plan.
- **Agriculture, Forestry and Other Land Use (AFOLU):** The biggest opportunities here are carbon sequestration through forestry and wetland reclamation, which is part of the current CAP and is also pursued in the RGD. Agriculture is an insignificant part of emissions that will not be addressed in this first CCC.
- **Industrial processes and product use (IPPU):** The City has no control over emissions due to **F gases**, but in the recently published CAP of the government, a significant reduction is expected due to restrictions on the import of F gases and it can therefore be assumed that the reduction will be relatively the same within the city limits.
- **Building sector - materials:** Emissions from the building sector are also a part of IPPU and until now, Scope 3 emissions have not been addressed. However, Reykjavík is a growing city with ambitious plans to increase the number of apartments and residents until 2030. It is therefore important to monitor these emissions so that the growth is as little as possible at the expense of the climate and the environment. Actions to reduce those emissions are therefore added in this CCC.



- **Domestic food production.** Emissions from domestic food production are insignificant and will not be addressed in this first CCC.

<b>A-1.2: Emission factors applied</b>						
Calculations are based on tonnes CO <sub>2</sub> eq						
Methodology used:						
Primary energy/ energy source	Carbon Dioxide (CO <sub>2</sub> )	Methane (CH <sub>4</sub> )	Nitrous Oxide (N <sub>2</sub> O)	F-gases (hydrofluorocarbons and perfluorocarbons)	Sulphur hexafluoride (SF <sub>6</sub> )	Nitrogen trifluoride (NF <sub>3</sub> )
...	IPCC 6 <sup>th</sup> report 2021	IPCC 6 <sup>th</sup> report 2021	IPCC 6 <sup>th</sup> report 2021	.....	.....	.....

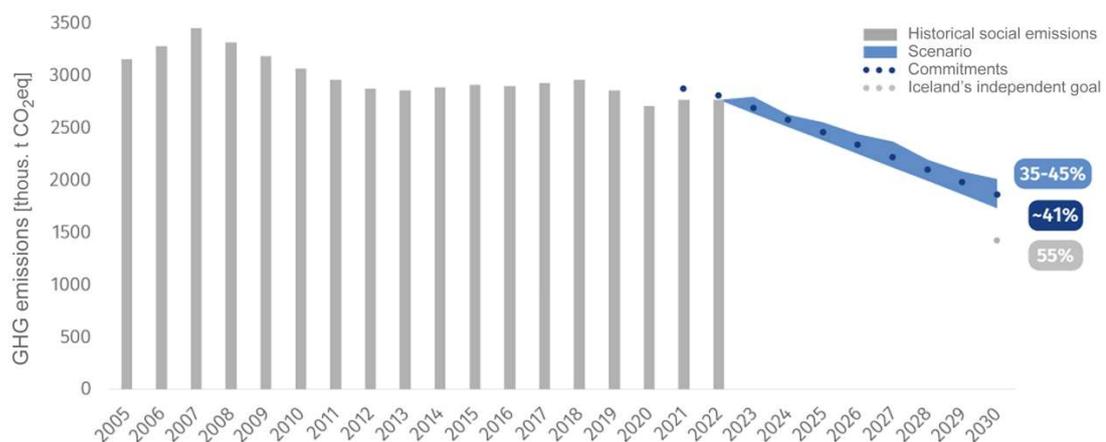
<b>A-1.3: GHG emissions by source sectors</b>					
Base year 2019					
Unit CO <sub>2</sub> equivalents					
		Scope 1	Scope 2	Scope 3	Total
Buildings / energy		7.684	22.666	224	30.574
Transport		350.963			350.963
Waste		48.929		2.735	51.664
Industrial Process and Product Use (IPPU)		41.685		55.972	97.657
(AFOLU)	Sources (positive emissions)	56.009 (land use) 1.710 (agriculture)			57.719
	Sinks (negative emissions)	-10.587			-10.587
<b>Total</b>		<b>496.393</b>	<b>22.666</b>	<b>58.931</b>	<b>577.990</b>



<b>A-1.4: Activity by Source Sector (from economic model data inputs)</b>			
Base Year		2019	
	Scope 1	Scope 2	Scope 3
<b>Transport</b>			
Transport need - passenger cars + motorcycles (M km/year)	630		
Transport need - buses (M km/year)	5		
Transport need - trains/metro (M km/year)	0		
Transport need - light duty trucks (<3.5 t) (M tkm/year)	215		
Transport need - heavy duty trucks (>3.5 t) (M tkm/year)	142		
<b>Buildings &amp; Heating</b>			
Heating demand (space heating + domestic hot water)(GWh/year)	3996		
<b>Electricity</b>			
Electricity demand within city boundaries (GWh/year)		824	
<b>Waste</b>			
Collected waste within city boundaries (tonnes)			167.273
<b>Other (incl. IPPU &amp; AFOLU)</b>			

## Module A-2 Current Policies and Strategies Assessment

**ICELAND:** The government participates in European co-operation on climate issues, based on the EEA agreement and joint enforcement (EU, Iceland, Norway) of obligations to the Paris Agreement. The EEA provides Iceland with access to EU's internal Trading System (ETS) for emission allowances, enabling the economic instruments to create incentives. The joint Iceland-EU enforcement of the 2030 emission goals of the Paris Agreement, further states that Iceland should achieve a 29% reduction by 2030 in GHG emissions outside the ETS and preliminary analysis indicates that the new commitment under the 55% target will be approx. 41%. The government itself states the aim of 55% total reduction of GHG emissions by 2030 in its CAP, ETS and LULUCF not included [21].



**Figure 3: If assessed direct climate action is considered, the estimated reduction in action is 35% from 2005 to 2030 [22, p. 16].**

- The Icelandic Ministry of Environment, Energy and Climate enforces the country's obligations toward the Paris Agreement, in accordance with the Icelandic Climate Act (70/2012). The law defines the bases for governing climate issues and the information gathering provision regarding GHG release and sequestration, for sharing with international organisations [23].
- Different negative aspects of climate change are dealt with in different national ministries but especially the Ministry of the Environment, Energy and Climate, Ministry of Infrastructure, Ministry of Finance and Economic Affairs and the Prime Minister's Office. The government sets its climate goals in the international CAP which is regularly revised and published on the website [www.co2.is](http://www.co2.is) [24].
- The long-term goal of the country is carbon neutrality by 2040, and road transport is the largest contributor of GHG emissions when excluding IPPU and LULUCF. Iceland's Climate Action Plan estimates a 35-45% reduction in GHG emissions by 2030 compared to 2005. Waste management is another significant GHG emissions contributor, a 66% reduction is expected by 2030 compared to 2005 levels, primarily due to a ban on organic waste landfills and changes in pastoral care. The EU Waste Framework Directive (2008/98) requires that municipal waste prepared for reuse or recycling should be 55% of all waste by 2025, 60% by 2030 and 65% by 2035. Furthermore, no more than 10% of all municipal waste should be landfilled in 2035 [23].

**Capital Area:** The capital area's regional plan Climate Action Plan 2024. SSH has just commissioned a climate inventory for the year 2022 and presented for an action plan for the 7 municipalities that are a part of SSH. The climate inventory shows that the emissions that the municipalities can have the most influence on are emissions from road transport and waste.

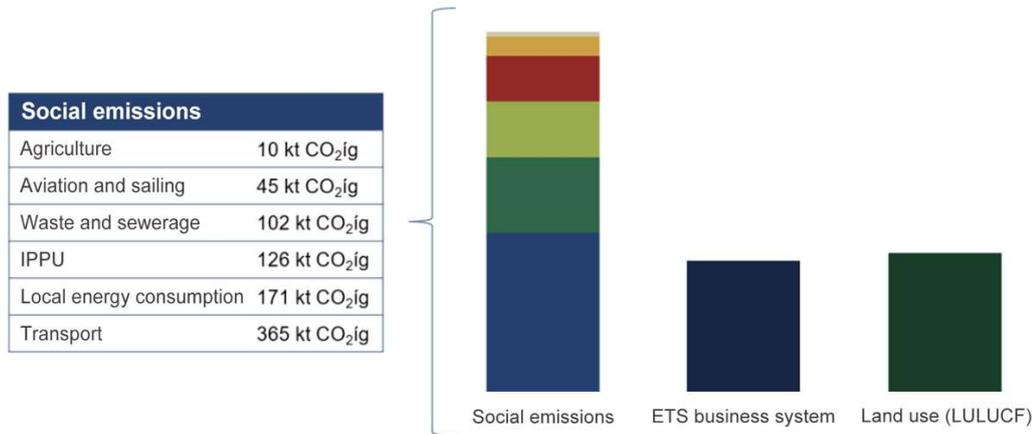


Figure 4: Industrial companies have their own plans and are innovating to reduce these emissions [25].

**City of Reykjavik:** Municipal Plan of Reykjavik. Climate Plan 2021-2025. The pathway typically singled out is the reduction of car use and a redesign of the urban sprawl to create so-called "15-minute districts" and a "walkable city".

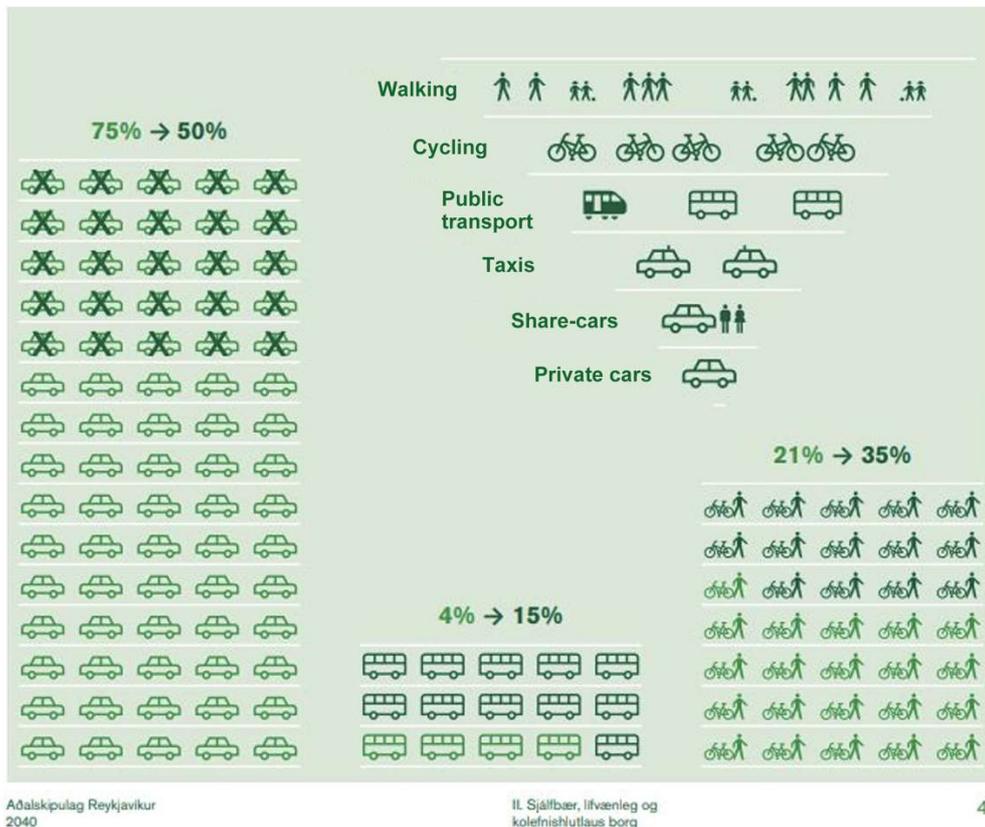


Figure 5: The goals for shifting travel modes towards a higher share of green transportation before 2040 within the city [13].

- The government evaluates its Action Plan based on emissions in 2005 and has an independent goal of a 55% reduction by 2030 compared to emissions in 2005 with reference to emissions under ESR (Effort Sharing Regulation) [24]. The projected reduction in emissions due to actions related to road transport (vehicles and infrastructure) is a total of 199,000 tonnes of CO<sub>2</sub>eq. Relatively comparable reduction can be expected in Reykjavik, since the priorities are the same in the government's Action Plan as in Reykjavik, i.e. to promote infrastructure for active transport, public transport and energy transition. A relatively similar reduction in IPPU could also be expected. The government's Action Plan includes specific actions that are expected to reduce emissions due to IPPU by 117,000 tonnes of CO<sub>2</sub>eq.
- In SSH's Climate Plan, it is assumed that emissions will be reduced and the percentage of reduction or increase in all emission categories is calculated until the year 2035 compared to 2022, but no total number is mentioned.
- In the City's CAP made in 2021; Reykjavik City's emissions are expected to decrease by 300,000 tonnes until 2030.
- No figures are mentioned in the Municipal Plan or the RGD, but they both generally discuss carbon neutrality in 2040.

A-2.1: List of relevant policies, strategies & regulations					
Type	Level	Name & Title	Description	Relevance	Need for action
(regulation/ policy/ strategy/ action plan)	(local, regional, national, EU)	(Name of policy/ strategy/ plans)	(Description of policy/ strategy/ plans)	(Describe relevance/ impact on climate neutrality ambition)	(list any suggested action in relation – to be further picked in Module C-1)
Policy	National	Iceland's Climate Action Plan	Actions to the pathway of 55% reduction of GHG gases until 2030 with 2005 as a baseline year	Actions connected to mobility, IPPU supports the climate neutrality ambitions of the city	Discussion with the Ministry of Environment, Energy and Climate to make sure the actions will be realized
Regulation	National	Ban on imports of new fossil fuel automobiles in 2030	It will not be permitted to import new fossil fuel automobiles after 2030, and there is a discussion on implementing earlier, in 2028.	Lowers the amount of fossil fueled cars which are the main part of emissions in the transport sector	Discussion with the Ministry of Environment, Energy and Climate to make sure the actions will be realized



Type	Level	Name & Title	Description	Relevance	Need for action
Policy	Regional	Regional Municipal Plan	Regional plan for the Capital Area, which is a joint policy of the municipalities of Garðabær, Hafnarfjörður, Kjósarhreppur, Kópavogur, Mosfellsbær, Reykjavík and Seltjarnarnes on close co-operation, planning issues and economic growth of the area over the next 25 years.	The backbone of the policy is a new high-quality public transport system that connects the core of the municipalities and transports passengers quickly and safely around the Capital Area.	Discussions on follow-up and how to connect with CCC.
Policy / Action Plan	Regional	Reykjavík Capital Area Climate Policy	Joint Climate Policy and Action Plan for the 7 municipalities named here above	An overview of actions that are likely to be effective in the fight against climate change. The actions concern, amongst other things, road transport, shipping, local energy consumption, industry, chemical use, waste management and land use.	Continue discussing on implementation of the actions mentioned in the Action Plan.
Action Plan	Regional	Capital Area Transport Treaty	A detailed action plan for the actions included in the treaty until 2030	Infrastructure enhances the share of climate friendly transport modes within the Reykjavik Capital Area	No actions needed; the actions of that plan are implemented in line with the budget decisions for each year
Policy / Action Plan	Local	RGD	RGD is the City of Reykjavík's overall strategy outlining the City's vision for the future up to 2030 and it connects the City's key policies and plans to that vision.	With an emphasis on environment, economy and society, the RGD includes fifteen key priorities that serve as a shared guide across all Reykjavík City departments.	Discussion with the RGD team to include actions of the CCC as a part of the actions of RGD.



Type	Level	Name & Title	Description	Relevance	Need for action
Policy	Local	Reykjavík Municipal Plan	The Municipal Plan of the City of Reykjavík is in accordance with the Planning Act	Focus on densification of the city, reducing travel needs and reducing the carbon footprint of buildings and infrastructure.	No actions needed, was revised in 2022 with an extra focus on climate issues.
Action Plan	Local	Reykjavík's Climate Action Plan 2021-2025	Action Plan to follow through the vision of carbon neutrality by 2040	The 2021-2025 Action Plan outlines the wide range of projects needed to create a carbon-neutral society.	It is suggested that the actions in this CCC should be the new action plan for 2025-2030
Action Plan	Local	Reykjavík Cycling Plan	Action Plan for bicycling infrastructure	Infrastructure enhances the share of cyclists of the city	No actions needed; the actions of that plan are implemented in line with the budget decisions for each year
Action Plan	Local	Parking Policy	Policy on number of parking lots in planning, parking fees, etc.	Important to increase the turnover use of parking places	Discussion on implementation on parking fees near businesses and larger workplaces in Reykjavík and is included as action in this CCC



<b>A-2-2: Emissions Gap</b>											
	<b>(1) Baseline emissions</b>	<b>(2) Emissions Reduction Target 2030<sup>1</sup></b>		<b>(3) Emission reduction through other Action Plans<sup>2</sup></b>		<b>(4) Emissions Gap<sup>3</sup></b>		<b>(5) Emissions reduction through the CCC Action Plan to address the Gap<sup>4</sup></b>		<b>(6) Residual emissions<sup>5</sup></b>	
	Baseline emissions (2019)	The emissions reduction target for 2030 ideally achieves a minimum 80%		Emissions reductions that would be achieved through current CAP of Reykjavik City until 2030		(4) = (2) – (3)		The quantified emission reduction associated with the action portfolios outlined in module B-2.		(6) = (1) – (3) – (5)	
	(absolute) tCO <sub>2</sub> eq	(absolute) tCO <sub>2</sub> eq	(%)	(absolute) tCO <sub>2</sub> eq	(%)	(absolute) tCO <sub>2</sub> eq	(%)	(absolute) tCO <sub>2</sub> eq	(%)	(absolute) tCO <sub>2</sub> eq	(%)
Buildings / Energy	30.574	24.459	80%	14.622	48%	9.837	32%	5.379	18%	10.573	35%
Transport	347.329	277.863	80%	163.905	47%	113.958	33%	98.032	28%	85.392	25%
Waste	53.057	42.446	80%	20.872	39%	21.574	41%	0	0%	32.185	61%
Industrial Process and Product Use (IPPU)	97.656	78.125	80%	0	0%	78.125	80%	63.828	65%	33.828	35%
Agricultural, Forestry and Land Use (AFOLU)	47.132	37.706	80%	34.522	73%	3.184	7%	0	0%	12.610	27%
<b>Total</b>	<b>575.748</b>	<b>460.598</b>	<b>80%</b>	<b>233.921</b>	<b>41%</b>	<b>226.677</b>	<b>39%</b>	<b>167.239</b>	<b>29%</b>	<b>174.588</b>	<b>30%</b>

Emission reduction which will still be needed is 59.348 tCO<sub>2</sub>eq to close the gap of 80% reduction (226.677-167.239) and 174.588 tCO<sub>2</sub>eq to reach net Zero by 2030. The total residual emissions to reach net zero is thus 30% of the baseline emissions (575.748 tCO<sub>2</sub>eq). Below are explanations to clarify:

- The CCC Action Plan goes beyond the Mission's definition of climate neutrality to include building materials. Included in the baseline are emissions outside the scope of the Info Kit for cities, specifically 50.485 tonnes CO<sub>2</sub>eq of IPPU scope 3 emissions due to building

<sup>1</sup> Calculated reduction needed to reach minimum target of the mission (80%)

<sup>2</sup> Estimated reductions of current actions in the Climate Action Plan of Reykjavik.

<sup>3</sup> Calculated gap which shows the difference of the minimum target and estimated reductions of the actions in the Climate Action Plan of Reykjavik

<sup>4</sup> Estimated reductions through added actions with the participants of this first CCC of Reykjavik City

<sup>5</sup> Emissions left to reach Net Zero in 2030 are 30% of the baseline emissions. The goal is to address at least 10% of the current residual emissions with additional actions with current and future participants of the CCC and at most 20% via compensation measures.



materials, as shown in Table B-3-1 Impact Pathways. Excluding these emissions for further comparison more directly to the Mission requirements, the residual emissions would be 30.000 tCO<sub>2</sub>eq less than approx. 27% of the baseline emission. This highlights the influence of including or excluding certain emission categories.

- The emission gap table reflects the current situation. Further iterations of the CCC will seek to enhance alignment of the portfolio of actions with the 2030 climate neutrality target (80% reduction from 2019 baseline) with the portfolio of actions (column 5 of Table A-2-2).
- While the current residual emissions equal 30% of the 2019 baseline emissions, the goal is to address 10% of the remaining emissions through additional actions involving current and future participants and address only 20% via compensation measures.
- More detailed discussion on the residual emissions, both the 10% and the 20%, can be found in Part B, Section B.2.1 Summary Strategy for Residual Emissions.



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

### A.3.1 Description of urban systems, systemic barriers, and opportunities

Developments in recent years in the City of Reykjavík are delivering change. The transportation fleet is slowly transitioning to electricity, and both public transport passengers and cyclists have increased. The circular economy is promoted to encourage climate-friendly and zero-emission practices, and household waste management has been radically re-figured.

Nevertheless, GHG emissions have increased overall. The number of residents is growing, as is the number of vehicles serving a fast-growing tourist industry. Circular solutions are not always accounted for in GHG inventories in both the private and public sector.

Progress towards reaching carbon neutrality by 2030 is currently far too slow and will not be achieved unless significant and rapid mitigation tactics are applied. High car dependency and resistance to waste reduction/reuse/recycling/repairing approaches are found to be barriers to change.

Emission figures from traffic match travel habits in Reykjavík, whereby the largest part is the use of private cars to and from work. The largest workplaces in Iceland such as the universities and the national hospital (Landspítali-háskólasjúkrahús) are in the Vatnsmýri area in the centre of Reykjavík. It is known that one way to promote public transport to and from work is to charge for parking at workplaces. Employees then prefer to travel by public transport, and the parking spaces are used by visitors and customers of the workplace as short-term parking during the visit. Some of the largest workplaces in Iceland have worked to prepare for parking fees including the National hospital, the University of Iceland, and the University of Reykjavík. Parking fees also increase the likelihood that tourists will use other means of transportation than rental cars within the city limits. 90% of tourists visit Iceland, they were 2.2 million in 2023. Of these, 3/5 rent a car, 1/5 travel by private bus, 3% by public transport and 14% by other means.

Faxaflóahafnir – the port has an obligation to electrify the port prior to 2030. This process has already started but large cruise ships visiting Reykjavík present a challenge. A working group is currently working on determining the amount of cruise ships and passengers the city can accommodate in a sustainable manner and Faxaflóahafnir have implemented the Environmental Port Index (EPI).

#### Waste

Emissions due to waste are rapidly decreasing after the treatment of organic waste started in the biogas and composting facility (GAJA) operated by Sorpa. Reykjavík only manages waste collection for households and follows up on sorting in such a way that if waste is not correctly sorted into the appropriate bins, the bins are left behind with an appropriate message. The recycling rate and state of sorting from households is closely monitored.

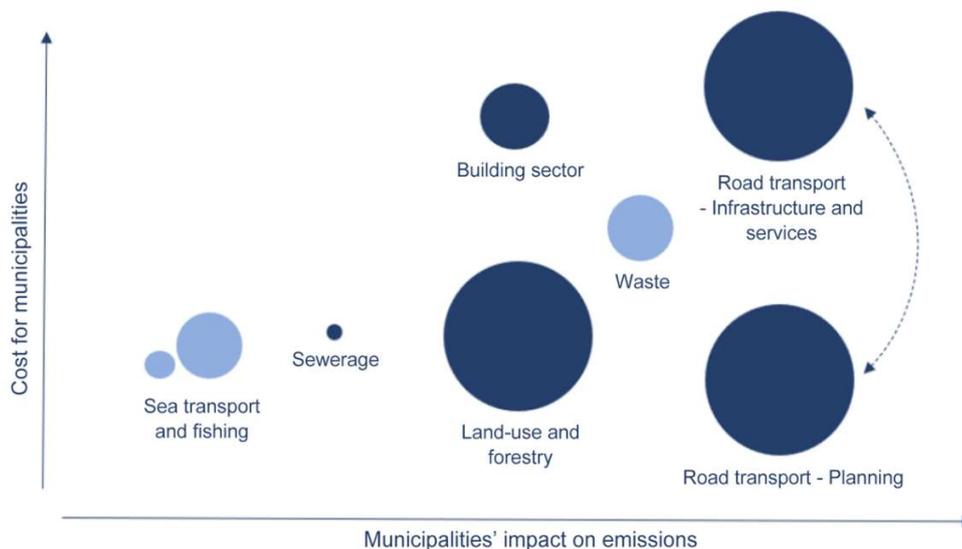
Private parties manage waste collection and the reception of recyclables at private companies. In a resolution on waste management in Reykjavík, it is stated that private companies are obliged to sort their waste at source like individuals, but it is not clear how this is enforced. Co-operation with the waste collection companies is therefore an important part of following up on the resolution and ensuring that private companies participate in reducing emissions due to waste.

The GAJA biogas and composting facility began operations in the latter half of 2020 and the percentage of organic matter in landfills has decreased accordingly. Since waste emissions are calculated based on estimated total waste in landfills, the numbers reduce in correlation with the amount of organic matter sent to GAJA. Banning organic waste in landfills is certain to reduce emissions overall, albeit the increase in composting produces some level of CO<sub>2</sub> eq in return. Detailed data exists on the collection of household waste and proportions of recyclables, published on the website of the Environment Agency [26]. However, there is a lack of information on how well or poorly businesses are sorting and recycling.

All kinds of waste are still thrown into the “grey bin” designated for landfills or “waste to energy” recovery, including organic matter. Recyclable plastics and paper from businesses are also still ending up in unsorted waste. In short, much more needs doing to speed up the progress, but the glaring challenge is recognizing and acting against Scope 3 emissions, which include reusable and recyclable materials from households and operations. They are exported rather than resourced locally. More generally, Reykjavik needs to prepare for near-future standards of calculating consumer-based emissions.

### Regional:

In connection with the Action Plan for the Capital Area, the area's carbon footprint for the year 2022 has been compiled. It shows that the part that the 7 municipalities can have the most influence on with the lowest possible cost are road transport at the planning stage. See Figure 6.



**Figure 6: The interaction between the influence of municipalities on emissions and the costs of actions in selected emission categories. Farthest to the right are the emission categories that municipalities can influence the most, i.e. waste and transport. The larger circles indicate higher emissions. Light blue colour indicates emission categories where effective actions have recently been implemented, i.e. waste management improvements and port electrification [25].**

The CCC is a unique opportunity for a targeted approach, given all businesses will be offered the chance to sign commitments on their own terms.

The city will continue to collect data on GHG emissions in the relevant categories, as has been done in recent years.

To support and speed up carbon neutrality, it could be beneficial for those who sign the commitment to set themselves benchmarks to monitor what changes the actions will bring, such as staff surveys about travel habits and how the proportion of waste treatment categories is calculated. This needs to be elaborated in more detail in the co-operation of the participants in this first CCC.

A-3.2: Systems & Stakeholder Mapping			
System	Stakeholders	Influence on the City's climate neutrality ambition	Interest in the City's climate neutrality ambition
Infrastructural	Icelandic government	High	High
	SSH	High	High
	Betri samgöngur	High	High
	Strætó	High	High
	Faxaflóahafnir	High	High
	Sorpa	High	High
	ISAVIA	Low	Low
	Vegagerðin	High	Medium
	Orkuveitan	High	High
	Malbikunarstöðin	Low	Medium
Behavioural	Large workplaces, public and private	High	Low
	Reykjavik City employers	High	Low
	Icelandic government	High	High
	Climate council of Iceland (Loftslagsráð)	Low	High
	Íslenska gámafélagið Sorpa Terra	High	High
	NGOs of cycling	Low	Medium
	NGO of car-free lifestyle	Low	Medium
	NGO Festa, sustainable business	Medium	High
	Young environmentalists (Ungir umhverfissinnar)	Low	High
	Landvernd	Low	Medium
	University of Iceland	Medium	High
	University of Reykjavik	Medium	High
	Visit Reykjavik (Markaðsstofa höfuðborgarsvæðisins)	Medium	High
	Infrastructure and transportation working group for Vatnsmyri area (Innviða og Samgöngustarfshópur fyrir Vatnsmýri)	High	High
	Business Iceland (Íslandsstofa)	Low	High
	Energy Transition Working Group (Orkuskiptahópur)	High	High
	Green steps (Græn skref í starfsemi Reykjavíkur)	High	High
	The Environment Agency of Iceland (Umhverfisstofnun)	Medium	High
	Circular Economy Working group (Hringrásarhagkerfishópur)	High	High
	The Green Energy Partnership (Græna orkan)	Medium	High

### A.3.2 Critical Stakeholders

To reduce emissions within the city limits to reach carbon neutrality, the following external stakeholders are necessary participants:

- **The national government**

Iceland has a goal of carbon neutrality by 2040, our goal of carbon neutrality by 2030 will greatly increase the likelihood of that goal being met. There are common challenges, especially regarding transportation. Many of the largest projects related to climate require that the national and municipal governments work together and are laid out and funded in the Transport Treaty (Samgöngusáttmáli ríkis og sveitarfélaga á höfuðborgarsvæðinu). The national government also has a Transportation Plan (Samgönguáætlun [20]) which lists the infrastructure priorities at each time at the national level. The government's Climate Action Plan includes actions that have a major impact on Reykjavik's emissions accounting, but are also factors that municipalities, including Reykjavik, do not have a direct influence on, i.e. the introduction of regulations, the ban on the import of fossil-fuel vehicles and equipment, tax incentives for energy transition and restrictions on the import of other materials that have a high climate impact.

- **The Association of Municipalities in the Capital Area (SSH)**

The Capital Area is so integrated that it will be necessary to involve all the municipalities in order to have the desired impact. The municipalities work together through municipally owned companies on public transportation, waste collection, the implementation of a circular economy, sewerage and more areas related to carbon neutrality goals. These are presented in the Vision for the Capital Area (Sóknaráætlun) [27] and in a common Climate Action Plan and Strategy for the Capital area [28], which includes the target to be carbon neutral by 2035.

- **Reykjavik City's municipally owned companies (b-companies)**

The municipally owned companies will be important stakeholders as they are responsible for energy production, public transportation, the port, sewage and waste collection. Reykjavik City can engage these companies individually through their governing boards. When working with many of them at the same time, working groups are formed to tackle specific issues. Two such working groups are in place in 2024 that are directly relevant to the CCC, one focusing on the circular economy and another focusing on a speedy energy transition.

- **Reykjavik Energy**

Reykjavik Energy (Orkuveitan) manages all core utilities for Reykjavik City, including energy and water distribution, wastewater collection and treatment and an optical fiber network. Additionally, Reykjavik Energy produces electricity and hot water for the city through combined geothermal heat and power plants. Reykjavik Energy is in the process of setting science-based actions through the Science Based Targets initiative (SBTi) where the goal is to attain net zero scope 1 emissions by 2030 and net zero scope 3 emissions by 2040. Scope 1 emissions stem mainly from its two geothermal power plants (geothermal gas). The company is currently capturing 25% of CO<sub>2</sub> in one of its powerplants, Hellisheidi geothermal powerplant, which by 2025 will be scaled up to a capture capacity of 95%. This technology will then be implemented for the other power plant (Nesjavellir) by 2030. The captured gas can then be sequestered permanently using the Carbfix method or utilized.



- **SORPA**

Sorpa receives and manages the waste in the Capital Area and are instrumental when it comes to waste collection and implementing further sorting of waste within the area. Sorpa produces compost and methane which can have additional benefits, the methane can also be used as part of the energy transition and is currently used as fuel for the city's garbage trucks. Sorpa will also be a key player when it comes to implementing a stronger circular economy in Reykjavík.
- **Strætó**

The public bus company Strætó services the Capital Area, Reykjavík included. Increasing the use of public transportation will be very important in order to realize the goal of carbon neutrality. The electrification of their fleet will also have an immediate impact on the city's emissions portfolio. The necessity of offering more frequent bus rides and better service is something that is frequently mentioned in conversations with businesses and the public.
- **Faxaflóahafnir**

Faxaflóahafnir, the Associated Icelandic Ports, are responsible for harbor activities in Gamla höfnin í Reykjavík (the Old Reykjavík Harbour), Sundahöfn, Grundartangi and Akranes, as well as facilities for smaller boats in Borgarnes. Faxaflóahafnir bases its operations on a 100-year history of port management and is a key player in the development, improvement and operation of important infrastructure in the transport network and the economy of Iceland.
- **Reykjavík Science City / Vísindaborpið í Vatnsmýrinni**

Reykjavík City has a working group which consists of the largest players in the area of Vatnsmýri. It consists of academia and the largest hospital in the country. The members are the University of Iceland (HÍ), the University of Iceland's Science Park (Vísindagarðar), Reykjavík University (HR) and the National University Hospital (Landspítali). This group meets 2-4 times per year to discuss infrastructure and transportation in the area. These institutions are geographically located in Vatnsmýri, and are amongst the largest workplaces in the city. They are also the leading academic institutions in Iceland.
- **University of Iceland / Háskóli Íslands**

The University is a state university, situated in Vatnsmýrin, It is a progressive educational and scientific institution, renowned in the global scientific community for its research. Additionally, The University holds a leading role in sustainable energy and environmental research. The main role of The Sustainability Institute at the University of Iceland (Sjálfbærnistofnun Háskóla Íslands) is to catalyse, facilitate and coordinate research to promote sustainable development, both within and outside of the University. The Institute also serves as a collaborative hub, partnering with parties outside the University, such as the government, municipalities, institutions, companies, non-profit organizations and individuals. There are 1,700 staff members and 14,000 students at the University.
- **Reykjavík Science Park / Vísindagarðar Háskóla Íslands**

The Science Park is a flourishing community where universities, companies and research institutions work together to find creative solutions to today's most pressing challenges.



- **University of Reykjavík / Háskólinn í Reykjavík.**

Reykjavik University is a large workplace with many students, it has a strong connection to the Iceland Chamber of Commerce, as well as the Federation of Icelandic Industries. The University has a strong focus on sustainability, for example the Sustainability Institute and Forum (SIF) which is a research institute that engages all departments in matters relating to sustainable development. Reykjavik University has notable sustainability research projects in the areas of geothermal and ocean studies in partnership with Cornell University.
- **Landspítali University Hospital**

Landspítali is the leading hospital in Iceland and the largest workplace for employees in health care. It is funded by the Ministry of Welfare, supervised by the Directorate of Health and provides specialized and general care and has the capacity of approx. 700 beds.
- **Festa – Centre for Sustainability**

In 2015, Festa and Reykjavík's climate declaration was signed by 104 businesses in Reykjavík pledging to reduce emissions of GHG, reduce the waste they produce, and measure the impact of these measures. Today, 182 members have signed the declaration, and Festa has 40 events per year that aim to make companies and institutions more sustainable. Festa will be a key partner for outreach efforts towards businesses in the city as they are already actively engaged with many of them, and notably the largest businesses in the city. With a long history of climate declarations and the Icelandic carbon neutrality by 2040 target already well known within the city, the key to engaging these businesses again will be to have concrete and measurable actions for them to take part in. These will be developed in collaboration with Festa and their partners.
- **The Housing and Construction Authority / HMS**

The role of the Housing and Construction Authority is to protect public life quality, assets and the environment by ensuring professional preparation for construction and active monitoring of quality and safety, thus contributing to a better supply of affordable housing, both for rent and for lease. We aim to assess future needs and estimate the supply of housing to contribute to greater stability in the housing market.
- **Visit Reykjavík / Markaðsstofa höfuðborgarsvæðisins**

Visit Reykjavík is the official tourism organization for the Reykjavík Capital Area. It was established in 2023 by six municipalities and the tourism industry. The project had previously been housed at the Office of the Mayor and the CEO of Reykjavik City and earlier at the Department of Culture and Sports. Visit Reykjavík promotes and develops the destination in a sustainable way, with a focus on increasing economic activity. Through collaboration with partners in the tourism, transportation, and cultural sectors, Visit Reykjavík enhances the visitor experience and showcases all that Reykjavík has to offer.



### A.3.3 Crucial External Stakeholders:

<b>A-3-3: Crucial external stakeholders</b>				
<b>Stakeholder</b>	<b>Emission type / Focus</b>	<b>Relationship</b>	<b>Relevant target</b>	<b>Website</b>
National government	All emissions	National and city	Iceland's goal of carbon neutrality by 2040	<a href="https://www.co2.is/">https://www.co2.is/</a>
SSH - Association of Municipalities in the Capital Area	All emissions	One of seven municipalities that together form this association	Carbon neutrality, waste collection and transportation	<a href="#">Sóknaráætlun   Samtök sveitarfélaga á höfuðborgarsvæðinu (ssh.is)</a> <a href="#">Loftslagsstefna fyrir höfuðborgarsvæðið   Samtök sveitarfélaga á höfuðborgarsvæðinu (ssh.is)</a>
Municipally owned companies	Energy, Transportation, Waste	The city is the largest owner	Reykjavík has set an Owner's Policy of carbon neutrality by 2040	
Reykjavík Energy	Energy	Co-owner	Reykjavík Energy has a very ambitious target of climate neutrality by 2030 and a plan in place to reach it	<a href="#">Orkuveita Reykjavíkur verði kolefnishlutlaus árið 2030 (orkuveitan.is)</a>
Strætó	Transportation	Co-owner	Strætó has sustainability targets which directly impact the city's carbon neutrality journey.	<a href="#">Samfélagið – Strætó (straeto.is)</a>
SORPA	Waste	Co-owner	Sorpa measures its environmental and societal impact and aims for sustainable waste collection.	<a href="#">Sjálfbærni (sorpa.is)</a>
Landspítali	Transportation, Building	Large workplace and main hospital	The hospital has an ambitious plan to reduce its environmental impact.	<a href="#">Umhverfismál - Landspítali (landspitali.is)</a>
HR	Transportation	Reykjavík University	Reykjavík University is a signatory of Festa's climate declaration and has plans related to transportation.	<a href="#">Umhverfismál   Háskólinn í Reykjavík (ru.is)</a>
HÍ	Transportation	University of Iceland	The University of Iceland is aiming for carbon neutrality and publishes an extensive sustainability report with a focus on the SDGs.	<a href="#">Sustainability report 2022 - University of Iceland</a>
Markaðsstofa höfuðborgarsvæðisins	Transportation	Visit Reykjavík	Visit Reykjavík aims to offer a sustainable destination and increase responsible tourist behaviour within the area.	<a href="#">About us   Visit Reykjavík (visitReykjavik.is)</a>



## Part B – Pathways Towards Climate Neutrality by 2030

### Module B-1 Climate Neutrality Scenarios and Impact Pathways

Reykjavík has a policy of carbon neutrality for the year 2040 and a detailed Action Plan to achieve this goal. With this CCC, that policy is being honed further, and carbon neutrality is being accelerated by a decade, or until the year 2030. It is estimated that actions from the current CAP will result in a reduction of nearly 50% in 2030 compared to 2019 as the baseline year [29]. The minimum goal of an 80% reduction in emissions by 2030 can only be achieved with the participation of more parties.

The summary table in B-1 shows the actions that will signpost the path towards carbon neutrality. The actions are listed by sector. Actions from the previous Action Plan, which is valid until 2025 and are still being worked on, are listed at the beginning. These are actions based on previous action plans that have been formulated as a follow-up to the first Climate Action Plan (SECAP) in 2011 when Reykjavík became a member of the Covenant of Mayors, action plans that were renewed in 2016 and again in 2020. Actions from previous plans are based on what is within the City's sphere of influence and is related to the planning authority and infrastructure development in all sectors. The actions are planning for the 15-minute districts, green city development, energy transition, the Cycling Plan, Cityline and improved public transportation, circular thinking, ecofriendly structures, carbon sequestration, adaptation actions, and actions regarding the operations of the CoR. They remain important actions to achieve carbon neutrality by 2030. Older actions from the previous action plan are either left unchanged or combined with other actions, and this is noted separately. See explanation in Table B-2.1a.

In addition, there are actions that parties other than the City need to implement to speed up carbon neutrality. Many of the actions have already been formulated by the relevant parties and, as they are an important contribution to carbon neutrality, they are included in this contract. Although the actions were in place before they were discussed as part of the CCC, they had to be shaped in collaboration to fit the template that the CCC requires. The template of the actions was important when starting to approach responsible parties of each action, and all those approached were positive about participating in this first CCC. Many actions are based on current ecosystems. For example, the municipally owned companies have their own policies on carbon neutrality, work with the largest workplaces in the country to change travel habits has been underway, a working group is working on energy transition, co-operation for ecological building construction has been ongoing and co-operation between municipalities on a recycling, sorting and climate policy, co-operation with non-governmental organizations such as Festa and Grænni byggð as well as, last but not least, co-operation with municipalities, the Icelandic Road and Coastal Administration (Vegagerðin) and the government on a Transport Treaty in the Capital Area. All of these actions, i.e. actions from the action plan 2021-2025 and new actions that the participants in the CCC are involved in are listed in table B.-2.1b. Further explanation on the columns and difference of the estimated emission reduction can be found in next section.



B-1.1: Impact Pathways							
Sector	Subsector	Systemic Levers	Estimated reductions from current Climate action plan kt CO2e year 2030	Estimated reductions from CCC actions kt CO2e year 2030	Total reductions from portfolio of current Climate Action plan and additional actions in CCC kt CO2e year 2030	Direct Impacts (Year 2030 Emission Reductions - kt CO2e) estimated from economic model	Indirect Impacts (Co-benefits)
<b>Transport</b>	Reduced motorized passenger transportation need	Infrastructure & Behavioural change	136	72	208	24	Less traffic congestion
	Shift to public & non-motorized transport	Financial, business models				18	Less traffic congestion
	Increased carpooling	Financial				10	Less traffic congestion
	Electrification of cars + motorcycles	Financial				23	Improved air quality
	Electrification of buses	Financial		3	3	2	Improved air quality
	Optimized logistics	Financial				99	Fuel savings
	Electrification of trucks	Financial				53	Improved air quality
	Electrification of port	Financial, technical	28	23	51		Improved air quality, fuel savings
<b>Buildings &amp; Heating</b>	Building renovations (envelope)					1	Job-creation
	New energy-efficient buildings					0	Less need for energy
	Efficient lighting & appliances					0	Less toxic chemicals
	Decarbonizing heating generation	Technical	14		14		Improved air quality
	Building materials, scope 3	Financial, regulations		22	22		Reduced need for harvesting new materials
<b>Electricity</b>	Fossil fuel free construction sites	Technical		5	5		Improved air quality
	Decarbonizing electricity generation	Technical	14		14		Improved air quality
<b>Waste</b>	Increased waste recycling	Infrastructure & Behavioural change	20		20	3	Reduced need for harvesting new materials Land use
<b>AFOLU</b>	Forestry, reclamation of wetland	Spatial planning	35		35		Biodiversity
<b>IPPU</b>	Use of F gases, scope 3	Regulations		42	42		Less toxic chemicals
<b>TOTAL</b>			<b>233</b>	<b>167</b>	<b>400</b>	<b>275</b>	



### B.1.1 Description of impact pathways

- The impact pathways chosen are those which have the most effect on accelerating the transition to climate neutrality to 2030 and reduce GHG emissions in the fastest way. Reykjavik has a policy of carbon neutrality for the year 2040 and a detailed CAP to achieve that goal. By participating in the Climate Mission, that policy is being honed, and carbon neutrality is being accelerated by a decade, and the goal is now to be carbon neutral by 2030. That goal can only be achieved with the participation of more parties in all sectors. Participants who sign Climate Neutrality Commitments undertake to submit one or more actions, which are being worked on, to reduce the effects of climate change.
- The pathways relate to the current state (GHG inventory) and the actions needed to close the gap. Reykjavik has used its own estimations of reduction from the current Reykjavik CAP which was a part of the work preparing for the EOI for the mission in 2021. Reduction from additional actions with participants in this first CCC are estimated as well by Reykjavik. The economic model is used in Reykjavik CCC Investment Plan and is added to the impact pathways to explore the use of the model in the future.
- As a part of the process of this first Reykjavik CCC and learning curve all estimations of possible impacts are found in Table B-1-1. The goal is to use the NZC Economic Model and the NZC Planner for future estimations of impacts of actions. It is obvious that whatever method is used, actions in the transportation sector have the most impact.

### B.1.2 Estimated reduction from current Reykjavik CAP

- The largest percentage of emissions in Reykjavik is due to transportation, and therefore most of the actions are a part of that sector. The estimation from the national CAP is used to estimate the effects of increased use of public transport, regulations and electrification of the fleet
- **Energy.** All heating and electricity use in Reykjavik comes from renewable sources, a mix of hydropower and geothermal energy. Nevertheless, Reykjavik Energy has an ambitious goal of making its energy production carbon neutral by 2030. By requesting their participation in the CCC, Reykjavik is emphasising that their actions matter, and that this goal supports the company. Carbon-neutral energy production benefits all users, not only the City of Reykjavik as such, but all companies and residents.
- **Transportation:** Changes in transportation are first addressed through planning, how the city is planned to reduce the need for travel. Updating the planning, implementing the 15-minute districts and focusing on green urban development therefore remain important projects, and one of the actions of the CCC. Extensive work on the development of transport infrastructure and its financing has been carried out under the umbrella of the Transport Treaty of the Capital Area. The effects of these changes will be felt later than 2030 but are an important contribution to encouraging active modes of travel and the use of public transport by those who work in the city, live in the city and tourists who visit the city. The risk here is that the infrastructure will not be used, and therefore co-operation on changing travel habits with the largest workplaces and schools within the city is part of the actions in the CCC. The City of Reykjavik itself is one of the largest workplaces in Iceland, with around 10,000 employees, so it is very important which actions the city itself puts in place to reduce the need for employees to travel to and from work as well as for work.



- It is expected that the number of trips will decrease as is the norm when the settlement becomes denser. It is also assumed that trips by car will remain stable and the percentage of active modes of travel will therefore increase. At the same time, it must be ensured that the fleet of cars that will be on the city's streets, whether they are private cars, goods transport vehicles, buses, vans and public buses run on green energy sources, where electricity is the main choice. Technological development in that sector has been rapid, but investment in such equipment is expensive. The fleet is changing, but it has progressed slowly, so one of the actions is to continue with the work of the working group on "energy transition everywhere", which refers to energy transition in the City's car fleet, and also how energy transition can be encouraged, for example through procurement. The continued emphasis on active means of transport is due to the co-benefits of more people on the streets, better air quality and increased likelihood of exercise becoming part of the daily life of the city's residents and visitors.
- **Waste:** Great results have been achieved with the altered waste collection system, which includes the development of infrastructure (GAJA) and the behavioural change of increased sorting by citizens. With the introduction of GAJA, an opportunity has also been created to use the methane that is created as a source of energy for waste-collection vehicles and buses. Waste prevention is always the most important action to reduce emissions within that sector.
  - Reykjavík only manages waste collection for households and follows-up on sorting in such a way that if waste is not correctly sorted into the appropriate bins, the bins are left behind with an appropriate message. The recycling rate and how sorting from households is going is closely monitored. Private parties manage waste collection and the reception of recyclables at private companies. In a resolution on waste management in Reykjavík, it is stated that private companies are obliged to sort like citizens, but it is not clear how this is enforced. Co-operation with the waste collection companies is therefore an important part of following up on the resolution and ensuring that private companies participate in reducing emissions due to waste.
- **Agriculture, Forestry and Other Land Use (AFOLU):** The biggest opportunities here are carbon sequestration through forestry and wetland reclamation, which is part of the current Climate Plan and is also pursued in the RGD. Agriculture is an insignificant part of emissions that will not be addressed in this first CCC. It is necessary to plan and prepare well which areas will be used for forestry and which areas will be used for the reclamation of wetlands, so that they are also useful for citizens and support biodiversity. How carbon credits of sequestration for land use are calculated has not been decided. Actions to assess sequestration due to land use therefore need to be carried out simultaneously with an assessment of the carbon market in Iceland in general. That market is immature, and it is unclear where it would be best to go to compensate for possible residual emissions.
  - Since carbon sequestration from forestry (sinks) began to be assessed in Reykjavík, carbon sequestration in forestry has been assessed by two different parties who came to somewhat different conclusions. When carbon sequestration was calculated, including forests in urban areas, the carbon sequestration was calculated as 22,812 tonnes of CO<sub>2</sub> equivalents per year. This figure was used in Reykjavík's climate accounting for 2015-2019. From that time, a different



methodology was used, where, among other things, the IGLUD database was used to calculate carbon sequestration, carbon sequestration decreased to 10,587 tonnes CO<sub>2</sub> equivalents due to a changed methodology and at the same time emissions from land use were estimated, resulting in net emissions from land use being around 45,000 tonnes of CO<sub>2</sub> equivalents. That figure has been used in climate accounting since 2019. Both methods come with limitations, e.g. due to the quality of the data available. For example, the IGLUD database is not updated often enough to be able to rely solely on it. In 2022, the GHG Protocol issued new guidelines regarding carbon sequestration in urban areas. A policy is being prepared for how the assessment of carbon sequestration will be carried out in Reykjavik under the title "Carbon sinks – evaluation of next steps"

- **Industrial processes and product use (IPPU):** The City has no control over emissions due to F gases, but in the recently published National Climate Action Plan of the government, a significant reduction is expected due to restrictions on the import of F gases and the introduction of regulations. It is important that those actions succeed, and the city supports those actions.

### Scope 3:

- **Building sector - materials:** Until now, Scope 3 emissions have not been addressed and have not been included in the City's previous climate action plans. Data collection on these emissions is new, and it can be assumed that the methodology for estimating emissions from the building sector will mature until the year 2030. This will be a good preparation for when requirements are made to list emissions in Scope 3. Reykjavik is a growing city with ambitious plans to increase the number of apartments and residents until 2030. It is therefore important to monitor these emissions so that the growth is at the expense of the climate and the environment as little as possible. Actions to reduce those emissions are therefore added in this CCC.
- **Domestic food production.** Emissions from domestic food production are insignificant and will not be addressed in this first CCC.

### B.1.3 Estimated impacts of CCC actions

- Where it was possible to estimate the impacts of CCC actions the calculations was made from the action plans from the participants themselves. In some cases, the impacts are proportional for the city, and calculated to fit into the city boundaries e.g., the impacts of the actions from the Icelandic government were calculated in proportion of the estimated reductions in the Icelandic national CAP [24] Also, Reykjavik Energy and the port are partly outside the city boundaries.

### B.1.4 Direct impacts estimated from NZC Economic model

- The data collected for the Economic Model is a mixture of already available data, such as demographics and emission factors, and calculations and assumptions for other factors. Where the data was not available for Reykjavik City a source of pre-filled data from the model was used, for example from a comparable city, EU targets and also public datasets such as Eurostat.



- Some data were not available, for example share of type of heating renovation, based on the fact that the city is more or less a part of the central heating grid (derived from a sustainable source), a fact reflected in the Economic Model outcome, showing less emphasis needed on the heating sector. The impacts and costs/benefits are calculated against Business-as-Usual case, showing the effect of the Climate Action Plan, compared to the scenario of the Climate Action Plan not implemented.
- Transportation. For transportation need, it is calculated by using average km driven (travel survey), average passengers and number of vehicles registered in Reykjavik. The Economic Model assumes 23% reduction in motorised passenger transportation need, based on a forecast for the Reykjavik City Climate Action Plan. The assumption for shift to public and non-motorised transport is based on the City Planning for 2040 and the Economic Model reference City (Zaragoza), where reduced km is assumed at 30%, shift to buses 30%, shift to walking and cycling 70% and shift to trains/metro 0%, as the City does not have any trains or metro and current plans do not include trains or metro.
- The national energy forecast assumes a maximum of 50% of the passenger car fleet that can be electrified by the year 2030. The public bus company Strætó plans to have 82% of the fleet exchanged to electric by the year 2030 but does not offer further breakdown of the procurement scheme for years. The electrification of trucks is estimated by the National Regulatory Authority to be 100% by 2038 (light duty trucks) and 90 by the year 2060 for heavy duty trucks.
- The Economic Model assumes that the share of minor heating renovations is 80%, compared to 20% extensive heating renovations, based on the fact that the City is more or less a part of the central heating grid, based on sustainable extraction from a geothermal water source. In line with this, the share of district heating is expected to be 95% by the year 2030. For energy efficiency estimates are not readily available, thus the numbers for the reference city of Zaragoza apply. The share of geothermal heating is 100% today, and is expected to stay the same, as well as the share of renewable electricity production.
- For the increased recycling of waste, all assumptions are based on EU targets. The model does not include estimation of impacts on AFOLU and IPPU as it is not a part of the emission scope as it is listed in the EU mission “Toolkit for cities”.

### B.1.5 Co-benefits and indirect impacts

Looking beyond the benefits of reduced GHG emissions indirect impacts and co-benefits are considerable.

The transport category has co-benefits connected to less air pollution and less traffic congestion. Less air pollution can result in better health and better quality of life for the citizens, as air pollution is connected to respiratory health issues. It can also be assumed the “gray days” will be fewer, where people are encouraged to stay indoors due to pollution, especially for exercise and children playing. Less traffic congestion also decreases air pollution and increases quality of life where people spend less time in traffic. In addition, the health benefits of using non-motorised transportation can be many, as exercise as a part of daily lifestyle is good for both physical and psychological health. A socioeconomic analysis for the Transport Treaty addresses the combined impacts of all projects included in the pact, which includes for example Sæbraut cut and cover, Miklabraut tunnel, a few highway projects and Borgarlínan (Bus Rapid Transit system). The analysis shows a socioeconomic net benefit of 1140 billion ISK over the 50-year analysis period



and an internal rate of return of 9,2%. The Transport Treaty causes external effects to the environment, neighbours and others. These externalities result from the change on modal split and kilometres driven by vehicles. The expected future shift towards a car fleet running on renewable energy is incorporated in the unit values for noise, air pollution and climate.

For electrification of harbour, the harbour operator, Faxaflóahafnir, assumes the co-benefits of improved air quality, and fuel savings – important element in supporting decarbonization of ships.

Building renovations create more jobs, and both building renovations and new energy-efficient buildings decrease the need for energy. Led lighting is less polluting than other types of lighting and are also more energy efficient.

Decarbonising of heating and electricity generation results in less air pollution. Based on the energy produced by Reykjavík Energy, the hydrogen sulphide emission intensity in geothermal power plants has decreased since 2016, from just over 2 grams per kilowatt hour to around 1.5 grams in 2023. Hydrogen sulphide emissions from Hellisheidi Power Plant and Nesjavellir Power Plant totalled around 9.7 thousand tonnes in 2023. The hydrogen sulphide (H<sub>2</sub>S) concentration did not exceed the 2023 limit. The relative hydrogen sulphide injection from Hellisheidi Power Plant was 64% in 2023. Hydrogen sulphide injection began on a pilot scale at Nesjavellir Power Plant in 2023 and was 8% of the power plant's emissions. The Hellisheidi power plant is planned to be decommissioned in 2025 and the Nesjavellir power plant in 2030, which means that almost all hydrogen sulphide from the power plants will be captured and bound in rock.

Increased waste recycling and emphasis on the circular economy reduces the need for new material harvesting, increasing the protection of natural resources.

When the Reykjavik transition team started to write the CCC the estimated impacts of actions were based on calculations which were made when Reykjavik's EOI to the mission was made in 2021. The NZC economic model was introduced to the team in 2023. At first it was not clear if it would be possible to use the Economic model to estimate impact pathways as some data was missing and Reykjavik's profile seemed too different compared to other cities due to the high proportion of renewable energy and high proportion of the use of fossil fueled private cars. As the CCC process has evolved and with the introduction of the NZC Planner, where the Economic model is the input for data, the team would like to further develop the use of economic model to estimate the impacts and co-benefits of actions.



## Module B-2 Climate Neutrality Portfolio Design

<b>B-2.1a: Climate actions in current Action Plan of Reykjavik [19] (referring to Table A-2-2 column (3))</b>			
<b>Fields of action</b>	Portfolio description		
	List of actions	Descriptions	Next steps
<b>Energy systems</b>	9) Turn CO2 into stone.	Know-how and solutions by Reykjavik Energy and Carbfix are to be developed for the sequestration of carbon dioxide, and as the case may be of other GHG, in partnership with universities and businesses that are heavy emitters.	Combined with the action Climate-neutral energy production by 2030
<b>Mobility &amp; transport</b>	1) 15-minute districts	Through the process of district planning, renewal of urban centers and investments in infrastructure, the City's districts will become more pedestrian-friendly and the access to green areas, outdoors-activities and services will be ensured within a radius of fifteen minutes' walk or on bicycle.	Included in portfolio as an action
	2) Green City development	The city's future development will all be within its defined urban growth limit line and 80% of housing development will be located within convenient distance from the new BusRapid Transport system, Borgarlínan (Cityline)	Combined with the action Transport Treaty
	3) Energy transition everywhere	A comprehensive plan to be drawn up and carried out for energy transition infrastructure for private cars with charging stations in the city districts, for commercial cars, trucks, for public transport systems, in the ports and at sea.	The plan is being finalized but has yet to be submitted to the City Council for approval. Actions that will belong in the CCC will be added in the next version of the Treaty.
	4) World-class cycling city	A revised cycling plan is to set goals with the aim that Reykjavik becomes a world-class cycling city	The plan has been made. Combined with the action Transport Treaty
	5) Borgarlína (Cityline) and improved public transportation	Improved as well as efficient public transportation and the compaction of the city are to play a key role in attaining the goals for changes in travel behaviour. Further climate goals will be defined for the transportation agreement between the state and the Association of Municipalities in the Capital Area (SSH).	Combined with the action Transport Treaty



Fields of action	Portfolio description		Next steps
	List of actions	Descriptions	
<b>Waste &amp; circular economy</b>	6) Zero waste	A comprehensive action plan to be developed for recirculation and recycling in order to support a more sustainable treatment of waste.	The plan has been made. Action will be combined with the action increased recycling.
	7) Green food policy	The City's food policy to be implemented and co-operation to be organised involving green agriculture in Kjalarnes.	The plan ended in 2022 and no decision has been made to continue the plan. Will be excluded from the portfolio.
<b>Green infrastructure &amp; nature-based solutions</b>	10) Reclamation of wetlands	To be increased according to a special plan	Combined with the action Carbon sinks
	11) Reykjavik climate forests	Climate forests to be promoted in collaboration with the Reykjavik Forestry Society (Skógræktarfélag Reykjavíkur), and a forestry plan be presented.	Combined with the action Carbon sinks
<b>Built environment</b>	8) Green construction industry	Cooperation to be organised with businesses and industry for a greener construction industry	Combined with the action Low-carbon and circular building materials
<b>Operations of Reykjavik City</b>	12) Fossil fuel free by 2025	Cars and equipment powered by fossil fuel will not be procured by the City as of 2021 and the cars and equipment that is already possessed will be replaced before the year 2025	Combined with the actions of energy transition everywhere
<b>Adaptation to climate change</b>	13) Blue-green surface water solutions	New thinking in the application of utility systems with improved utilisation of water and blue-green surface water solutions to become the rule in new city districts and when renovating the older systems.	Included in portfolio as an action
	14) Flood control installations to become recreational areas and parks	Undertakings to be initiated for the reinforcement of flood control structures along the coastline where needed, aiming at nature-based solutions, developing recreational areas, beach parks and facilities for ocean bathing at selected locations	Included in portfolio as an action
<b>Other</b>	15) Collaboration with businesses and industry	Continue to co-operate with Festa - Centre for Social Responsibility and Businesses, under the banner of the City of Reykjavik & Festa Climate Declaration towards further results in all sections of the economy.	Combined with the action on co-operation with Festa on a new declaration on mobility
	Just transition	A gender equality evaluation of the City of Reykjavik Climate Policy 2021-2025 is included in the CAP.	The actions of the CCC includes broader connection to involvement of citizens and guidelines to just transition included in section C of this CCC.

<b>B-2.1b: Description of action portfolios - textual or visual. Referring to Table A-2-2 column (3) and (5)</b>		
<b>Fields of action</b>	Portfolio description	
	List of actions	Descriptions
<b>Energy systems</b>	Climate neutral energy production by 2030	In current Climate Action Plan. Carbon capture at the source of energy production from geothermal heat with Carbfix technology.
<b>Mobility &amp; transport</b>	Transport Treaty	Increased infrastructure for bicycling, pedestrians and public transport. Transition to electrical fleet of public transport (Strætó).
	15-minute district planning	Through the process of district planning, renewal of urban centres and investments in infrastructure, the City's districts will become more pedestrian-friendly and the access to green areas, outdoors-activities and services will be ensured within a radius of fifteen minutes' walk or on bicycle
	Vatnsmýri Sustainable Transport Project	Three of the largest employers in the city belong to the working group of Reykjavik Science City which is located in the Vatnsmýri area. They will work together on promoting sustainable mobility in the area.
	Co-operation with Festa on a new declaration on mobility	Develop declaration on mobility for businesses in Reykjavik to sign, engage with Festa members and encourage them to take part. Hold a member-meeting to raise awareness and invite members to sign the declaration.
	Visit Reykjavik	Develop declaration on climate action for the tourism industry in the capital area.
	Faxaflóahafnir climate neutral 2030	Marine fuels substituted and On Shore Power at Faxagarður and Miðbakki.
	Change of regulations to implement energy transition in the car fleet (national level)	Plans on regulations to reduce the number of fossil fuel cars and trucks in Iceland is included in the CAP of Icelandic government.
<b>Waste &amp; circular economy</b>	Increase recycling of waste from private sector (businesses and offices)	Implementation and follow up on requirements of the Resolution on Waste Management in Reykjavik (Samþykkt um meðhöndlun úrgangs) with focus on increased sorting and waste avoidance.
	Change of regulations regarding F gasses (national level)	Plans on regulations to reduce the use of F gases is included in the Climate Action plan of Icelandic government.
<b>Green infrastructure &amp; nature-based solutions</b>	Carbon sinks – evaluation of next steps	A working group will be established to map out possible actions to reduce the emissions of Land use.



Fields of action	Portfolio description	
	List of actions	Descriptions
<b>Built environment</b>	Fossil fuel free construction sites	The purpose is to reduce fossil fuel free emissions on construction sites. This will be done by implementing the use of alternative energy sources, such as electricity and biodiesel.
	Low-carbon and circular building materials	The action involves increasing awareness among builders and suppliers about sustainable procurement practices, reevaluating regulations to allow for more reuse, encouraging selective demolition, and promoting research on low-carbon building materials.
<b>Adaptation to climate change</b>	13) Blue-green surface water solutions	New thinking in the application of utility systems with improved utilisation of water and blue-green surface water solutions to become the rule in new city districts and when renovating the older systems.
	14) Flood control installations to become recreational areas and parks	Undertakings to be initiated for the reinforcement of flood control structures along the coastline where needed, aiming at nature-based solutions, developing recreational areas, beach parks and facilities for ocean bathing at selected locations

### Involvement of stakeholders and participants on new actions

Stakeholders were contacted by members of the Transition team, and new actions were proposed. The new actions in the CCC were presented to stakeholders prior to the signing of the commitment in October 2024. The stakeholders who decided to participate provided input on the actions and committed to formulating actions that measurably reduce greenhouse gas emissions, support Reykjavik’s climate goal of becoming climate neutral by 2030 and participate in annual consultation meetings until at least 2030. The following chapter describe actions co-created with signatories and participants of this CCC.



**B-2.2: new actions of the CCC prepared with or by the participants of the CCC.**

**Reykjavik Energy 2030 target from 2016 baseline**

	Action name	Climate neutral energy production by 2030
	Action type	Implementation of Reykjavik Energy climate goals 2025 and 2030 [30]
	Action description	<p>Reykjavik Energy (RE), is an energy- and utility company in majority ownership of the City of Reykjavik. RE operates two geothermal power stations; Hellisheiði power plant and Nesjavellir power plant. In those power plants, geothermal steam is utilised for power- and heat production. The steam consists partially of two GHG, carbon dioxide CO<sub>2</sub> and methane CH<sub>4</sub>. Typically these GHGs are released from the geothermal steam and emitted into the atmosphere. However, RE has developed the Carbfix method, a Carbon Capture and Storage (CCS) technology which permanently mineralises CO<sub>2</sub>.</p> <p>A cornerstone of RE's emission reduction strategy is the implementation of the Carbfix method for the geothermal facilities. Since 2016 the geothermal power plants have accounted for 65-75% of RE's total GHG emissions. At Hellisheiði power plant, the current capture capacity is in the range of 25%. However, RE plans to fully scale up the capture capacity at Hellisheiði by 2025, allowing a capture rate of 95% of CO<sub>2</sub> emissions from the power plant by 2025. Pilot injections started at the Nesjavellir power plant in early 2023 and RE aims for full scale injection at the power plant by 2030.</p> <p>RE aims for reduction of GHG emissions by 90% in Scopes 1 and 2, and by 40% in Scope 3 by the year 2030, compared to the emission levels of the baseline year 2016. The climate goal is confirmed by the Science Based Targets initiative (SBTi) and meets the requirements of climate science to keep the temperature increase below 1.5°C.</p> <p>Furthermore, RE aims to reduce emissions in its supply chain, Scope 3, by 90% by the year 2040.</p>
<b>Reference to impact pathway</b>	Field of action	Energy
	Systemic lever	Technical
	Outcome (according to module B-1.1)	Included in estimated reduction in current Climate Action plan. RE serves 5 municipalities and Reykjavik is one of them. Estimated reduction for the part of Reykjavik is 14.622 tCO <sub>2</sub> eq when compared to the proportion of emissions in the 2019 baseline year for Reykjavik.



<b>Implement- ation</b>	Responsible bodies/person for implementation	Reykjavík Energy (Orkuveita Reykjavíkur)
	Action scale & addressed entities	Regional scale
	Involved stakeholders	Reykjavík Energy and subsidiaries, University of Iceland, CNRS in Toulouse, and the Earth Institute at Columbia University participated in the development of Carbfix.
	Comments on implementation – consider mentioning resources, timelines, milestones	To achieve its climate targets, RE has outlined significant steps in its reduction strategy. These include the complete implementation of the Carbfix injection method at the Hellisheiði geothermal power plant by 2025 and achieving full-scale injection at the Nesjavellir geothermal power plant by 2030.
<b>Impact &amp; cost</b>	Generated renewable energy (if applicable)	9200 GWh, there of: <ul style="list-style-type: none"> <li>- 3500 GWh electricity from geothermal power plants and a small hydropower plant</li> <li>- 3100 GWh hot water from geothermal power plants</li> <li>- 2600 GWh hot water from low-temperature geothermal wells</li> </ul>
	Removed/substituted energy, volume, or fuel type	N/A
	GHG emissions reduction estimate (total) per emission source sector	<p>All geothermal heat in Reykjavík is supplied by Reykjavík Energy. Reduction in emissions from the RE therefore affects Reykjavík directly. Through carbon capture and sequestration (CCS) at RE's geothermal power plants, we project an emission reduction of 51.000 tCO<sub>2</sub>eq in 2030 compared to the baseline year 2016. This can be disaggregated to emissions reduction of 27.000 tCO<sub>2</sub> related to electricity production and 24.000 tCO<sub>2</sub> related to heat production.</p> <p>Also, goals on lower emission factor from electricity will also have effect, the factor was 9,9 g CO<sub>2</sub> eq/kWh in 2016 and is projected to reach 0,6 gCO<sub>2</sub> eq/kWh in 2030 with a CO<sub>2</sub> capture capacity of 95%.</p> <p>If energy consumption in Reykjavík stays the same the emissions will lower in line with the emission factor.</p>
	GHG emissions compensated (natural or technological sinks)	After reaching 90% emissions reduction, RE will compensate for the residual emissions using certified carbon credits. Currently, RE is purchasing credits through UN's Clean Development Mechanism (CDM).
	Total costs and costs by CO <sub>2</sub> eq unit	Total costs for realising fully scaled capture plants and sequestration infrastructure have not been projected for both of RE's geothermal power plants. A cost assessment of the Carbfix method was projected as \$25 per tonne in 2018 [31].



Transport Treaty		
	Action name	Transport Treaty
	Action type	Spatial
	Action description	Investment in transport networks for different transport modes (pedestrian paths and cycling lanes) and investment for new public transport network (BRT) in the Capital Area
Reference to impact pathway	Field of action	Transport
	Systemic lever	Financial
	Outcome (according to module B-1.1)	Estimated reduction is a part of the estimated reduction of the current CAP of Reykjavik.
Implementation	Responsible bodies/person for implementation	Betri samgöngur ohf. (Transport for the Capital Area)
	Action scale & addressed entities	Investment in transport networks for different transport modes (pedestrian paths and cycling lanes) and investment for new public transport network (BRT) in the Capital Area
	Involved stakeholders	Government, municipalities in the Capital Area (SSH)
	Comments on implementation – consider mentioning resources, timelines, milestones	<p>Transport for the Capital Area (TfCA) is a public company incorporated by the Government of Iceland and municipalities in the Capital Area (Reykjavik, Kópavogur, Hafnarfjörður, Garðabær, Mosfellsbær and Seltjarnarnes) to invest in transport infrastructure in the area.</p> <p>The goal is to increase safety, improve transport for all modes of transport and reduce delays, greatly strengthen public transport and reduce pollution caused by particulate matter and GHG emissions in order to meet the climate goals of the government and municipalities.</p> <p>The vehicle km of cars, buses, delivery trucks and heavy goods vehicles is estimated to decrease by approximately 352.300 km per day in 2040 compare by BAU.</p> <p>The current website for follow up on the actions [32].</p>
Impact & cost	Generated renewable energy (if applicable)	
	Removed/substituted energy, volume, or fuel type	It is estimated that the transport network will reduce traffic by 5% compared to BAU to 2040. Less fossil fuel will be used compared to BAU.
	GHG emissions reduction estimate (total) per emission source sector	8.000 CO2 tonnes by 2030
	GHG emissions compensated (natural or technological sinks)	N/A
	Total costs and costs by CO2eq unit	N/A



15 minute district planning		
<b>Action outline</b>	Action name	15 minute district planning
	Action type	Transport
	Action description	Through the process of district planning, renewal of urban centres and investments in infrastructure, the City's districts will become more pedestrian-friendly and the access to green areas, outdoors-activities and services will be ensured within a radius of fifteen minutes' walk or on bicycle
<b>Reference to impact pathway</b>	Field of action	Transport
	Systemic lever	Spatial planning
	Outcome (according to module B-1.1)	136.223 tonnes CO2 equivalents reduced GHG emissions from reduced need of travel by private car. Included in current climate action plan.
<b>Implementation</b>	Responsible bodies/person for implementation	Mayor and committee of environment and planning at Reykjavik
	Action scale & addressed entities	Local scale
	Involved stakeholders	Citizens
	Comments on implementation – consider mentioning resources, timelines, milestones	
<b>Impact &amp; cost</b>	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume, or fuel type	Reduction and avoidance of fossil fuel use in private cars.
	GHG emissions reduction estimate (total) per emission source sector	Estimated reduction of 136.223 tonnes CO2 equivalents
	GHG emissions compensated (natural or technological sinks)	N/A
	Total costs and costs by CO2e unit	N/A



Vatnsmýri Sustainable Transport Project		
<b>Action outline</b>	Action name	Vatnsmýri Sustainable Transport Project
	Action type	Transport
	Action description	Many of the largest employers in Reykjavik are located in the Vatnsmýri area. Working together we can have a significant impact on the mobility behaviour of residents.
<b>Reference to impact pathway</b>	Field of action	Transport
	Systemic lever	Business models
	Outcome (according to module B-1.1)	Reduced GHG emissions from transport
<b>Implementation</b>	Responsible bodies/person for implementation	Signatories of the CCC 2024
	Action scale & addressed entities	Local scale, entities operating in the Vatnsmýri area.
	Involved stakeholders	The University of Iceland, The University of Iceland Science Park, Reykjavik University, Landspítali – University Hospital, Reykjavik City
	Comments on implementation – consider mentioning resources, timelines, milestones	<p>Three of the largest employers in the city belong to the working group of Reykjavik Science City which is located in the Vatnsmýri area. We are already working together to market the area as an attractive place for investment, new companies and foreign specialists. We also already have a working group in place that discusses transport and infrastructure projects in this area. We can include this project within the scope of that working group.</p> <p>Each of these players is knowledgeable and ambitious when it comes to sustainability. There are many ways they can influence their employees as well as the students and patients that visit the area each day.</p> <p>Here are some examples of actions that the individual members of the group will implement.</p> <ul style="list-style-type: none"> <li>- Parking charges in (more) parking spaces</li> <li>- Travel survey</li> <li>- Green infrastructure, e.g. for biking or charging electrical vehicles</li> <li>- Communications aimed at encouraging green modes of transport</li> </ul>



		<p>- Transportation grants (Samgöngustyrkur)</p> <p>These are the largest players in the Vatnsmyri area. We will start working together with this group that is already defined and can have a large impact with every action. As the action is better defined, we have the option of including more businesses that are located in the area.</p>
<b>Impact &amp; cost</b>	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume, or fuel type	Reduction and avoidance of fossil fuel use in private cars.
	GHG emissions reduction estimate (total) per emission source sector	Avoided GHG emissions have not been estimated. Stakeholders agree to participate in a travel-mode survey that will allow us to monitor mobility behavioural change.
	GHG emissions compensated (natural or technological sinks)	N/A
	Total costs and costs by CO2e unit	N/A



Co- operation with Festa, Centre for Sustainability		
	Action name	Reykjavik Business Declaration on Mobility
	Action type	Awareness
	Action description	Develop declaration on mobility for businesses in Reykjavik to sign, engage with Festa members and encourage them to take part. Hold a member-meeting to raise awareness and invite members to sign the declaration.
<b>Reference to impact pathway</b>	Field of action	Transport
	Systemic lever	Business models
	Outcome (according to module B-1.1)	Reduced GHG emissions from transport from the business sector.
<b>Implementation</b>	Responsible bodies/person for implementation	Office of the Mayor and CEO of Reykjavik City and the CEO of Festa
	Action scale & addressed entities	Currently 167 members have signed the Climate Declaration of Festa and the City of Reykjavik, these members will be presented the opportunity to sign the new declaration.
	Involved stakeholders	Festa, All members of Festa, 184 companies. Head og climate change affairs at Reykjavik City.
	Comments on implementation – consider mentioning resources, timelines, milestones	<p>The declaration will build on the momentum from the declaration from 2015 but this declaration will focus on transportation aiming to promote green mobility options, energy transition and behavioural change.</p> <p>The declaration will mention both the vehicles operated by the businesses and how the businesses plan to encourage their staff to travel to and from their workplaces in a sustainable manner.</p>
<b>Impact &amp; cost</b>	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume, or fuel type	Reduction and avoidance of fossil fuel use in private cars and trucks.
	GHG emissions reduction estimate (total) per emission source sector	Avoided GHG emissions has not been estimated. Developing the declaration includes setting this measurement. One option could be a travel-mode survey.
	GHG emissions compensated (natural or technological sinks)	N/A
	Total costs and costs by CO <sub>2</sub> eq unit	N/A



<b>Faxaflóahafnir climate neutral</b>		
<b>Action outline</b>	Action name	Faxaflóahafnir climate neutral Increasing the share of renewable energy.
	Action type	Infrastructure
	Action description	Onshore Power Supply (OPS)
<b>Reference to impact pathway</b>	Field of action	Transport
	Systemic lever	Finance
	Outcome (according to module B-1.1)	Reduced GHG emissions – Reykjavik’s part of the emission reduction is estimated in total 51.074 tonnes CO2 eq.
<b>Implementation</b>	Responsible bodies/person for implementation	Faxaflóahafnir /Gunnar Tryggvason.
	Action scale & addressed entities	N/A
	Involved stakeholders	<u>Veitur, Ship owners</u>
	Comments on implementation – consider mentioning resources, timelines, milestones	2022-2023 Low voltage shore connections at Faxagarður and Miðbakki commissioned.  2026+ High voltage shore connections at Skarfabakki.
<b>Impact &amp; cost</b>	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume, or fuel type	Marine fuels substituted.  OPS will be available at all quaysides 2030. Volume of substituted fuel depends on the ability of ships in harbour to connect. Volume uncertain.
	GHG emissions reduction estimate (total) per emission source sector	Emissions at quayside 2023: 57 thousand tonnes CO2 eq. Uncertain if all ships will be able to connect to OPS in 2030.
	GHG emissions compensated (natural or technological sinks)	N/A
	Total costs and costs by CO2e unit	



Energy transition of vehicles		
	Action name	Energy transition of vehicles
	Action type	Regulation
	Action description	Regulations to reduce the number fossil fuel cars and trucks in Iceland
<b>Reference to impact pathway</b>	Field of action	Transport
	Systemic lever	Regulation
	Outcome (according to module B-1.1)	Reduced GHG emissions from transport 71.640 tCO <sub>2</sub> eq
<b>Implementation</b>	Responsible bodies/person for implementation	Ministry of Environment, Energy and Climate Ministry of Infrastructure Ministry of Ministry of Culture and Business Affairs
	Action scale & addressed entities	National level
	Involved stakeholders	Car rentals, private and public sector, individuals,
	Comments on implementation – consider mentioning resources, timelines, milestones	This action is in the new CAP of the Icelandic government and important action to close the gap.
<b>Impact &amp; cost</b>	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume, or fuel type	N/A
	GHG emissions reduction estimate (total) per emission source sector	Proportion of the national estimation of GHG emissions reduction: 71.640 tonnes CO <sub>2</sub> eq [24].  (subsidies from the energy fund: 14,000) Requirement for the percentage of renewable energy sources in land transport: 66,000  Requirement for clean energy equipment at vehicle rentals: 86,000  Phasing out of gasoline and diesel vehicles; 33,000  Total = 199,000 x 0.36 = 71,640  Actions  All operations under Section S.5 of the CAP of Iceland - Vehicles and Infrastructure
	GHG emissions compensated (natural or technological sinks)	N/A
	Total costs and costs by CO <sub>2</sub> eq unit	N/A



<b>Increased recycling of waste from the private sector (businesses and offices)</b>		
	Action name	Increased recycling of waste from the private sector (businesses and offices)
	Action type	Awareness
	Action description	Implementation and follow up on requirements of the Resolution on Waste Management in Reykjavik (Samþykkt um meðhöndlun úrgangs) with focus on increased sorting.
<b>Reference to impact pathway</b>	Field of action	Waste
	Systemic lever	Regulation
	Outcome (according to module B-1.1)	Included in estimation of Current Climate action Plan 20.549 tonnes CO2 eq.
<b>Implementation</b>	Responsible bodies/person for implementation	Office of Environmental Quality (Skrifstofa umhverfisgæða) of Reykjavik.
	Action scale & addressed entities	Local level
	Involved stakeholders	Service providers collecting and/or treating waste from the private sector (municipal and operational waste).  The relevant stakeholders that have declared commitment are: Íslenska Gámafélagið, Sorpa bs. and Terra.
	Comments on implementation – consider mentioning resources, timelines, milestones	Íslenska Gámafélagið and Terra are the two largest companies providing waste collection and treatment in the Capital Area. Both companies operate according to an accredited EMS and provide waste related consultation to clients and are knowledgeable when it comes to sustainability. Both companies provide collection and sorting services and have agreements with third party recycling companies.  Sorpa bs. is the municipal waste receiving company, servicing both the public and private sector. Sorpa handles and exports recyclable waste for recycling and unsorted waste for energy recovery. Sorpa bs. can have impact on sorting quality by education programs and setting conditions for waste acceptance for the private sector. Sorpa also operates GAJA, a treatment plant for food waste.  Stakeholder engagement has been started and both Íslenska Gámafélagið and Sorpa have confirmed that they are in the process of scoping their contributions to the contract. Meetings with stakeholders are scheduled for January, during which the project objectives will be further defined as well as the level and frequency of communication and cooperation for the coming years. In additions we want to discuss the reporting and how we can



		minimize the workload on stakeholders, i.e. if we can use their existing sustainability reporting and the existing indicators.
<b>Impact &amp; cost</b>	Generated renewable energy (if applicable)	Has not been estimated. There is a production of methane gas from source segregated organic waste from that is utilised for industry and vehicles. Mixed household waste from the private sector is exported to incineration with energy recovery, “waste to energy”.
	Removed/substituted energy, volume, or fuel type	N/A
	GHG emissions reduction estimate (total) per emission source sector	The reduction from the actions of stakeholder in this action is to support and add to CCC Action Plan. According to the regional plan on waste the goal is to keep the emissions the same in 2032 compared to 2022 though the population will grow at the same time [33].  It is estimated that the actions of the stakeholders in this action will lead to more reduction.
	GHG emissions compensated (natural or technological sinks)	N/A
	Total costs and costs by CO <sub>2</sub> eq unit	N/A



Reducing the use of F gases		
	Action name	Reducing the use of F gases
	Action type	Regulation
	Action description	Regulations to reduce the import of F gases to Iceland
<b>Reference to impact pathway</b>	Field of action	IPPU
	Systemic lever	Regulation
	Outcome (according to module B-1.1)	Reduced GHG emissions from IPPU
<b>Implementation</b>	Responsible bodies/person for implementation	Ministry of Environment, Energy and Climate
	Action scale & addressed entities	National level
	Involved stakeholders	Fishing ships, fish processing, grocery stores
	Comments on implementation – consider mentioning resources, timelines, milestones	This action is in the new CAP of the Icelandic government and important action to close the gap in Reykjavik
<b>Impact &amp; cost</b>	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume, or fuel type	N/A
	GHG emissions reduction estimate (total) per emission source sector	Action S3.A2 Regulation on the maximum amount of imported F gases  Proportion of the national estimation of GHG emissions reduction: 42.120 tonnes CO <sub>2</sub> eq [24].  (Regulation on the maximum amount of imported F gases: 117,000 x 0.36 = 42,120)
	GHG emissions compensated (natural or technological sinks)	N/A
	Total costs and costs by CO <sub>2</sub> eq unit	N/A



Carbon sinks		
	Action name	Carbon sinks
	Action type	Governance
	Action description	A working is mapping possible actions to reduce the emissions of Land use
<b>Reference to impact pathway</b>	Field of action	Green infrastructure and nature based solutions
	Systemic lever	Procedures
	Outcome (according to module B-1.1)	In current CAP, the estimated reduction of change of Land use is 34.522 tonnes CO <sub>2</sub> eq A change in the method used of estimating sinks within the urban area will reduce calculated emissions from land use.
<b>Implementation</b>	Responsible bodies/person for implementation	Mayor of Reykjavik
	Action scale & addressed entities	Local
	Involved stakeholders	The institution “Land og skógar”, Climate council of Iceland
	Comments on implementation – consider mentioning resources, timelines, milestones	A detailed plan is in the making on how to reduce emissions due to Land use.
<b>Impact &amp; cost</b>	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume, or fuel type	
	GHG emissions reduction estimate (total) per emission source sector	The biggest opportunities here are carbon sequestration through forestry and wetland reclamation, which is part of the current Climate Plan and is also pursued in the RGD.
	GHG emissions compensated (natural or technological sinks)	N/A
	Total costs and costs by CO <sub>2</sub> eq unit	N/A



Fossil fuel free construction sites		
	Action name	Fossil fuel free construction sites
	Action type	Planning, procurement
	Action description	The purpose is to reduce fossil fuel free emissions on construction sites. This will be done by implementing the use of alternative energy sources, such as electricity and biodiesel. The action involves reevaluating the planning process to better accommodate for necessary infrastructure and motivating stakeholders to invest in decarbonisation technologies through fiscal incentives.
<b>Reference to impact pathway</b>	Field of action	Energy
	Systemic lever	Capacity development
	Outcome (according to module B-1.1)	Reduced GHG emissions – 5.792 CO <sub>2</sub> eq – calculated as a % of estimated reduction.
<b>Implementation</b>	Responsible bodies/person for implementation	The Icelandic Housing and Construction Authority (HMS) for Building a Greener Future (Byggjum grænni framtíð). City of Reykjavík, Commissioning & Maintenance department.
	Action scale & addressed entities	N/A
	Involved stakeholders	Green Building Council Iceland, The Federation of Icelandic Industries and Veitur utility company.
	Comments on implementation – consider mentioning resources, timelines, milestones	Has been researched by Green Building Council Iceland, Housing and construction authority, the Ministry of Infrastructure and Nordic Sustainable Construction [34]. The Icelandic Sustainable Construction Roadmap to 2030 provides specific actions and resources that support the implementation of fossil fuel-free construction sites.
<b>Impact &amp; cost</b>	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume, or fuel type	Removed fossil fuel use
	GHG emissions reduction estimate (total) per emission source sector	5.379 CO <sub>2</sub> tonnes reduction in the energy sector
	GHG emissions compensated (natural or technological sinks)	N/A
	Total costs and costs by CO <sub>2</sub> eq unit	Has not been calculated



Low-carbon and circular building materials		
	Action name	Low-carbon and circular building materials
	Action type	Procurement, awareness,
	Action description	The purpose is to reduce carbon emissions of the building materials used for new construction within Reykjavik, by promoting the use of low-carbon and recycled building materials. The action involves increasing awareness among builders and suppliers about sustainable procurement practices, reevaluating regulations to allow for more reuse, encouraging selective demolition, and promoting research on low-carbon building materials.
<b>Reference to impact pathway</b>	Field of action	IPPU (Scope 3)
	Systemic lever	Capacity development
	Outcome (according to module B-1.1)	Reduced GHG emissions in Scope 3, 21.709 CO2 tonnes
<b>Implementation</b>	Responsible bodies/person for implementation	The Icelandic Housing and Construction Authority (HMS) for Building a Greener Future (Byggjum grænni framtíð).  City of Reykjavik, Commissioning & Maintenance department.
	Action scale & addressed entities	N/A
	Involved stakeholders	Green Building Council Iceland and The Federation of Icelandic Industries.
	Comments on implementation – consider mentioning resources, timelines, milestones	Icelandic Sustainable Construction Roadmap to 2030 outlines specific actions and resources aimed at reducing the carbon footprint of building materials. Forthcoming regulatory implementation of Life Cycle Assessment (LCA) for new buildings as part of a regulatory update coming into effect on September 1, 2025, and the introduction of limit values in 2028. These regulations will directly address the significant carbon impact of building materials, which are among the largest contributors to emissions within the construction sector.  Promoting a circular economy by encouraging the use of recycled and reused construction materials, and selective demolition. Regulations and guidelines will be adapted to facilitate the reuse of building materials, further reducing emissions. In addition, the newly published Research Roadmap outlines several actions and research recommendations that aim to improve the sustainability of construction materials in Iceland.



<b>Impact &amp; cost</b>	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume, or fuel type	Removed fossil fuel use GHG emissions during chemical reactions GHG emissions during production
	GHG emissions reduction estimate (total) per emission source sector	21.709 tonnes CO2 eq reduction in the IPPU sector – Scope 3  The Icelandic Sustainable Construction Roadmap to 2030 aims for a reduction of 55% from building materials [35].



<b>Visit Reykjavik Climate Declaration</b>		
	Action name	Visit Reykjavik Climate Declaration
	Action type	Awareness
	Action description	Develop declaration on climate action for the tourism industry in the capital area. Visit Reykjavik promotes Reykjavik as a destination. The definition of that destination includes the entire capital area. A focus area of theirs is sustainable tourism and their climate declaration would incorporate eco-friendly transportation options, and promoting an environmentally conscious travel experience.
<b>Reference to impact pathway</b>	Field of action	Transport and waste management
	Systemic lever	Business models
	Outcome (according to module B-1.1)	Reduced GHG emissions from transport from the tourism sector.
<b>Implementation</b>	Responsible bodies/person for implementation	Visit Reykjavik (Markaðsstofa höfuðborgarsvæðisins)
	Action scale & addressed entities	The members of Visit Reykjavik include all the municipalities in the capital area as well as many tourism businesses, notably the largest players in this sector in the city.
	Involved stakeholders	Visit Reykjavik, All members of Visit Reykjavik, the Office of the Mayor and CEO of Reykjavik city
	Comments on implementation – consider mentioning resources, timelines, milestones	The declaration will be developed along with the members of Visit Reykjavik and will include an emphasis on green mobility.
<b>Impact &amp; cost</b>	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume, or fuel type	Reduction and avoidance of fossil fuel use in rental cars.
	GHG emissions reduction estimate (total) per emission source sector	Avoided GHG emissions have not been estimated. Developing the declaration includes setting this measurement. One option could be a travel-mode survey.
	GHG emissions compensated (natural or technological sinks)	N/A
	Total costs and costs by CO2eq unit	N/A



## B.2.1 Summary Strategy for Residual Emissions

Residual emissions will be 30% of the 2019 baseline emissions to reach Net Zero by 2030. The residual emissions reflect the current situation and further iterations of the CCC with current and future stakeholders will address at least 10% of this emission, which is around 60.000 tonnes CO<sub>2</sub> eq, 20% residual emissions are around 116.000 tonnes CO<sub>2</sub> eq. As previously explained, the CCC goes beyond the mission definition by including building materials in IPPU scope 3 emissions. The goal is to address at least 10% of those emissions via additional actions and address only 20% via compensation measures.

### Strategy on 10% residual emissions

To reduce the 10% residual emissions of 59.438 tonnes CO<sub>2</sub> eq in future iteration of the CCC, the main focus will be on transport, waste and land use.

#### Transport:

- The economic model forecasts higher emission reduction than was previously forecast in the current Climate Action plan, or approx. 20.000 tCO<sub>2</sub>eq more. This is mainly due to the energy transition in the car fleet. Focus will remain on collaboration with stakeholders, and further efforts will be made to reduce emissions from transport, e.g. through proposals from the Energy Transition Group and the implementation of the Capital Area Transport Agreement. As mentioned in the IP the actions connected to transport are the most cost-efficient to reduce emissions from transport.

#### Waste:

- Additional actions in the waste sector with emphasis on reducing waste through the Hringrásargarður (green and circular industry park) will possibly reduce emissions. However, the reduction has not yet been estimated.

#### Land Use:

- Changes in calculations of land use emissions bring the possibility of additional carbon sinks, potentially by reducing the current calculated emissions close to net zero. Previous methods estimated carbon sinks within Reykjavik urban area at around 20.000 tonnes CO<sub>2</sub> eq, but these were not included in current estimates due to different methods as described in Section B.1.2 Estimated reduction from current Reykjavik CAP

### Strategy on 20% residual emissions

To reduce the 20% residual emissions of 115.150 tonnes CO<sub>2</sub> eq in future iteration of the CCC the possibilities of technical solutions of carbon capture and carbon credits will be explored.

#### Carbon Capture projects

- Since 2012, the company Carbfix has captured CO<sub>2</sub> from Reykjavik Energy's geothermal power plant at Hellisheiði and at Nesjavellir since 2023, The method used is defined as a local Carbon capture and storage method. The CO<sub>2</sub> is injected into basaltic rock formations, where it mineralizes and is stored as carbonate minerals, stones. This method is safe, cost-effective, and has been extensively tested [36]. This



capture plays a role in de-carbonizing electricity in Reykjavik and the greater Reykjavik area.

- At Hellisheiði the company Climaworks has been operating for the past few years practising Direct Air Carbon Capture [37]. Their technology could possibly be implemented in other locations, reducing emissions i.e. from transport.
- The Coda Terminal is a new innovative project by Carbfix, funded by EU emissions Trading system. It is located in Hafnarfjörður, a nearby municipality of Reykjavik and within the greater capital area. The terminal will receive CO<sub>2</sub> from various sources, including IPPU emissions and direct air capture. The carbon will be captured for storage using Carbfix's proven technology. The project aims to store up to three million tons of CO<sub>2</sub> per year [38]. This can possibly result in available carbon credits for IPPU emissions by non-state actors in Iceland, including Reykjavik City.

### **Carbon offsetting**

- Iceland's carbon offsetting market is developing but has lacked regulations and guidelines. In November 2024 a working group on behalf of the Icelandic Government submitted a report on carbon markets in Iceland and proposals for action. The working group presented several recommendations which are in line with the requirements in the Info Kit such as the term carbon unit should be defined by law, a set of guidelines for the quality of carbon units purchased and "...Carbon units and projects that produce them – and that public entities purchase – should have received confirmation from an accredited / credible certification body and should be of genuine benefit to the climate" [38]. Those changes will be beneficial for Reykjavik City on the decision on next steps for carbon credits.



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

<b>B-3.1: Impact Pathways</b>					
<b>Outcomes/ impacts addressed</b>	<b>Action/ project</b>	<b>Indicator No.</b>	<b>Indicator name</b>	<b>Baseline</b>	<b>Target values</b>
<b>2019</b>					<b>2030</b>
GHG emissions	Climate neutral energy production by 2030	1	GHG emissions CO <sub>2</sub> eq stationary energy (electricity and heat)	11.445	0
GHG emissions	Fossil fuel free construction sites	1	GHG emissions CO <sub>2</sub> eq stationary energy (fossil fuel)	7.684	5,379
GHG emissions Air quality	Transport Treaty	1 and 5	GHG emissions CO <sub>2</sub> eq road transport	292.952	58.590 (20%)
Travel mode Air quality	Co-operation with the largest workplaces in Reykjavik on mobility	2 and 5	% per travel mode disaggregated by gender and age	71% using car to and from work (drivers+ passengers)	50% using car to and from work
GHG emissions	Co-operation with Festa on a new declaration on mobility	N/A	Suggestion: # of businesses accounting GHG emissions from transport incl. travel modes of employees	N/A	To be decided in co-operation with Festa
GHG emissions Air quality	Faxaflóahafnir climate neutral 2030	1 and 5	GHG emissions CO <sub>2</sub> eq transport – waterborne navigation	51.074	0
GHG emissions Air quality	Energy transition of vehicles	3 and 5	Percentage of vehicles registered in the city that are low-emission vehicles(ISO37122 no 19.3)	9,39% (in 2020)	50%
GHG emissions Tonnes of collected waste	Increase recycling waste	1 and 4	GHG emissions CO <sub>2</sub> eq waste (scope 1&3)	51.664	10.333 (20%)
GHG emissions	Reducing the use of F gases	1	GHG emissions CO <sub>2</sub> eq IPPU	41.685	8.337 (20%)
GHG emissions	Carbon sinks	1	GHG emissions CO <sub>2</sub> eq AFOLU	47.132	9.426 (20%)
GHG emissions	Low-carbon and circular building materials	1	GHG emissions CO <sub>2</sub> eq building materials	50.485	10.097 (20%)



<b>B-3.2: Indicator Metadata</b>	
<b>No 1</b>	
Indicator name	Total Greenhouse gas emissions
Indicator Unit	CO <sub>2</sub> tonnes equivalents
Definition	Total greenhouse gas emissions per year, including Scope 3 emissions
Calculation	(measured in line with GHG protocol each year and reported in CDP/ICLEI platform)
<b>Indicator Context</b>	
Does the indicator measure direct impacts (reduction in greenhouse gas emissions?)	[yes/no] yes
If yes, which emission source sectors does it measure?	Fields of action according to GHG inventory format – Module A-1 All sectors, energy, transport, waste, IPPU and AFOLU
Does the indicator measure indirect impacts (i.e., co- benefits)?	[yes/no] No
If yes, which co-benefit does it measure?	Specify co-benefit
Is the indicator useful for monitoring the output/impact of action(s)?	[yes/no] Yes
If yes, which action and impact pathway is it relevant for?	Impact Pathways according to Module B-1
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	[yes/no] yes
<b>Data requirements</b>	
Expected data source	Several data sources
Is the data source local or regional/national?	Local and national
Expected availability	On the website: <a href="#">Climate change   Reykjavik</a>
Suggested collection interval	Annual, from 1 January to 31 December
<b>References</b>	
Deliverables describing the indicator	GHG protocol
Other indicator systems using this indicator	One of the indicators in the RGD. Input into certified ISO standards



<b>No 2</b>	
Indicator Unit	Changes in travel behaviour
Definition	Questionnaire on how residents travel to work
Calculation	% of persons per travel mode - changing proportions of preferred travel mode (disaggregated by gender and age)
<b>Indicator Context</b>	
Does the indicator measure direct impacts (reduction in greenhouse gas emissions?)	[yes/no] No
If yes, which emission source sectors does it measure?	
Does the indicator measure indirect impacts (i.e., co- benefits)?	[yes/no] Yes
If yes, which co-benefit does it measure?	Travel modes make an implication into GHG emissions calculations
Is the indicator useful for monitoring the output/impact of action(s)?	[yes/no] Yes
If yes, which action and impact pathway is it relevant for?	Impact Pathways according to Module B-1 Transport
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	[yes/no] yes
<b>Data requirements</b>	
Expected data source	Questionnaire – quantitative data
Is the data source local or regional/national?	Local
Expected availability	On the website: <a href="#">Data Buffet   Reykjavik</a>
Suggested collection interval	Annual, from 1 January to 31 December
<b>References</b>	
Deliverables describing the indicator	Gallup
Other indicator systems using this indicator	Input into ISO standards and Health indicators ISO37120 19.3: Percentage of commuters using a travel mode to work other than a personal vehicle.



<b>No 3</b>	
Indicator Unit	Types of vehicles in the city
Definition	Percentage of vehicles registered in the city that are low-emission vehicles (ISO37122 no 19.3)
Calculation	Low emission vehicles as a proportion of total vehicles in Reykjavik
<b>Indicator Context</b>	
Does the indicator measure direct impacts (reduction in greenhouse gas emissions?)	[yes/no] No
If yes, which emission source sectors does it measure?	
Does the indicator measure indirect impacts (i.e., co- benefits)?	[yes/no] No
If yes, which co-benefit does it measure?	No
Is the indicator useful for monitoring the output/impact of action(s)?	[yes/no] Yes
If yes, which action and impact pathway is it relevant for?	Impact Pathways according to Module B-1 Transport
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	[yes/no] No
<b>Data requirements</b>	
Expected data source	Samgöngustofa
Is the data source local or regional/national?	Local
Expected availability	On the website: <a href="#">Climate change   Reykjavik</a>
Suggested collection interval	Annual, from 1 January to 31 December
<b>References</b>	
Deliverables describing the indicator	Samgöngustofa
Other indicator systems using this indicator	Percentage of vehicles registered in the city that are low-emission vehicles (ISO37122 no 19.3)



<b>No 4</b>	
Indicator Unit	Total municipal solid waste produced
Definition	Total annual amount of solid waste (household and commercial) produced in tonnes
Calculation	Data acquisition
<b>Indicator Context</b>	
Does the indicator measure direct impacts (reduction in greenhouse gas emissions?)	[yes/no] No
If yes, which emission source sectors does it measure?	
Does the indicator measure indirect impacts (i.e., co- benefits)?	[yes/no] Yes
If yes, which co-benefit does it measure?	It is a co-benefit to circular economy, minimising industrial processes and use of natural resources
Is the indicator useful for monitoring the output/impact of action(s)?	[yes/no] Yes
If yes, which action and impact pathway is it relevant for?	Impact Pathways according to Module B-1 Waste
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	[yes/no] No
<b>Data requirements</b>	
Expected data source	The Environment Agency and data of the City of Reykjavik
Is the data source local or regional/national?	Local
Expected availability	On the website: <a href="#">Data Buffet   Reykjavik</a>
Suggested collection interval	Annual, from 1 January to 31 December
<b>References</b>	
Deliverables describing the indicator	Environment Agency
Other indicator systems using this indicator	Connected to the standards: ISO37120 16.2: Total collected municipal solid waste per capita ISO 37122 20.2 Annual total collected municipal food waste sent to a processing facility for composting per capita



<b>No 5</b>	
Indicator Unit	Improved air quality
Definition	Highest annual mean of PM2.5 concentration recorded
Calculation	Measured hourly with the possibility to make a status report for selected time frame at loftgaedi.is
<b>Indicator Context</b>	
Does the indicator measure direct impacts (reduction in greenhouse gas emissions?)	[yes/no] No
If yes, which emission source sectors does it measure?	
Does the indicator measure indirect impacts (i.e., co- benefits)?	[yes/no] Yes
If yes, which co-benefit does it measure?	Cleaner air is healthier for residents
Is the indicator useful for monitoring the output/impact of action(s)?	[yes/no] Yes
If yes, which action and impact pathway is it relevant for?	Impact Pathways according to Module B-1 Transport
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	[yes/no] No
<b>Data requirements</b>	
Expected data source	The Environment Agency and the metres of the City of Reykjavik
Is the data source local or regional/national?	Local
Expected availability	On the website: <a href="#">Climate change   Reykjavik</a> Loftgaedi.is
Suggested collection interval	Annual, from 1 January to 31 December
<b>References</b>	
Deliverables describing the indicator	Environment Agency
Other indicator systems using this indicator	Indicator for health Connected to the standard: ISO 37120 8.1 Fine particulate matter (PM2.5) concentration



## Part C – Enabling Climate Neutrality by 2030

### Module C-1 Governance Innovation Interventions

#### C.1.1 Description of the governance model for climate neutrality

##### NetZeroCity project:

- There is a steering group with elected officials, with the Deputy Mayor as the foreman, the chairmen of all the political parties, the Mayor included and also the Director of Environment and Planning and Head of Climate Change Affairs, Department of Environment and Planning. The political committee of Environment and Planning has the political responsibility of policies, including the Municipal Plan and the Climate Action Plan.
- Actions that need political decisions are discussed in the steering group, the Committee of Environment and Planning relevant political committees and when needed in City Council.  
Climate neutrality is a part of the Reykjavik Green Deal which has a core team with staff members from all the divisions of Reykjavik City, Environment and Planning, Culture, Education, Welfare, Sports, Mayors Office, Service, Finance and Human Resources. Climate risk and resilience is approached through the Municipal Plan.

##### Responsibility for climate mitigation policies within the City

- The primary responsibilities for climate mitigation policies and cross-sectoral coordination of the climate agenda is with the Department of Environment and Planning, Department of Municipal Planning and Climate. Cross sectoral co-ordination for RGD is with the Mayor's Office.
- Legal procedures in planning work in all stages of planning by the Department of Environment and Planning. The public can participate in the creation of development plans through resident forums or other consultations.

##### The Reykjavik Green Deal (RGD)

- The city has put in place RGD which offers an overview regarding the city's journey towards sustainability. It is a unique project which allows citizens as well as other interested parties to follow closely how the City is working across departments towards creating a truly sustainable city,



### Reykjavik City's municipally owned companies (b-companies)

- The City's municipally owned companies will be important stakeholders as they are responsible for energy production, public transportation, the port, sewerage and waste collection. Reykjavik City can engage these companies individually through their governing boards.
- Reykjavik City has seven municipally owned corporations. They are; the Associated Icelandic Ports, Faxaflóahafnir, the social housing provider Félagsbústaðir, asphalt plant Malbikunarstöðin Höfði, Reykjavik Energy (Orkuveitan), the fire brigade Slökkvilið höfuðborgarsvæðisins, the public bus company Strætó and waste collector Sorpa. Each of them has ambitious climate goals.
- Sorpa and Strætó are municipally owned corporations, owned and run by the municipalities in the Capital Area together. They will both be instrumental in the journey towards carbon neutrality. Sorpa also runs gas- and compost facilities for the municipalities.
- Reykjavik Energy is co-owned with the municipalities of Akranes and Borgarbyggð, it is the largest geothermal provider in Iceland and supplies Reykjavik with 100% of its house-heating needs, as well as electricity. Reykjavik Energy holds the utility company Veitur, the renewable power company ON power, the fiber channel provider Ljósleiðarinn and the innovative carbon capture and mineralisation company Carbfix.

### Working Groups

- Reykjavik City often addresses multifaceted challenges through working groups and has a system in place to include the correct parties from the municipally owned companies in that process. As an example, we have two such working groups in place in 2024 that are directly relevant to the CCC, one focusing on the circular economy and another focusing on a speedy energy transition. Actions suggested by these groups are likely to make their way into future reiterations of the Climate Contract.

### Work with key stakeholders

- The City of Reykjavik, the Mayor's Office, and EIT Climate-KIC invited key stakeholders from the City of Reykjavik and city-owned companies to a designed for decision-makers in key areas that are essential to the success of the city's Net Zero City initiative. The topic was collaboration with entrepreneurs and innovators. The workshop was held November 13th at the City Hall.
- As Reykjavik strives to meet its ambitious net zero goals, collaborating with entrepreneurs and innovators is essential. Entrepreneurs and innovators bring fresh ideas, advanced technologies, and agile solutions that will play a vital part in solving the complex and interlinked climate challenges as Reykjavik moves towards a net zero future. The workshop focused on unlocking the potential of entrepreneurial collaboration to overcome Reykjavik's urban challenges and achieve its Net Zero goals.

### Objectives of the workshop were:

- Facilitate collaboration among key stakeholders from various departments in the City of Reykjavik, by identifying and developing action-oriented ideas for involving entrepreneurs and innovators in achieving the city's Net Zero goals.



- Introduce and explain the concept of Net Zero Cities to the key stakeholders, highlighting its potential as a platform for fostering innovative project development and implementation.
- The outcomes from the workshop were clear and many groups worked on similar topics regarding communication/process barriers and financing that present a great opportunity for more alignment and collaboration. Climate Kic will in the first month's of 2025 hand a report over to the City of Reykjavik with recommendations and follow-ups. The City of Reykjavik will use the results and recommendations as input into policy making and action plans in the fields of innovation and digitalization.

### **Festa & the Business Sector**

- Festa: Centre for Sustainability for Companies in Iceland, includes both large companies and SMEs. In November 2015, over one hundred CEOs of companies and organisations signed a declaration to reduce GHG emissions with Festa and Reykjavik City. This was a big milestone, and it was gratifying how good the participation was, the project even attracted attention at the international level and was presented at the Paris Climate Conference (COP21) at the end of 2015. The products of this work are a knowledge community, a common methodology and Festa's Climate Meter (based on international standards) that companies can use to analyse their emissions and set targets. Festa has been expanding their climate work, and part of their participating companies are working on or have implemented Science Based Targets initiatives (SBTi). The Climate Meter is still up and running for all companies.



### Innovation in the City

For the “smart” part of becoming a climate neutral and smart city by 2030 it will be essential for Reykjavík to engage directly with the blossoming innovation sector within the city. The aim is to create a fertile ground for new ideas to flourish. This is laid out in the Reykjavík City Economic and Innovation Strategy 2022-2030 [39]. We already support some projects that foster innovation and offer entrepreneurs the resources to allow their dreams to become a reality.

- **Fablab Reykjavík** offers anyone a place to make a physical product with access to their lab. This access is not restricted to university students, literally anyone can walk in off the street with an idea and use their equipment that includes 3D printing, CNC-Milling, Circuit production, laser, precision milling, vinyl cutting and more. Various technological innovations have been developed within Fablab Reykjavík.

Website: [Um Fab Lab - Fab Lab Ísland](#)

- **Iceland Innovation Week** is held once per year in Reykjavík with a different focus each year. They have, for example, highlighted innovation related to carbon capture, the blue economy and circularity. The headline act, Ok Bye, a unique climate performance, mixes together cultural elements and innovative leaders. This is a very popular event and attracts many people from abroad, including investors.

Website: [Iceland Innovation Week](#)

- **KLAK Icelandic Startups** offers business accelerators and workshops for entrepreneurs. They aim to increase the number of start-up companies and increase sustainable value creation in Iceland. They also help startups grow by connecting them with experts, investors and other key players. Their accelerators have different focus areas, they are: The Golden Egg, Hringiða, Startup SuperNova and Dafna.

Website: <https://klak.is/en/>

- **The Golden Egg** is a competition for people with brand-new ideas, it offers people the opportunity to work on their idea so that it will become pitchable. Over 100 people from within the innovative community take part as innovators, investors, experts giving advice and more. Many Icelandic companies that are well known today started their journey here.

Website: [Um Gulleggið | Gulleggið \(gulleggid.is\)](#)

- **Hringiða** specifically focuses on finding and supporting solutions that focus on sustainable development and the circular economy. The idea is to leverage the competitive advantage Iceland already has in regard to renewable energy in order to place Icelandic companies at the forefront in environmental matters.

Website: [Hringiða – Klak](#)

- **Startup SuperNova** is a collaboration between KLAK Icelandic Startups and telecommunications companies Nova and Huawei which seeks to build business solutions for the international market.

Website: [About Startup SuperNova | Nova](#)

- **Dafna** is a workshop and mentoring programme for beneficiaries of the Technological Development Fund. It was developed in collaboration with the MIT Venture Mentoring Service and provides each beneficiary 2-4 mentors.

Website: [Dafna – Klak](#)

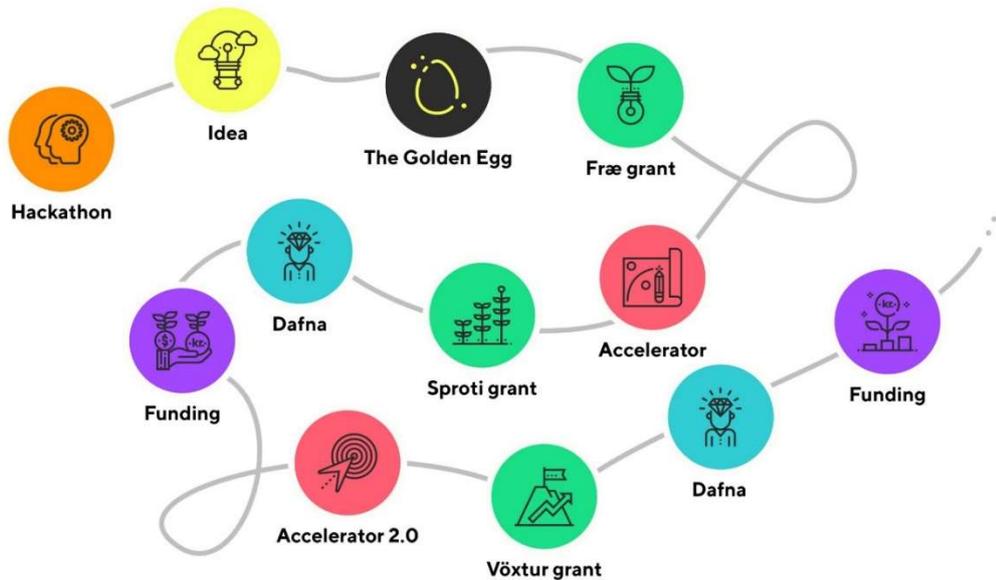


Figure 7: the roadmap for a person with an innovative idea and how they can transform their idea into a business by using the accelerators and funding in place in Iceland.



### Clusters in the City

- In Reykjavík, there are many clusters which foster innovation, sustainability and increase competitiveness within their members. They tend to be sector-based and very successful, usually including the entire range of businesses from their sector, from the largest companies to startups. They offer a very efficient path to engage with entire sectors on specific problems and Reykjavík City already works closely with them. This can surely be harnessed in order to meet the goal of carbon neutrality by 2040.
- Examples of clusters that work within the city and we would aim to co-create actions within future editions of the climate contract:

### The Iceland Renewable Energy Cluster

- The Iceland Renewable Energy Cluster serves as a collaborative platform for companies and institutions involved in the Icelandic energy sector, covering the entire value chain from exploration to utilization. This includes power producers, developers, research institutions, various service providers (such as consulting, manufacturing, maintenance, and services), academia, and public entities. By representing all stakeholders in the energy sector, the cluster serves as a collective voice for the industry.
- Its primary objective is to enhance the competitiveness of its members and the overall society while showcasing the capabilities of its members. It initially operated as Iceland Geothermal, primarily focusing on geothermal energy. In 2018, it expanded its scope to encompass all energy sources in Iceland, including geothermal, hydropower, wind power, and X-Power.
- Emphasizing collaboration, knowledge sharing, and development, the organization conducts various activities to foster innovation within the field. These initiatives aim to strengthen both local and global competitiveness and drive value creation in the renewable energy sector.

Website: <https://energycluster.is/>

### Iceland Tourism Cluster Initiative

- The main objective of the Tourism Cluster Initiative is to promote competitiveness and value creation within the Icelandic tourism industry, and to develop a co-operating forum for different stakeholders where the main focus is on linking them together and opening up for interaction between them.
- The members of Iceland Tourism Cluster Initiative are 45 from all over the value chain of Tourism. The cluster network consists of travel agents, tour operators, hotels, attractions and activities, restaurants, airlines, public relations, IT solutions, maintenance service, engineer service, banks, foreign exchange, law firms, educational institutions and retail.

Website: <https://www.icelandtourism.is/en/home-2/>



### Reykjavik Fintech Cluster

- The Reykjavik Fintech Cluster brings together companies, investors, banks and startups - relevant players from all levels of experience by arranging networking conventions, launching events and conferences - all to breed innovation and maximise the potential of rewarding partnerships to make a lasting impact in everyday lives of people and businesses. We also cultivate connections to the international Fintech scene - other clusters as well as companies and investors.
- Together, members create an ecosystem where everyone benefits by learning, developing and connecting. The innovation centre in Gróska is the heart of Reykjavik Fintech Cluster. Here, young companies and parties offering support, facilitation and mentorship break new ground and contribute to the growth of the network as well as bringing new solutions to market.

Website: <https://en.fjartaekniklasinn.is/>

### The Iceland Ocean Cluster

- The Iceland Ocean Cluster is a world leader in 100% Fish. Supporting, connecting, incubating, investing, and growing startups that create value from material formerly considered waste.
- The Mission of the 100% Fish Project at the Iceland Ocean Cluster is to inspire the seafood industry and seafood communities to utilize more of each fish, increase the value of each fish landed, support new business opportunities, increase employment and decrease waste.
- 100% Fish presents the range of products made out of fish in Iceland. Seafood, supplements, medical and design products are made out of fish and fish parts. Included in these products is the traditional business of providing seafood but a lot of innovation is happening in Iceland with regards to how fish is utilized, and new products are being made from this development. Tons of these products are now made and exported each year out of materials previously wasted. Icelandic companies within the Icelandic Ocean Cluster develop supplements, proteins, cosmetics, pharmaceuticals and other high-value products from different parts of the fish.

Website: [Heim - Íslenski sjávarklasinn \(sjavarklasinn.is\)](http://Heim - Íslenski sjávarklasinn (sjavarklasinn.is))



### Pilot Project: Piercing Through the Gridlocks

- Reykjavik is a selected Pilot City Cohort 3. This Pilot is designed to involve networks of public and private enterprise, resident and grassroots organisations to address well-known challenges and barriers of reducing GHG emissions. The city and its associate organisations are already engaged in a broad range of quantitative measuring and calculations that are periodically reported and widely shared. The Pilot started in September 2024 and will build on those and add new measures into the mix with emphasis on qualitative means for future monitoring. Thus, it will be supportive to this CCC.

The Pilot activities are divided as follows:

- Ways of worldmaking – fact, fiction and storytelling- analysis of the factual, fictional and storytelling discourses about environment and climate issues which will feed into the outreach.
- Networks of power, practice and decision-making: Interdisciplinary public participation study using softGIS data collection methods centred on the themes of transport and waste management Methodological and impact frameworks – review of current indicator data and periodic report on progress, explore both complementary values and discrepancies finalising in a valuation of the effectiveness for follow-up intervention.
- Outreach: communications of all activities with seminars / learning courses, knowledge exchange workshops with stakeholders across public institutes and organisations, media events and more.
- Interventions – focus groups with residents, resident councils, neighborhood grassroots initiatives and businesses in the sectors of hospitality, retail and office-based operations.

### ECT Call

- The project includes emissions from several factors, e.g. due to transport/mobility, building materials and planning policy. The goal of the project is to assess the climate impact of development in Reykjavik and ways are to reduce it. The aim is to assess the impact of development on the travel behavior of residents, comparing the environmental costs of different parking solutions and the climate impact of different building materials and construction. Reykjavik's partner in this project is VSO. The project will start in April 2025 and will run in parallel with the Pilot Cohort 3 project until September 2026.

### Twin City to Lahti

- Reykjavik is a twin city to Lahti in Finland. The co-operation between Reykjavik and Lahti addresses ecological transport and how to encourage people to use active transport. The basic element of the project is that partner cities, or twin cities, exchange knowledge and experience of each other's climate projects. Lahti is a Pilot City for NetZeroCities and was chosen as the European Green Capital 2021, and it is therefore clear that Reykjavik will have a valuable opportunity to learn and transfer best practices that will support the changes that need to take place, and thereby support the CCC. Since the cities were paired in September 2023, work has been underway to create a



framework for knowledge sharing and exchange of views. This includes meeting in each of the cities to share best practices and lessons learned.

### **Bloomberg Youth Climate Action Fund**

- With the support of Bloomberg Philanthropies Reykjavik has established the Youth Climate Action Fund to support projects on climate issues. The fund aims to activate youth in finding solutions to the climate crisis. It provides support for projects that are designed and executed by young people aged 15-24. The funding available for each project is 140.000 – 690.000 ISK (approximately 960 – 4.700 EUR) Projects must support and reference Reykjavik's Climate Policy. Several projects were funded in 2024 and applications for projects will open again in spring 2025.



## Module C-2 Social Innovation Interventions

In order to reach the goal of becoming a carbon neutral and smart city by 2030, we will engage directly with residents in the city, using systems that are already in place but adapting them for the goal of carbon neutrality.

To empower and include citizens in the decision-making process leading to climate neutrality, we will make use of Reykjavik's long-standing culture of citizen engagement and mechanisms already in place. The city allows for participatory democracy when the citizens feel so inclined. A portfolio of democratic processes is in place, and when citizens want to send the city tips or comments regarding any issue, there is a way for them to do so. We do not expect everyone to have an opinion on everything, but it is important that when citizens want to express their opinions, there is a way/platform for them to bring forward their case and for the city to listen. These methods/platforms have already been put in place and are available in everyday life in order to consult with citizens and prevent conflict. For example, the city follows strict procedures regarding introducing planning initiatives to the public and allows citizens to send in suggestions through the open consultation portal (grenndarkynningar, skipulagsferlar á samráðs- og skipulagsgátt). Citizen engagement is done both proactively and reactively.

Examples of mechanisms already in place that we will use for the CCC include the consultation Portal (Samráðsgátt) and Citizen's Convention (Borgaráþing). They are institutionalized in the government model already but their focus on climate change is new.

The city also has ways to include vulnerable groups specifically and when appropriate we will make use of consultative committees; the Elderly council, the Intercultural council and Accessibility and Consultative Committee for Disabled People (Öldungaráð, Fjölmeningarráð, Aðgengis- og samráðsnefnd í málefnum fatlaðs fólks).

For the past 15 years, Reykjavik and municipalities in Iceland have tried and tested many ways of participatory democracy, and with regards to learnings from such experiments, has accumulated significant expertise in the matter. Building on that experience, we will design processes when consulting with our citizens on climate actions. It is important to be respectful of citizen's time when consulting with them. The willingness and ability of citizens to participate is not without limits, therefore it is especially important that they feel that their time was put to good use. When we invite citizens to consult on climate issues, their time and effort should result in concrete actions.

### C.2.1 General Overview and History of Participation in Reykjavik

In the aftermath of the economic collapse in 2008, more and more emphasis has been placed on participatory democracy in the City as is enshrined in the Democracy Policy which was published in 2021. Reykjavik is a world-leader when it comes to citizen engagement and participatory democracy.

After the economic collapse in 2008, demands were made for various reforms in Icelandic society, among them the demand for transparency, more democracy and more opportunities for the public to influence decision-making, especially in local authorities. A new law on local governments was introduced in 2011. An entire chapter of the law deals with consultation with residents and their involvement in municipal affairs, the duty of local governments to inform residents and the right of residents to demand a general vote on individual issues.



In 2008, neighborhood councils were established in all neighborhoods of the city of Reykjavik, but in 2017 they were abolished in their original form, and in 2019 new residents' councils were established with a new system that is still in force. The change was made in order to strengthen the ties between the residents' councils and the city politics and administration.

After the municipal elections in 2010, development work began, which led to the creation of our participatory budgeting project in 2011, and it has been in constant development since then. Our project has undergone a lot of changes in the 13 years since it began. The name has been changed, the rules have been changed, the amount voted for has been changed and in fact every aspect of the project has been in constant development since the very beginning of the project.

We have also developed and tested more projects, some of which have been successful and others not. The guiding light of our work today is the Democratic Policy and its implementation. The Action Plan of the policy is very ambitious and is renewed every 3 years.

We have a participatory democracy portal<sup>3</sup> in place, which gives an overview of different ways for citizens to engage directly with the city. These pathways can also be used to discuss specific issues related to carbon neutrality and will allow us to actively engage our citizens.

For example, our participatory budget project can be dedicated to climate related issues and the resident councils can also support us on our journey to carbon neutrality. The resident councils are active in all neighborhoods and have meetings every month. They allow residents to communicate with city officials on a regular basis. We can ask these councils to discuss specific challenges such as transportation within their neighborhoods.

Also, our Consultation Portal which is used to solicit ideas and opinions of citizens on various projects in Reykjavik can be used to gather opinions and ideas from residents, businesses and all stakeholders on ways to reach climate neutrality.

In the Reykjavik Climate Action Plan 2021-2025 different methods were used in consultation with citizens and stakeholders. This was before the Consultation Portal opened. Advertisements for ideas regarding actions in climate matters were published on the web, on radio and in newspapers during the period 15 November until 8 December 2019. A total of 200 ideas were received through the web in addition to proposals that were received by the steering group by e-mail and at meetings. One meeting was held with external stakeholders, businesses, academia, NGOs and one meeting was held with interested staff of Reykjavik in order to seek ideas for new actions regarding climate affairs.

### **Specific consultation actions regarding the Climate City Contract:**

1. The 2025 citizens' convention will be on climate/environmental issues. Emphasis will be placed on environmentally friendly means of transportation in Reykjavik.
2. Consultation Portal opened at the same time as the Citizens' Convention – gathering opinions and ideas from residents, businesses and all stakeholders on ways to reach climate neutrality.

### **Citizens' Convention**

Annually, The Reykjavik City Council holds an open Citizens' Convention at Reykjavik City Hall to discuss a predetermined topic. The Convention is a formal forum for citizens and the



city council to have a conversation about the issues of the City of Reykjavik. The aim is to increase the possibilities of the participants to influence the City's strategy and administration and gives residents the opportunity to have direct contact with the elected representatives through a conversation about what is important to them at any given time.

### **Citizens' Convention on Climate/Environmental Issues (Consultation Action 1)**

By making the Citizens' Convention about climate issues and the challenges that citizens face due to climate change, we encourage discussions on the subject and give residents the opportunity to express themselves about the situation and how it impacts them. In Reykjavik, many decisions have been made regarding transportation, parking, garbage collection and more, which have created heated discussions in society. At the Citizens' Convention, citizens can have straightforward discussions with City representatives about such actions, and at the meeting, it is possible to call for new ideas to tackle climate change and hopefully inspire participants and politicians to cooperate in the future regarding Reykjavik's carbon neutrality.

The result of the Citizens' Convention, along with the ideas and opinions submitted through the Consultation Portal, will be compiled in a report, which will be sent to the City Council for processing.

### **Consultation Portal**

Reykjavik City's Consultation Portal is used to solicit the ideas and attitudes of citizens on various projects in Reykjavik. It allows residents to give their opinion on the many strategic and executive initiatives as they are being worked on. The portal is used for both preparing new policies and reviewing policy drafts during the policy-making process.

### **Consultation Portal on Climate/Environmental Issues (Consultation Action 2)**

Concurrently with the Citizens' Convention on climate issues, we open the Consultation Portal and thus allow not only those who attend the Citizens' Convention, but all citizens to enter their ideas on how carbon neutrality could be achieved. It is possible to open several consultation cases to call for opinions based on themes.

The ideas and opinions submitted through the Consultation Portal will be compiled in a report along with the results of the Citizens' Convention, which will be sent to the City Council for processing.

### **Resident Councils**

Reykjavik City resident councils are an active collaboration platform for dialogue between residents, the district grassroots, non-profit organizations, the economy, and City officials.

The resident councils are designed to strengthen the connection and shorten communication channels between residents and Reykjavik's administration, and to enable residents to express their views. There are active resident councils in all districts of Reykjavik. Each resident council consists of three representatives elected by the City Council, one representative of the parent associations in the district, one representative of the resident associations in the district and one randomly selected representative. The resident councils meet once a month, their meetings are generally open to all citizens, and they are streamed live on Reykjavik City's website.

### **Employees of Reykjavik City**



There will be a focus on internal communication with staff of 10.000 people, including workplaces with a close relationship to citizens such as schools, kindergartens, libraries, museums, swimming pools etc Various ways are available and will be used through the communications of the CCC, such as through Torgið (the Square – and educational digital space), Workplace and in collaboration with Green steps, an internal environment management system which has been running since 2011

Portfolio of all actions						
Energy systems	Mobility transport &	Waste&circular economy	Green infrastructure	Built environment	Adaptation to Climate change	Citizens
Climate neutral energy production	Transport Treaty	Increase recycling of waste from the private sector	Carbon sinks-evaluation of next steps	Fossil fuel free construction sites	Blue Green surface water solutions	Citizen convention on climate
	15-minute district planning	Change of regulations regarding F gases		Low- carbon and circular building materials	Flood control installations to become recreational areas and parks	Consultation portal open on ways to reach climate neutrality
	Co-operation with the largest workplaces in Reykjavik on mobility					Pilot Cohort 3 – Piercing through the gridlocks
	Co-operation with Festa on a declaration on mobility					ECT call: Developing the future of a climate neutral city
	Visit Reykjavik – Climate declaration					Bloomberg Youth Climate Action Fund
	Faxaflóahafnir (Port) climate neutral 2030					
	Change of regulations on energy transitions in the car fleet					



## Outlook and Next Steps

### Plans for Next CCC and CCC Action Plan Iteration

#### Portfolio management and execution

- A consultation platform will be created for the participants in the CCC, and how the actions will be implemented. It is also necessary to formulate how the actions will be implemented within the City of Reykjavik. The City of Reykjavik will build on the results and recommendations made after a meeting held with EIT Climate-KIC with key stakeholders on collaboration with entrepreneurs and innovators. as input into policy making and action plans in the fields of innovation and digitalization.

#### Citizens

- The preparation of the Citizen's Assembly on climate issues must begin after the CCC has been approved, as well as other projects related to democratic participation (listed in Section C).

#### Presentation

- The CCC will be well presented to the City of Reykjavik's staff and preparations must be made for how the presentation will be carried out when the CCC is approved.

#### Monitoring and reflexive process

- The current monitoring on actions in the RGD is made by the Mayor's office and takes place twice a year, resulting in a report discussed by the City executive Council Executive committee and published on Reykjavik's website. The envisioned monitoring on actions in the CCC is to include them as part of the RGD actions and part of that reporting process.
- The envisioned reflexive process is that there will be an annual meeting with participants of the CCC and the Mayor, discussing the status of the GHG emissions, current actions and possible future actions. The meeting will take place after publishing the GHG inventory, which is published in October or November each year. The status of the emissions is the measure of whether this work is actually reducing GHG emissions. Other indicators will be published at the same time, such as indicators related to health, equality and biodiversity. For CCC actions that are new, and not already incorporated in either the businesses or national government's carbon neutrality goals, we will form small working groups, each including a specific contact person from the CCC group to formulate the action and put it into practice.
- The actions will develop, and it is expected that participants will be added and thus the number of actions will increase. Those changes will be recorded and the CCC will be developed so that it can be updated every 2 years until 2030. Municipal elections will be held in 2026 and the CCC will be iterated with the majority and Mayor after the elections.



## References

- [1] Reykjavík, "Democracy Policy," [Online]. Available: <https://reykjavik.is/en/democracy-policy>. [Accessed September 2024].
- [2] "Participatory democracy | Reykjavík," [Online]. Available: <https://reykjavik.is/en/participatory-democracy>. [Accessed October 2024].
- [3] "Submit a suggestion (IS) | Reykjavík," Reykjavík, [Online]. Available: <https://reykjavik.is/en/suggestions>. [Accessed 2024].
- [4] "Samráðsgátt," [Online]. Available: <https://www.samradsvefur.is/>.
- [5] *Betri loftgæði í Reykjavík, 2024.*
- [6] Orkustofnun, "OS-2019-T010-01: Economic benefits of using geothermal energy instead of oil for space," 2019.
- [7] "Corporate Standard," February 2013. [Online]. Available: <https://ghgprotocol.org/corporate-standard>.
- [8] "Sáttmáli um samgöngur á höfuðborgarsvæðinu," 2019. [Online]. Available: <https://www.stjornarradid.is/verkefni/samgongur/samgonguuaetlun/sattmali-um-samgongur-a-hofudborgarsvaedinu/>.
- [9] Samtök sveitarfélaga á höfuðborgarsvæðinu, "Samræmt sorphirðukerfi á höfuðborgarsvæðinu," [Online]. Available: <https://www.ssh.is/is/frettir/samraemt-sorphirdukerfi-a-hofudborgarsvaedinu>. [Accessed 2024].
- [10] "Vegvísir að vistvænni mannvirkjagerð 2030," 2023. [Online]. Available: <https://byggjumgraenniframtid.is/vegvisir-ad-vistvaenni-mannvirkjagerd-2030/>. [Accessed 2024].
- [11] Ferðamálastofa, "Spálíkan um ferðaþjónustu - Fyrstu spár um meginstærðir ferðaþjónustu," Ferðamálastofa, 2022.
- [12] Menningar- og viðskiptaráðuneytið, "Leiðandi í sjálfbærri þróun – Íslensk ferðaþjónusta til 2030," 2024.
- [13] Reykjavík, "Ferðamálastefna Reykjavíkurborgar 2020-25," 2020.
- [14] Markaðsstofa höfuðborgarsvæðisins, "Áfangastaðaáætlun höfuðborgarsvæðisins 2023-2026," 2023.
- [15] Reykjavíkurborg, "Aðalskipulag Reykjavíkur 2040," 13 January 2022. [Online]. Available: [https://reykjavik.is/sites/default/files/2022-05/AR2040\\_utgafa\\_screen\\_0.pdf](https://reykjavik.is/sites/default/files/2022-05/AR2040_utgafa_screen_0.pdf). [Accessed 2024].
- [16] SSH, [Online]. Available: <https://www.ssh.is/is/verkefni/svaedisskipulag>. [Accessed 2024].
- [17] B. S. Hallsdóttir and S. Gíslason, "Loftslagsráð 2020: Innviðir kolefnisjöfnunar," January 2020. [Online]. Available: <https://loftslagsrad.is/innvidir-kolefnisjofnunar/>.
- [18] Efla, "Loftslagsbókhald Reykjavíkurborgar 2022. Memorandum," 2023. [Online]. Available: <https://reykjavik.is/sites/default/files/2023-09/minnisblad.pdf>.
- [19] Reykjavík, "Climate action plan 2021-2025," 2021.



- [20] "Samgönguáætlun," [Online]. Available: <https://www.stjornarradid.is/verkefni/samgongur/samgonguaaetlun/>.
- [21] "Skuldbindingar Íslands," [Online]. Available: <https://www.ust.is/loft/losun-grodurhusalofteggunda/skuldbindingar-islands/>. [Accessed 2024].
- [22] Umhverfis-, orku- og loftslagsráðuneytið, "Formáli, uppfærsla aðgerðaáætlunar í loftslagsmálum," June 2024. [Online]. Available: <https://samradapi.island.is/api/Documents/cf1138cc-8f2c-ef11-9bc3-005056bcce7e>. [Accessed November 2024].
- [23] "Economic instruments and separate collection systems - key strategies to increase recycling," [Online]. Available: <https://www.eea.europa.eu/publications/economic-instruments-and-separate-collection>. [Accessed 2024].
- [24] Ministry of the Environment, Energy and Climate, "Aðgerðaáætlun í loftslagsmálum," 2024.
- [25] VSÓ ráðgjöf, "Innleiðing loftslagsstefnu höfuðborgarsvæðisins. Ráðgjöf og tillögur að aðgerðum sveitarfélaga til að draga úr losun til ársins 2035. Samtök sveitarfélaga á höfuðborgarsvæðinu. Sóknaráætlun höfuðborgarsvæðisins.," Reykjavík, 2024.
- [26] "Mælaborð," [Online]. Available: <https://urgangur.is/maelaborð/>. [Accessed 2024].
- [27] Samtök sveitarfélaga á höfuðborgarsvæðinu, "Sóknaráætlun Höfuðborgarsvæðisins 2020 - 2024," 2020.
- [28] Stefán Gíslason og Birna Sigrún Hallsdóttir, "Loftslagsstefna fyrir höfuðborgarsvæðið," September 2022. [Online]. Available: <https://www.ssh.is/is/verkefni/soknaraaetlun/ahersluverkefni-soknaraaetlunar/loftslagsstefna-fyrir-hofudborgarsvaedid>.
- [29] Ásgeirsson et al., "Loftslagsáætlun Reykjavíkurborgar. Mat á áhrifum aðgerða til 2040.," 2022.
- [30] Reykjavik Energy, "2023 climate account Reykjavik Energy updated March 4th 2024," 2024.
- [31] Gunnarsson, I., Aradóttir, E. S., Oelkers, E. H., Clark, D. E., Arnarson, M. Þ., Sigfússon, B., Snæbjörnsdóttir, S. Ó., Matter, J. M., Stute, M., Júlíusson, B. M., & Gíslason, S. R., "The rapid and cost-effective capture and subsurface mineral storage of carbon and sulfur at the CarbFix2 site," *International journal of greenhouse gas control*, vol. 79, pp. 117-126, 24 October 2018.
- [32] "Verksjá," [Online]. Available: <https://www.verksja.is/>. [Accessed 2024].
- [33] Mannvit, "Sameiginleg svæðisáætlun um meðhöndlun úrgangs," 2022.
- [34] Byggjum Grænni Framtíð, "Vegvísir að vistvænni mannvirkjagerð 2030. II. hluti Markmið og aðgerðaáætlun," Húsnæðis- og mannvirkjastofnun, 2022.
- [35] Byggjum Grænni Framtíð, "Vegvísir að vistvænni mannvirkjagerð 2030. III hluti Samantekt: Losun, markmið og aðgerðir.," Húsnæðis- og mannvirkjastofnun, 2022.
- [36] Carbfix, "Coda Terminal: The World's First Carbon Mineral Storage Terminal," 2023.
- [37] "High-quality carbon removal company," [Online]. Available: <https://climeworks.com/>. [Accessed December 2024].
- [38] Ministry of the Environment, Energy and Climate, "Carbon markets: Challenges and opportunities in Iceland," Government of Iceland , 2024.



- [39] Reykjavik, "Atvinnu- og nýsköpunarstefna Reykjavíkurborgar 2022–2030," Skrifstofa borgarstjóra og borgarritara hjá Reykjavíkurborg, 2022.
- [40] "Mission Climate-Neutral and Smart Cities: Info Kit for cities now available," 2021. [Online]. Available: [https://research-and-innovation.ec.europa.eu/news/all-research-and-innovation-news/mission-climate-neutral-and-smart-cities-info-kit-cities-now-available-2021-10-29\\_en](https://research-and-innovation.ec.europa.eu/news/all-research-and-innovation-news/mission-climate-neutral-and-smart-cities-info-kit-cities-now-available-2021-10-29_en).
- [41] G. Protocol, "GHG Protocol for Cities: An accounting and Reporting standard for cities," [Online]. Available: <https://ghgprotocol.org/ghg-protocol-cities>.
- [42] "GPC Supplemental Guidance for Forests and Trees," July 2022. [Online]. Available: <https://ghgprotocol.org/gpc-supplemental-guidance-forests-and-trees>. [Accessed June 2024].
- [43] NetZeroCities, "NetZeroPlanner: Building a Strong Economic Case," [Online]. Available: <https://netzerocities.app/group-capabilitybuildingprogrammebuildingastrongeconomiccase>. [Accessed 2024].
- [44] Mannvit, "Sameiginleg svæðisáætlun um meðhöndlun úrgangs 2022-2033," 14 December 2022. [Online]. Available: <https://samlausn.is/media/12/svaedisaaetlun.pdf>. [Accessed September 2024].
- [45] VSÓ ráðgjöf, "Kolefnisspor höfuborgarsvæðisins. Útreikningur á losun árið 2022. Samtök sveitarfélaga á höfuðborgarsvæðinu. Sóknaráætlun höfuðborgarsvæðisins.," 2024.
- [46] "About Coda Terminal," [Online]. Available: <https://www.carbfix.com/operations/codaternal>. [Accessed December 2024].
- [47] Umhverfis- orku- og loftslagsráðuneyti, "Kolefnismarkaðir - Áskoranir og tækifæri í íslensku samhengi," November 2024. [Online]. Available: [https://www.stjornarradid.is/library/02-Rit--skyrslur-og-skrar/URN/Skyrsla\\_starfshops\\_um\\_kolefnismarkadi\\_2024.pdf](https://www.stjornarradid.is/library/02-Rit--skyrslur-og-skrar/URN/Skyrsla_starfshops_um_kolefnismarkadi_2024.pdf). [Accessed December 2024].
- [48] Reykjavik, "The Green Deal," [Online]. Available: <https://reykjavik.is/en/green-deal>. [Accessed 2024].
- [49] J. Heinonen, M. Czepkiewicz, Á. Árnadóttir and J. Ottelin, "Drivers of Car Ownership in a Car-Oriented City: A Mixed-Method Study," *Sustainability*, vol. 13, no. 2, p. 619, 11 January 2021.

## Climate City Contract

# 2030 Climate Neutrality Commitments

### Climate Neutrality Commitments of the City of Reykjavik



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# 1 Introduction

The City of Reykjavik has been ambitious in climate issues since the first Climate Policy was published in 2009. Subsequently, the City sought to be a member of the Covenant of Mayors in 2011, and in 2016 a policy was set to become carbon neutral by 2040. Two detailed Action Plans have since been published. It was in continuation of this ambition that it was decided to participate in applying to be one of the 112 cities in the European Co-operation for carbon-neutral and smart cities in 2030. By this, the City of Reykjavik speeding up the goal by a decade, and it is clear that the goal can only be achieved with the participation of several parties.

A lot has happened since the first Climate Policy was established. The highlights of the journey have been focusing not only on GHG emissions but on co-benefits of climate actions. People become healthier as the city becomes denser, has more infrastructure for pedestrians, cyclists and public transport. At the same time, this makes the city more welcoming for existing and new businesses and tourists, which strengthens the economy and increases the use of local renewable energy by supporting charging stations for cars and electric bikes.

Participation in the mission has given the City even more opportunities to participate in international projects related to climate change and to learn from other cities. The city is both a Pilot City and a Twin City city regarding projects related to transportation issues and changing travel habits. The working group that has worked on the preparation of the contract has gained an insight into the different aspects of various divisions and what it is like to work across issues in the City.

A political steering group has led the policy formulation of the project and it includes the leaders of all parties, including the leaders of the minority. A working group with employees from different divisions within the City has worked to prepare the first draft of the contract on behalf of the steering committee. The employees are from the Department of Environment and Planning, the Office of the Mayor and Chief Administrative Officer, the Human Rights and Democracy Office and from the Finance Department.

The participants in this first Climate City Contract submit actions that are being worked on. The Mayor is responsible for the contract, where the participants undertake to submit one or more actions, which are being worked on to reduce the effects of climate change. The contract is according to specifications from Net Zero Cities, which manages the project on behalf of the European Union. The European Commission reviews the contract and approves or rejects it. This is a long-term project, where the contract must be renewed regularly and the status reviewed up to the year 2030.





## 2 Goal: Climate Neutrality by 2030

When the goal of carbon neutrality in 2040 was set, the thinking was that the year 2030 would be a touchstone on the way and a certain measure of success. The goal for 2030 was to reduce emissions by 300,000 tonnes of CO<sub>2</sub> equivalents until 2030, which corresponded to a 60% reduction from 2019. The minimum requirement from NetZero Cities of at least 80% reduction is therefore very challenging. The mission enables the City to accelerate the climate neutrality ambition and to introduce stakeholders outside the City to participate with their actions to support the City to be climate neutral by 2030.

The 2040 target on carbon neutrality included emissions within BASIC+ (Scope 1, 2 and 3 in the waste sector) but the new 2030 climate neutrality target will be expanded and include Scope 3 emissions as well, as there are considerable emissions from building materials for new construction within city boundaries. The target is to meet the requirements of the mission and reduce the emissions by 80% of the greenhouse gases emitted in 2019. The target will cover the entire administrative territory of the City, as it has done since the first Climate Action Plan was made in 2016

As previously mentioned, the biggest carbon footprint by far is from road transport. A change in transport habits and the energy transition of the car fleet are therefore of great importance to achieving carbon neutrality. Electricity in Iceland is produced with local hydro and geothermal sources. With less reliance on fossil fuels in transportation, the country and Reykjavik as well will be more energy independent and use renewable energy sources instead of fossil fuels.

Iceland could be the first fossil fuel free country in the world. If the fossil fuel use of transportation would be solved, we would rely 100% on renewable energy for all primary energy. This would give Reykjavik and Iceland a unique selling point to attract businesses, visitors and new inhabitants.

Fossil fuels do emit other gases than greenhouse gases which affect air quality. To enhance other modes of travel than by car, the people in Reykjavik are more likely to adopt an active lifestyle which will benefit individual health.

There are no ETS facilities within the geographical boundary of the city.

Reykjavik has the target to reduce greenhouse gas emissions by at least 80% by 2030, with 2019 as a baseline year with a just, nature-based transition in mind. As it stands in this first CCC, that target will not be met. Until the renewal of the CCC, we will work with stakeholders to find ways to further reduce greenhouse gas emissions to reach the target of 80% reduction. Work will also be done to put forward proposals on how best to deal with carbon offsets, if it is not possible to close the gap by 2030 by other means.



## 3 Strategic Priorities

Strategic priorities are to include stakeholders who are already working on ambitious climate related actions and are willing to participate in the actions in this first CCC.

The focus for the next 2-3 years will be following up on ambitious plans from both Reykjavik City and the stakeholders who will commit to this first CCC. Critical stakeholders to accelerate change are the signatories at this first CCC in Section 5.

### 3.1.1.1 Key Strategic Priorities:

1. Mobility, focus on change in travel modes and strengthening the infrastructure for public transport, pedestrians and cyclists.
2. Energy transition of the car fleet and at the port of Reykjavik with carbon neutral produced energy
3. Waste and circular economy, including increased recycling by the private sector and individuals.
4. Building sector. The City has ambitious goals for the development of residential housing. It is therefore important that this development has as little impact on the climate and environment as possible.
5. Just transition –Various ways to ensure a just transition are already in place at the City of Reykjavik and are described in detail in the Action Plan.

## 4 Process and Principles

The key principles will be on co-creation, just transition, multi-level governance approaches, working with stakeholders and citizen engagement. As before, GHG emissions in the city will be measured and published through the CDP portal.

The systemic process the City will undertake to achieve its 2030 climate neutrality target is to involve a larger group of stakeholders than before. A review of the actions in this first CCC will be done in collaboration with the participants. Work will be done to add participants, and thus actions in the next version of the CCC, so that it is more likely that the goal of carbon neutrality in 2030 will be achieved.

We will work with the participants on how best to communicate information and share success stories. An annual meeting with participants could be one way to do that.

To promote transparency, the City of Reykjavik itself will have a website where the contract will be published. It will also describe the progress of the actions and what they will deliver by the end of September 2025 and 2026. Internal promotional channels will also be utilised and educational materials will be prepared as needed and distributed through the educational system Torgið for the staff of Reykjavik City, which is the largest workplace in Iceland.

The CCC is expected to be reviewed with the majority and the mayor who will be elected in 2026. All work done with participants until then will be input into a new contract. Also, the lessons that will be learned from the City's participation in Pilot Cohort 3 and Twin City under the umbrella of Pilot Cohort 1.





In addition to actions that reduce the emission of greenhouse gases, emphasis will continue to be placed on climate change adaptation. We will continue to develop nature-based solutions, including blue-green surface water solutions, and work in line with the City's policy on biodiversity. Work on the Green Plan's vision of Reykjavík being a prosperous, fun and healthy city will continue. Reykjavík, which previously planned to become carbon neutral by 2040, now plans to work with others to become carbon neutral and smart by 2030.





## 5 Signatories

Name of the signatory (organisation)	Sector / Domain / Level of operation[1]	Legal form	Name of the responsible person	Position of the responsible person
Reykjavik City	Local	Municipality	Einar Þorsteinsson	Mayor
The Ministry of Infrastructure	National	Ministry	Svandís Svavarsdóttir	Minister
Ministry of the Environment, Energy and Climate	National	Ministry	Guðlaugur Þór Þórðarson	Minister
SSH	Regional	Association	Páll Björgvin Guðmundsson	CEO
University of Iceland	Local	University	Dr. Jón Atli Benediktsson	Rector
Reykjavík University	Local	University	Dr. Ragnhildur Helgadóttir	Rector
Landspítali University Hospital	Local	Hospital	Runólfur Pálsson	CEO
Reykjavík Energy	Regional	Municipality owned company	Sævar Freyr Þráinsson	CEO
Strætó	Regional	Municipality owned company	Jóhannes Svavar Rúnarsson	CEO
Faxaflóahafnir	Local	Municipality owned company	Gunnar Tryggvason	Port Director
Sorpa	Regional	Municipality owned company	Jón Viggó Gunnarsson	CEO
Terra	Regional	Private company	Valgeir Baldursson	CEO
Íslenska gámafélagið		Private company	Jón Þórir Frantzson	CEO
Festa	National	NGO	Elva Raket Jónsdóttir	CEO
Grænni byggð	National	NGO	Áróra Árnadóttir	CEO
HMS	National	Institution	Hermann Jónasson	CEO
Grænni byggð	National	NGO	Áróra Árnadóttir	CEO
SI	National	Association	Sigurður Hannesson	CEO
Veitur	National	Municipality owned company	Jón Trausti Kárason	CEP
Visit Reykjavik	Regional		Inga Hlín Pálsdóttir	