NET ZERO CITIES

EU MISSION PLATFORM | CLIMATE NEUTRAL AND SMART CITIES

Climate Neutrality Strategy 2030 for Tauragė District Municipality

Climate Neutrality Action Plan for Tauragė District Municipality 2030

Tauragė

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Table of Contents

Summary

Textual element
Tauragė district municipality has joined the European Union's Cities Mission, an ambitious initiative to achieve climate neutrality in European cities by 2030, with the aim of becoming one of Europe's leaders in reducing climate change. As part of the European Green Deal, the mission focuses on promoting clean energy, sustainable mobility, circular economy and innovation at city and regional level. By participating in this mission, Tauragė district municipality commits itself to actively implementing climate neutrality actions, while promoting sustainable growth of the local economy and improving the quality of life of its citizens. Tauragė district municipality was established in 1995 and is a medium-sized municipality in Lithuania. It belongs to the Tauragė county. The area of Tauragė district municipality is 1179 km². Agricultural land accounts for 48.92% (crops and grassland), forests for 38.30%, towns and settlements for 7.55%, wetlands for 3.71%, and other areas for other uses for 1.52%. In 2023, the Tauragė district municipality had a total population of about 37.4 thousand inhabitants, of which 60% live in towns, and 40% live in rural areas. The GDP of Tauragė district municipality in 2022 (in prices at that time)[1] was EUR 493.7 million. GDP per capita in Tauragė county was EUR 13.2 thousand. GHG emissions in 2018 amounted to 102 tcm. t CO2e. The GHG emissions assessed were carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF6) and chlorofluorocarbons (CFCs). Sectors assessed: energy, transport, waste, industry and product use (IPPU), agriculture, forestry and land use and change (AFOLU). The transport sector accounts for the largest share of GHG emissions - 63%. The energy sector accounts for about a fifth of GHG emissions (21.3%), the waste sector for 12.8%, IPPU for 2% and AFOLU for 0.7%. As a result, the AFOLU sector's balance remains low and represents a very small share of total GHG emissions. A more detailed analysis of GHG emissions by sector is presented below. Tauragė district municipality has not had a climate action plan so far, but climate action is included in various related strategic documents. The Climate Neutrality Strategy for Tauragė district municipality 2030 (hereinafter – Strategy) is the first long-term strategy addressing climate neutrality in the municipality of Tauragė district. The Climate Neutrality Action Plan 2030 (hereinafter – Action Plan) is one of the three documents of the Strategy. The AP is being implemented in parallel with other municipal and national strategic documents of the Tauragė district municipality. The Action Plan covers the entire administrative area of Tauragė district municipality until 2030. The 2030 climate neutrality target for Tauragė district municipality corresponds to the administrative territory (boundaries) of the municipality, no exclusion zones, sectors, gases, etc. are identified. The base year for GHG accounting for the municipality of Tauragė district is 2018. The actions identified in the Urban Climate Strategy should lead to an 85% reduction in GHG emissions by 2030 compared to 2018, and residual emissions should not account for more than 15% of GHG emissions compared to 2018. The implementation of the other actions and measures in the Action Plan is expected to lead to a reduction of 27% of the GHG emissions. Achieving climate neutrality can face a number of obstacles: Limited financial capacity, limitations of GHG accounting, limited use of electricity storage, underdeveloped alternative fuel infrastructure, political unpopularity of solutions, dependence of local policy on national level, complex political situation in the agricultural sector, dependence on financial support, lack of knowledge and skills, lack of experience, Lack of climate neutrality specialists and experts, limited GHG impact assessment, lack of organisational/governance structure, higher cost of new technologies, high competition for funding, negative attitudes towards climate neutrality, difficulties in reaching agreement between different groups, lack of NGOs, travel and other daily habits of the population, limited carbon sequestration capacity. Opportunities include the desire to produce energy for own use, use of existing infrastructure, the strategic goal of the municipality to become the greenest municipality in Lithuania, the development of cooperation, the incorporation of climate neutrality in different documents, the high level of interest and activity in obtaining funding for climate neutrality, the inclusion of socially excluded people, the reuse of objects, and the interest of the population in the topic of climate neutrality. The Action Plan was designed

[1] Latest available data. Calculated on the basis of data from the Official Statistics Portal, as data are not available at municipal level.

to structure the actions in a way that would help overcome the obstacles identified while maximising the opportunities.
The goal of climate neutrality is relevant to a wide range of stakeholders, without whom its achievement would not be possible. The most important stakeholders include citizens and businesses, but national institutions also play a significant role through the impact of their decisions, such as ministries. A strong emphasis has been placed on stakeholder involvement in the preparation of the Action Plan. 12 sectoral discussions involving representatives of different sectors, workshops involving various educational and cultural institutions, NGOs, representatives of various social groups, etc., as well as picnics for meetings with different stakeholders, joint meetings, meetings with municipal representatives, including councillors, were organised. The meetings focused on the current situation, including obstacles and opportunities, and on concrete actions that could be taken by stakeholders. In the future, it is planned to involve stakeholders in monitoring the implementation of the Action Plan through annual conferences, data collection on the implementation of actions, etc.
After analysing the current situation and involving stakeholders in the search for solutions, four impact pathways were developed:

Impact pathways	*Measure portfolios*
Climate neutral households	Clean heat
	Self-generated green electricity
	Reduced number of car journeys
	Electromobility
	Responsible consumption
	More energy-efficient housing
Climate neutral public sector	Green electricity
	Decarbonised vehicle fleet
	Green environment
	Energy efficient buildings
	Effective management of climate neutrality
	Improved capacity and capability
Climate-neutral production and consumption	Decarbonised heat production
	Green electricity generated
	The business of decarbonising the transport fleet
	Decarbonised waste management
	Climate-smart agriculture and other land uses
	Responsible and engaged business
A climate-neutral community	Young people with awareness and knowledge
	Aware and knowledgeable citizens

For each of the impact pathways, a portfolio of instruments is provided. These action portfolios can be expanded through iterations of the Action Plan, and new action portfolios can be developed as future needs arise.
The impact pathways and their portfolios of actions aim to reduce the use of fossil fuels, increase the use of renewable energy sources, develop a circular economy, promote climate-friendly land use, and foster engagement and awareness-raising on climate neutrality. Long-term and sustainable actions are foreseen to offset residual GHG emissions, focusing on the development and improvement of forests.
Indicators for each sector are included to monitor the implementation of the Action Plan. The energy sector (excluding grid-supplied electricity) aims to reduce GHG emissions by 77% compared to 2018. GHG emissions from grid-supplied electricity are targeted to be reduced by 41% compared to 2018, and from transport by 55%, emissions from the waste sector by 76% and from the AFOLU sector (excluding carbon sequestration) by 15% (carbon sequestration in this sector is very similar to GHG emissions, so reducing GHG emissions allows the sector to contribute to the overall GHG emissions reduction). The objective is to achieve a downward trend in GHG emissions from the IPPU sector compared to 2018.
To date, the municipality has not had a coordinated climate neutrality governance structure directly responsible for implementing and coordinating climate neutrality actions. The Action Plan foresees a participatory governance model for climate neutrality. The newly developed governance model (see

figure below) is based on stakeholder cooperation and a transparent decision-making process. It provides for a clear division of responsibilities and cooperation mechanisms between different institutions and professionals, as well as regular consultations, discussions and reporting. The model has a two-tier governance model: the first tier consists of the Decarbonisation Coordination Group and the second tier consists of working groups. The working groups will be responsible for specific areas such as the development of renewable energy sources, energy efficiency, urban green infrastructure, etc.

The implementation of the envisaged participatory climate neutrality governance model and other actions requires the implementation of governance innovations. The Action Plan foresees 15 governance innovations. These innovations are being implemented through the establishment of the Tauragė district municipality Decarbonisation Coordination Group and working groups to coordinate the lists of specific actions developed under the Action Plan. In addition, an EU Cities Mission Coordinator is being created in the municipality to coordinate climate strategies and projects, fostering better cooperation between sectors. The development of a GHG accounting system will ensure more accurate data collection and analysis, while the standardisation of sustainability reporting for municipally owned companies will improve transparency and social responsibility. Finally, investments are being made in staff development and innovation, which will allow the municipality to adopt the latest technologies and methodologies, increasing the efficiency of strategy implementation and the integration of innovative solutions.

Social innovation is also needed to deliver the actions set out in the Action Plan and to achieve climate neutrality. They aim to address the systemic barriers identified and to exploit opportunities for achieving climate neutrality. These initiatives also promote community and business engagement to create new opportunities and raise public awareness of climate change challenges and solutions. Increasing awareness and changing habits contribute to more sustainable consumption and environmental conservation. Social innovation is essential to engage more stakeholders and citizens in climate neutrality initiatives. These innovations help to reduce social and economic barriers, promote participation and build community links. Social innovation focuses on measures for educational institutions to educate young people from an early age, measures for business to encourage business to engage in the green transformation, measures for the population (including different age groups, including seniors, vulnerable groups), and other measures.

In the future, a strong focus on vulnerable or under-represented groups is planned, and more attention will be paid to these groups in the context of the measures envisaged for them. The needs of vulnerable people should also be considered when planning the implementation of the actions foreseen, for example in the design of pedestrian/cycling infrastructure, planning public transport services, adapting information tools, etc. In the formation of working groups, it is planned to include municipal representatives responsible for the interests of vulnerable groups, who could represent these interests at public sector level, and to continue to work with relevant organisations representing the interests of vulnerable groups, by organising individual meetings, inviting them to joint activities and events, and by inviting them to act as experts if necessary.

List of figures

List of tables

Abbreviations and acronyms

Abbreviations and acronyms	Definition
GDP	Gross domestic product
GHG	Greenhouse gases
GPC	Global Protocol for Community-Scale Greenhouse Gas Emission Inventories
CCC	Climate City Contract
Strategy	Climate City Contract, Climate neutrality strategy
TRWMC	Tauragė region waste management centre (lt. *UAB Tauragės regiono atliekų tvarkymo centras*)
IPCC 5AR	The Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report: Climate change 2014
LAG	Local action group
NECAP	National Energy and Climate Action Plan 2021-2030 of Lithuania
RES	Renewable energy sources
IPPU	Industrial processes and product use
AFOLU	Agriculture, foresty and land use

1 Introduction

The Climate Neutrality Action Plan until 2030 covers the entire administrative area of Tauragė district Municipality (1179 km²). Agricultural land accounts for 48.92% (crops and grassland), forests for 38.30%, urban and settlements for 7.55%, wetlands for 3.71%, and other land for 1.52%.

Tauragė district municipality was established in 1995 and is the average size municipality in Lithuania. It belongs to Tauragė county. There are two towns - Tauragė and Skaudvilė, 4 villages - Batakiai, Gaurė, Pagramantis and Žygaičiai, and 320 hamlets. The territory of the district is divided into 8 sub-districts: Tauragė town, Batakiai, Gaurė, Lauksargiai, Mažoni, Skaudvilė, Tauragė, Žygaičiai.[2]

In 2023, the Tauragė district municipality will have a population of about 37.4 thousand inhabitants, 60% of whom live in urban areas and 40% in rural areas. The employment rate in 2022 was 67.3% (73.8% in Lithuania) and did not differ between women and men.[3]

The GDP of Tauragė Municipality in 2022 (at current prices) is €493.7 million[4]. GDP per capita in Tauragė District was EUR 13.2 thousand, or 55.4% of the national average (Lithuanian average - EUR 23.8 thousand).[5]

At the beginning of 2023, the largest share of active economic operators was accounted for by those engaged in wholesale and retail trade and repair of motor vehicles and motorcycles, accounting for 30% (of which 46.8% were engaged in wholesale and retail trade and repair of motor vehicles and motorcycles; these operators accounted for 14% of the total number of active operators), 11% by those engaged in transport and storage, and 10% each by those engaged in manufacturing and other service activities.[6] Tauragė district municipality stands out from other Lithuanian municipalities due to its developed vehicle trade and related services. Tauragė district municipality covers not only urbanised areas but also rural areas, and agriculture plays an important role in the context of climate change in this municipality. In 2020, Tauragė District Municipality had about 13 000 farms[7] (132 000 in Lithuania), of which only 900 or 6.7% had more than 50 ha of agricultural land (8.5% in Lithuania).[8] This means that there are many small farms operating in the territory of Tauragė municipality.

According to the Cities Mission Expression of Interest, Tauragė district municipality is aiming for net-zero GHG emissions and the expected residual emissions up to 2030 are not specified (to be specified in the next phase of the EU Cities Mission). In this document, the residual emissions by 2030 are detailed in Module A-2. The 2030 climate neutrality target for the municipality of Taurage district is consistent with the administrative territory (boundaries) of the municipality, no exclusion zones, sectors, gases, etc. are identified. The actions identified in the Climate Neutrality Strategy should lead to an 85% reduction in GHG emissions by 2030 compared to 2018, and residual emissions should not represent more than 15% of GHG emissions compared to 2018.

The transport sector accounts for the largest share of GHG emissions – 63%. The energy sector accounts for about a fifth of GHG emissions (21.3%), while the waste sector accounts for 12.8% of GHG emissions, IPPU for 2% and AFOLU for 0.7%. Considering the main sources of emissions listed above, it is appropriate to involve stakeholders from these sectors in the achievement of the 2030 climate neutrality target: citizens, district heating companies, electricity producers, transport companies, etc. However, the aim is to go beyond these stakeholders. According to the 2023 study on the attitudes, behaviour and attitudes towards climate change and the Tauragė Green Policy, 74.3% of the Tauragė

[2] Tauragė District Municipality Strategic Development Plan 2021-2030, p. 10.
[3] Data from the Official statistics portal.
[4] Latest available data. Calculated on the basis of data from the Official Statistics Portal, as data are not available at municipal level.
[5] Data from the Official statistics portal.
[6] Data from the Official statistics portal.
[7] Latest available data from the farm census.
[8] Data from the Official statistics portal.

district municipality residents are concerned or very concerned about climate change, 75.3% believe that they can make a significant or some contribution to climate change mitigation, and the majority of the residents are already changing or are willing to change their habits in order to contribute to reducing climate change. Therefore, in order to achieve climate neutrality, it makes sense to involve the population in this process.

The strategic management system of Tauragė district municipality consists of planning documents, strategic planning system actors responsible for the preparation, approval, implementation, evaluation and reporting on the results of the planning documents. The municipality's planning document system comprises: Strategic Development Plan of Tauragė District (approved by the Municipal Council), Priorities of Tauragė District Municipality (approved by the Municipal Council), Strategic Action Plan of Tauragė District Municipality (approved by the Municipal Council), financial planning documents - the municipality's budget and other documents (approved by the Municipal Council), annual activity plans of the Tauragė District Municipality administration, annual activity plans of the elders' districts (approved by the Director of the administration), annual activity plans of the municipal budget institutions (prepared, coordinated and approved by the heads of the budget institutions), other documents detailing the implementation of strategic planning documents (action and measure plans, etc.) (approved by the Director of Tauragė District Municipality Administration). Thus, there is no formal procedure or planning scheme to which the Action Plan should be aligned. However, given that the Action Plan is being prepared for the long term and covers the long-term vision of the municipality in the context of climate neutrality, it is appropriate to use the procedures for the preparation of a long-term plan in the preparation of this plan. The Action Plan and the interventions it proposes and the necessary investments to implement the interventions and other actions must be prepared by the municipal administration and approved by the Municipal Council. Based on the requirements of the Action Plan, the Mayor of the municipality must organise monitoring, evaluation and learning.[9]

Tauragė District Municipality does not have a Climate Action Plan, but climate action is included in various related strategic documents: the Tauragė District Municipality Strategic Development Plan 2021-2030, the Tauragė District Municipality Renewable Energy Action Plan 2030, the Sustainable Mobility Plan for the City of Tauragė, and the Sustainable Mobility Action Plan for the City of Tauragė 2030, Sustainable Development Strategy for the City of Tauragė 2023-2029, Action Plan for the Implementation of the Sustainable Development Strategy for the City of Tauragė 2023-2029, Strategy for the Tauragė+ Functional Zone 2023-2029, Waste Prevention and Management Plan 2021-2027 for the Municipality of the Tauragė District, Programme for the Environmental Monitoring of the Municipality of the Tauragė District for the period 2022-2027. Most of these documents are sectoral and focused on specific solutions in specific sectors, with a primary objective other than climate neutrality (although climate neutrality is often one of the very important outcomes of the actions envisaged). The Action Plan allows for an analysis of the totality of GHG emissions and identifies the key areas for achieving climate neutrality. In addition, the Action Plan incorporates measures already included in other documents that contribute to climate neutrality. It also includes measures to reduce residual GHG emissions that have not been addressed by existing measures. These additional measures may be included in other instruments if they are relevant to the areas covered by those instruments.

The Action Plan is implemented in parallel with other Tauragė District Municipality and national strategic documents, including the National Energy and Climate Action Plan 2021-2030 (hereinafter – NECAP). This Plan, which was updated in 2024, emphasises the role of municipalities in reducing GHG emissions. The NECAP includes measures in various sectors, either targeted at municipalities (with funding) or for which municipalities are responsible for implementation. For example, financial incentives for municipalities to replace polluting buses in their municipalities and to create the necessary

[9] The procedures are described in accordance with the procedure for the preparation, approval, implementation, monitoring and reporting of the Strategic Development Plan of the Tauragė District Municipality, as set out in the Description of the Procedures for the Organisation of the Strategic Planning of the Municipality of the Tauragė District Municipality, approved by the Decision of the Municipal Council of the Tauragė District Municipality of 22 September 2021, Decision No 1-268 (wording of the Decision of the Municipal Council of the Tauragė District Municipality of 19 April 2023 No 1-81)

charging/refuelling infrastructure, as well as measures to introduce traffic regulation solutions, to identify low emission zones, to finance measures in sustainable mobility plans, etc. Thus, the NECAP does not only contain obligations for municipalities, but the measures set out in the NECAP also provide a source of funding for the measures to be implemented by municipalities. Thus, the Action Plan for Tauragė district municipality brings together all existing and future efforts towards climate neutrality, as it incorporates actions foreseen in other strategic documents (for more details see Module B-2). In addition, we consider the scope, timeframe, amount and sources of funding and other elements of the measures/actions foreseen in those documents.

The existing plans and documents of the Tauragė District Municipality do not cover agriculture, forestry and other land-use sector (only a few related measures are foreseen), but this sector is very important in the context of climate neutrality of Tauragė District Municipality. Therefore, data and information related to this sector should be collected and analysed in the preparation of the Action Plan. To this end, GHG accounting data, national GHG accounting and national documents related to this sector will be analysed.

The first version of the Action Plan includes all the mandatory parts, based on the methodologies and templates developed. In the future, a participatory climate neutrality governance model is planned. The implementation of the governance model will be ensured through the implementation of the envisaged governance innovations, including the establishment of a coordination group, working groups, the creation of the necessary posts, etc. It will also seek to prioritise the actions envisaged in order to ensure timely and appropriate implementation. Regular monitoring of the implementation of the Action Plan is planned and iterations of the Action Plan will be made in the light of its results. A strong emphasis will be placed on communication activities, which must enable the success of the other actions.

Table I-1.1: Climate Neutrality Target by 2030

Sectors	Scope 1	Scope 2	Scope 3
Stationary energy	Included	Included	Included
	According to the GPC: I.4.4. Energy industry (emissions from the production of energy supplied to the grid) – not included as it is not accounted for in GHG accounting due to lack of data I.7. Fugitive emissions from coal mining, processing, storage and transport – not included as it is not accounted for in GHG accounting due to the absence of emissions from this category	According to the GPC: I.4.4. Energy industry (emissions from the production of energy supplied to the grid) – not included as it is not accounted for in Scope 1 and therefore not accounted for in Scope 2 I.7. Fugitive emissions from coal mining, processing, storage and transport – not included as it has not been assessed in GHG accounting as there are no emissions from this category I.8. Fugitive emissions from oil and natural gas systems – not included as the emissions estimated in GHG accounting in Scope 1 are 0	According to the GPC: I.4.4. Energy industry (emissions from the production of energy supplied to the grid) – not included as it is not accounted for in GHG accounting I.7. Fugitive emissions from coal mining, processing, storage and transport – not included as it has not been accounted for in GHG accounting as there are no emissions from this category I.8. Fugitive emissions from oil and natural gas systems – not included as the emissions estimated in GHG accounting Scope 1 are 0
Transport	Included	Included	Not included (emissions not assessed due to lack of data, although they may exist)

	According to the GPC: II.3. Waterborne transport – not included as it is not accounted for in GHG accounting due to lack of data II.4. Aviation – not included as it is not accounted for in GHG accounting due to lack of data II.5. Non-road transport – not included as it is not evaluated in GHG accounting due to lack of data	According to the GPC: II.2 Rail transport – not included as it is not accounted for in the GHG accounting as there are no emissions from this category II.3. Waterborne transport – not included as it is not accounted for in GHG accounting due to lack of data II.4. Aviation – not included as it is not accounted for in GHG accounting due to the absence of emissions from this category II.5. Non-road transport – not included as it is not accounted for in GHG accounting due to lack of data	–
Waste/wastewater	Included	Not applicable	Included
	According to the GPC: III.3.1. Waste incineration (waste generated on-site) – not included as it is not accounted for in GHG accounting as there are no emissions from this category III.3.3 Waste incineration (waste generated off-site) – not included as it is not accounted for in the GHG inventory as there are no emissions from this category III.4.3. Waste water treatment (waste water generated off-site) – not included as it is not accounted for in the GHG inventory as there are no emissions from this category	Not applicable	Except: III.1.1/2. Disposal of solid waste to landfill (on-site generated waste) – not included as it is not accounted for in the GHG accounting as there are no emissions from this category III.2.1/2. Biological treatment of waste (on-site generated waste) – not included as it is not accounted for in GHG accounting as there are no emissions from this category III.4.1/2. Wastewater treatment (on-site effluents) – not included as it is not evaluated in GHG accounting as there are no emissions from this category III.1.3. Landfilling of solid waste (off-site generation) – not applicable III.2.3. Biological treatment of waste (off-

			site generated waste) – not applicable III.3.3. Incineration of waste (waste generated off-site) – not applicable III.4.3. Waste water treatment (waste water generated off-site) – not applicable
Industry and product use (IPPU)	Included	Not applicable	Not applicable
	According to the GPC: IV.1. Emissions from industrial processes within the boundaries of the site – not included as it is not accounted for in the GHG inventory as there are no emissions from this category	Not applicable	Not applicable
Agricultural, Forestry and Land Use (AFOLU)	Included	Not applicable	Not applicable
	–	Not applicable	Not applicable
Other	Not included	Not included	Not included
Geographical boundary	**Same as city administrative boundary**	**Smaller than city administrative boundary**	**Larger than city administrative boundary**
	X		
Specify excluded/additional areas		–	–
Map			

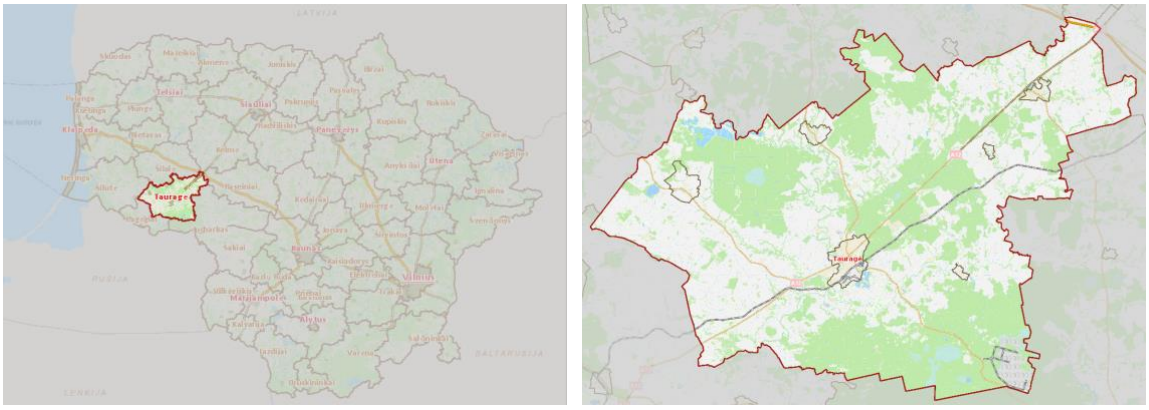


Figure 1-1. Administrative boundaries of the 2030 climate neutrality target – Tauragė district municipality

2 Part A – Current State of Climate Action

Part A "Current State of Climate Action" describes the point of departure of the city towards climate neutrality, including commitments and strategies of key local businesses, and informs the subsequent modules and the outlined pathways to accelerated climate action.

2.1 Module A-1 Greenhouse Gas Emissions Baseline Inventory

Module A-1 "Greenhouse Gas Emissions Baseline Inventory" details and describes the latest GHG inventory, where available from 2018 or more recent, referring to a clearly stated geographic boundary. The aim of this section is to establish the emission baseline and to establish the emissions gap to 2030 climate neutrality.

GHG Emissions Baseline inventory

The base year for GHG accounting for Tauragė district municipality is 2018. GHG emissions were not accounted for in My Covenant or CDO/ICLEI Tracker. The geographical boundaries of the GHG accounting cover the geographical area of the Tauragė district municipality (no exceptions) and coincide with the geographical area of the Climate Neutrality Target. There are no inconsistencies between the GHG accounting and the climate neutrality target. The GHG emissions assessed were carbon dioxide (CO_2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF_6), chlorofluorocarbons (CFCs). Sectors assessed: energy, transport, waste, industry and product use (IPPU), agriculture, forestry and land use and change (AFOLU). Sectors and categories included in the GHG inventory:

Sector	Category		Scope 1	Scope 2	Scope 3
Energy	I.1.	Residential buildings	X	X	IE
	I.2.	Commercial and public buildings	X	X	IE
	I.3.	Manufacturing and construction	X	X	IE
	I.4.1/2/3	Energy industry	X	IE	X
	I.4.4.	Energy industry (emissions from the production of energy supplied to the grid)	NE		
	I.5.	Agricultural, forestry and fishing activities	IE	IE	IE
	I.6.	Other unspecified sources	IE	IE	IE
	I.7.	Fugitive emissions from coal mining, processing, storage and transport	NO		
	I.8.	Fugitive emissions from oil and natural gas systems	X		
Transport	II.1.	Road transport	X	X	NE
	II.2.	Rail transport	X	NO	NE
	II.3.	Waterborne transport	NE	NE	NE
	II.4.	Aviation	NE	NO	NE
	II.5.	Non-road transport	NE	NE	NE
Waste	III.1.1/2.	Disposal of solid waste generated in the municipality	X		NO
	III.2.1/2.	Biological treatment of waste produced within the municipality	X		NO
	III.3.1/2.	Incineration and open burning of waste produced in the municipality	NO		X

	III.4.1/2.	Managing and discharging wastewater generated within the municipality	X		NO
	III.1.3.	Solid waste disposal in landfill (off-site generated waste)	X		
	III.2.3.	Biological treatment of waste (off-site generated waste)	X		
	III.3.3.	Incineration (off-site waste)	NO		
	III.4.3.	Wastewater management (off-site wastewater)	NO		
Industrial Process and Product Use (IPPU)	IV.1.	Industrial processes	NO		
	IV.2.	Use of products	X		
Agricultural, Forestry and Land Use (AFOLU)	V.1.	Livestock	X		
	V.2.	Land use	X		
	V.3.	Organised sources and non-CO_2 sources on Earth	X		

X – included
IE – included elsewhere (applicable when there is no way to distinguish category-specific emissions)
NE – not assessed due to lack of data or disproportionate effort required to collect it (but such emissions are possible)
NO – no GHG emissions in this category

The GHG emissions inventory of Tauragė district municipality was carried out based on the Global Protocol for Community-Scale Greenhouse Gas Emission Inventories (hereinafter – GPC), developed by the World Resources Institute (WRI) in cooperation with local authorities. The GPC is based on the Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (GHG Protocol), which provides standards and guidelines for companies and other types of organisations to prepare greenhouse gas inventories. The purpose of the GPC is to provide cities or communities with additional guidance on the application of the GHG Protocol in the local community context. The GPC provides standardised methodologies and procedures to help local authorities quantify the GHG emissions associated with the activities of the community they govern.
The following documents and methodologies were also used to assess GHG emissions:

- Intergovernmental Panel on Climate Change (IPCC) Reports and Recommendations;
- The European Union's Mission 100 Climate Neutral and Smart Cities 2030 GHG Inventory Requirements (Info Kit For Cities Interested In Participating In The Call For Expression Of Interest (EOI)).

According to the GPC, GHG emissions at municipal level are assessed using two different but complementary approaches:

- Scopes Framework: GHG emissions related to activities within the geographical boundaries of the municipality, broken down into Scopes 1, 2 and 3.
- City-Induced Framework: Similar to the Scoping Framework, GHG emissions are broken down by Scopes 1, 2 and 3, but the results of the calculations are presented at two different levels:
  - BASIC level: covers GHG emissions related to energy, transport, and waste/wastewater;
  - BASIC+ level: the expanded level covers all GHG emissions at the baseline level, plus additional estimates of GHG emissions from IPPU, AFOLU and other sources.

A variety of data sources were used to calculate GHG emissions, with a preference for direct data providers. Data that could not be obtained from direct data providers were collected from various databases and other sources. A summary of the data sources is given below:

Data	Data source
Population, number of enterprises operating in Tauragė district municipality; fuel and energy	Official statistics portal of the State Data Agency

consumption in transport; use of products; use of paints for surface coating; use of tobacco; household refrigeration; number of livestock and poultry; agricultural land in use; area harvested for agricultural crops	
Registered buildings; commercial and public buildings; buildings for industry and construction, agriculture, farms and greenhouses	State Enterprise Centre of Registers
Service sector buildings owned by the municipality are registered in Tauragė district municipality; areas of land use	National Land Service under the Ministry of the Environment
Number of registered vehicles (by category, fuel type)	State Enterprise “Regitra”
Transport managed by the municipal administration and municipal bodies/companies (including the bus fleet)	Data on enterprises and institutions of Tauragė district municipality
Data on waste and waste management	TRWMC
Data on wastewater and its management	UAB "Tauragės vandenys"
Data on wastewater treatment plants; forest land area by mineral and organic soils; crop land area by mineral and organic soils; use of limestone, dolomite and urea; emission factors (except for electricity)	National Greenhouse Gas Inventory Report of the Republic of Lithuania (2023) (hereinafter referred to as LT-NIR-2023)
Average heat consumption; annual energy demand for hot water, heated area as a percentage of total area	Tauragė District Municipality Renewable Energy Action Plan 2030
Electricity consumption; electricity consumption losses; natural gas consumption	Data for Energy Distribution Operator (hereinafter referred to as ESO), budget institutions and enterprises managed by the municipality
Number of buildings connected to central heating; fuel used for heat production by fuel type	UAB “Tauragės šilumos tinklai”
Railway length; rail freight turnover; rail freight transport; rail passenger turnover; rail passenger transport	Official statistics portal of the State Data Agency, LTG Infra
Areas of fire stations	State Forest Service
Area of peatland under exploitation	UAB “Klassmann-Deilmann Laukėsa”
Electricity emission factor	Calculated on the basis of electricity production and consumption balance data provided by AB LITGRID

The calculations were primarily based on Tauragė district municipality level performance data. Where these data are not available, the state-level data were recalculated in proportion to the activities taking place in the territory of the municipality in terms of area, population, GDP or another indicator.
The main source of emission factor data is the LT-NIR-2023, which provides estimated national emission factors for different GHG emissions. The global warming potential from the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report: Climate change 2014 (hereafter – IPCC 5AR) has been used to convert GHG emissions to CO_2 equivalent.
Base year GHG accounting data provide the basis for developing impact pathways and climate action. That is, the analysis of the GHG structure by sector and category has identified key impact areas for achieving climate neutrality. A more detailed analysis of the categories allows for the identification of the most important/significant impact locations, but also for the identification of the challenges that may be encountered in achieving climate neutrality. This in turn allows for the development of realistic impact pathways and actions.
The strategic priorities of the 2030 Climate Neutrality Commitments document cover key areas for base year GHG accounting. The inventory shows that the focal areas are considered to be livestock

farming and organised sources of pollution, cars and heavy transport in the transport sector, green energy in the energy sector, and landfilling in the waste sector, including improvements in sorting.

A-1.1: Final energy use by source sectors			
Base year	2018		
Unit	MWh		
	Scope 1	Scope 2	Scope 3
Buildings			
Coal	15 501	–	–
Biogas (from anaerobic treatment of sewage sludge)	1 664	–	–
Biofuel	295 939	–	–
Peat	14 488	–	–
Electricity	–	98 036	11
Natural gas	25 852	–	–
Shale oil	1 826	–	–
Liquid fuels (diesel)	9 351	–	–
Liquefied gas	527	–	–
Liquefied petroleum gas (for heating buildings)	404	–	–
Transport			
Petroleum	18 692	–	–
Diesel	210 933	–	–
Liquefied petroleum gas	15 727	–	–
Heating and other gas oils	318	–	–
Biodiesel in heating and other gas oils	9	–	–
Industrial Process and Product Use (IPPU)			
Lubricating and other oils	2 222,2	–	–
Paraffins and waxes	277,8	–	–
Agricultural, Forestry and Land Use (AFOLU)			
(Fuel type/ energy used)	–	–	–

-

A-1.2: Activity data from which GHG emissions are calculated (by sector and source)			
Base years	2018		
	Scope 1	Scope 2	Scope 3
Waste			
Units of measurement:	*tonnes*		
Municipal waste	7 113	–	87
Green waste and anaerobically treated sewage sludge	6 817	–	–
Units of measurement:	*Thousands of m^3*		
Industrial and other business wastewater	268,5	–	–
Domestic wastewater (residents)	752,9	–	–
Industrial Process and Product Use (IPPU)[10]			
Units of measurement:	*tonnes*		

[10] Household solvents, dry cleaning, degreasing, chemical products and footwear: GHGs calculated based on population in 2018 (38.9 thousand).

Surface coating paints	235,1	–	–
Tobacco	38	–	–
Mobile air-conditioning systems (vehicles) (HFC134a)	1,2	–	–
Agricultural, Forestry and Land Use (AFOLU)			
Units of measurement:	*Thousands of units*		
Number of livestock[11]	85	–	–
Birds	89,5	–	–
Units of measurement:	*tonnes*		
Limestone ($CaCO_3$)	212	–	–
Dolomite ($CaMg(CO_3)_2$)	77	–	–
Use of urea	679	–	–
Units of measurement:	*Thousands of hectares*		
Harvested area of agricultural crops	43,9	–	–
Area of cultivated organic soils	0,9	–	–

A-1.3: Emission factors used

Type of fuel or activity		Measures pcs.	Tonne conversion coefficient	Emission factor (EF)					
				CO_2	tCO_2e	CH_4	CH_4 tCO_2e	N_2O	N_2O tCO_2e
Diesel	Diesel (rail)	kg/TJ	0,001	72810,0	72,8100	4,1500	0,1162	28,5500	7,5658
Biodiesel	Biodiesel (methyl ester) (rail)	kg/TJ	0,001	75810,0	75,8100	3,0000	0,0840	0,6000	0,1590
Liquefied petroleum gas (LPG)	Liquefied petroleum gas (LPG) (road transport)	kg/TJ	0,001	66810,0	66,8100	9,8600	0,2761	1,5600	0,4134
Automotive petrol	Automotive petrol (road transport)	kg/TJ	0,001	70130,0	70,1300	8,4200	0,2358	0,7100	0,1882
Other liquid biofuels	Bioethanol (road transport)	kg/TJ	0,001	75260,0	75,2600	3,0000	0,0840	0,6000	0,1590
Diesel	Diesel (road transport)	kg/TJ	0,001	72800,0	72,8000	1,2000	0,0336	2,3000	0,6095
Biodiesel	Biodiesel (methyl ester) (road transport)	kg/TJ	0,001	75260,0	75,2600	3,0000	0,0840	0,6000	0,1590
Electricity	Electricity (Lithuania)	kg/kWh	0,001	0,0061	0,000006				
Losses due to energy consumption from the grid	Natural gas supply losses (Lithuania)	kg/TJ	0,001	55540,0	55,5400	1,0000	0,0280	0,1000	0,0265
Timber and wood waste	Biofuels (wood) (combustion)	kg/TJ	0,001	0,0000	0,0000	30,0000	0,8400	4,0000	1,0600
Other	Shale oil (combustion)	kg/TJ	0,001	76600,0	76,6000	3,0000	0,0840	0,6000	0,1590
Other	Peat (burning)	kg/TJ	0,001	104340,0	104,3400	1,0000	0,0280	1,5000	0,3975
Diesel	Diesel (combustion)	kg/TJ	0,001	72800,0	72,8000	3,0000	0,0840	0,6000	0,1590

[11] Includes: cattle, sheep, pigs, goats, horses, rabbits, fur animals – mink.

Coal (bituminous or black coal)	Coal (combustion)	kg/TJ	0,001	95100,0	95,1000	1,0000	0,0280	1,5000	0,3975
Natural gas	Natural gas (combustion)	kg/TJ	0,001	55337,0	55,3370	1,0000	0,0280	0,1000	0,0265
Liquefied petroleum gas (LPG)	Liquefied gas (combustion)	kg/TJ	0,001	66810,0	66,8100	1,0000	0,0280	0,1000	0,0265
Biogas from sludge	Biogas (from sludge) (combustion)	kg/TJ	0,001	0,0000	0,0000	1,0000	0,0280	0,1000	0,0265
AFOLU	Dairy cows (fermentation)	kg/pcs.	0,001			124,7900	3,4941		
AFOLU	Other bovine animals (fermentation)	kg/pcs.	0,001			65,8200	1,8430		
AFOLU	Sheep (fermentation)	kg/pcs.	0,001			10,1400	0,2839		
AFOLU	Pigs (fermentation)	kg/pcs.	0,001			1,3900	0,0389		
AFOLU	Goats (fermentation)	kg/pcs.	0,001			5,0000	0,1400		
AFOLU	Horses (fermentation)	kg/pcs.	0,001			18,0000	0,5040		
AFOLU	Rabbits (fermentation)	kg/pcs.	0,001			0,5900	0,0165		
AFOLU	Fur animals (fermentation)	kg/pcs.	0,001			0,1000	0,0028		
AFOLU	Dairy cows (manure management)	kg/pcs.	0,001			11,8000	0,3304	0,5700	0,1511
AFOLU	Other livestock (manure management)	kg/pcs.	0,001			7,9000	0,2212	0,2600	0,0689
AFOLU	Sheep (manure management)	kg/pcs.	0,001			0,4100	0,0115	0,0500	0,0133
AFOLU	pigs (manure management)	kg/pcs.	0,001			2,7100	0,0759	0,0100	0,0027
AFOLU	Goats (manure management)	kg/pcs.	0,001			0,1300	0,0036	0,0700	0,0186
AFOLU	Horses (manure management)	kg/pcs.	0,001			1,5600	0,0437	0,0300	0,0080
AFOLU	Rabbits (manure management)	kg/pcs.	0,001			0,0800	0,0022	0,0600	0,0159
AFOLU	Furbearers (manure management)	kg/pcs.	0,001			0,6800	0,0190	0,0200	0,0053
AFOLU	Birds (manure management)	kg/pcs.	0,001			0,0200	0,0006	0,0008	0,0002
AFOLU	N evaporation (manure management)	kg/kg N	0,001					0,0157	0,0042
AFOLU	N leakage (manure management)	kg/kg N	0,001					0,0118	0,0031
AFOLU	Lime liming	t/tonnes	1	0,4400	0,4400				
AFOLU	Liming dolomite	t/tonnes	1	0,4767	0,4767				
AFOLU	Use of urea	t/tonnes	1	0,7333	0,7333				
AFOLU	Use of non-organic fertilisers	kg/kg N	0,001					0,0157	0,0042
AFOLU	Use of organic fertilisers	kg/kg N	0,001					0,0157	0,0042

AFOLU	Pastures	kg/kg N	0,001					0,0314	0,0083
AFOLU	Crops	kg/kg N	0,001					0,0157	0,0042
AFOLU	Organic soils	kg/ha	0,001					12,5714	3,3314
AFOLU	N evaporation (soil)	kg/kg N	0,001					0,0157	0,0042
AFOLU	N runoff (soil)	kg/kg N	0,001					0,0118	0,0031

A-1.4: GHG emissions by source sectors					
Base year		2018			
Unit		Tonnes CO_2e			
		Scope 1	Scope 2	Scope 3	Total
Buildings		21 163	594	0	21 757
Transport		64 438			64 438
Waste		13 110	–	1	13 111
Industrial Process and Product Use (IPPU)		2 048	–	–	2 048
Agricultural, Forestry and Land Use (AFOLU)	Sources (positive emissions)	167 458	–	–	167 458
	Sinks (negative emissions)	-166 737	–	–	-166 737
Total		101 480	594	1	102 075

The transport sector accounted for the largest share of GHG emissions in the base year - 63.1%. The energy sector accounted for around one fifth of GHG emissions. The waste sector accounted for about 12.8% of GHG emissions, while IPPU accounted for 2%. The AFOLU sector accounted for the smallest share of GHG emissions, with only 0.7%. This sector has significant GHG emissions compared to other sectors, but due to its large forest area, a large part of the carbon is sequestered. As a result, the AFOLU sector's balance remains low and represents a very small share of total GHG emissions. A more detailed analysis of GHG emissions by sector is presented below.

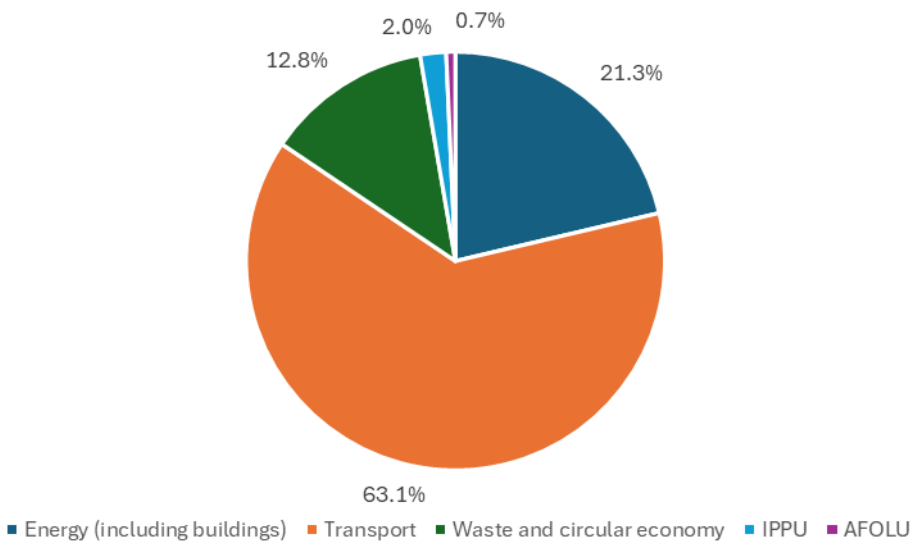


Figure 2-1. GHG emissions by sector: baseline emissions 2018

Energy. Buildings accounted for the largest share of emissions from the energy sector (67.8%), followed by manufacturing and construction (25.4%) and the energy industry, i.e. the production of heat and electricity (6.8%). Among buildings, residential buildings stand out with 90.8% of GHG emissions, while other commercial and public buildings accounted for 6.8%, while municipal

buildings/enterprises accounted for 2.4%. Among residential buildings, as much as 93.9% of residential buildings in 2018 were 1-2 apartment residential buildings, with a floor area of 69.2% of the floor area of residential buildings. The average floor area of a 1-2 dwelling house in 2018 was 138 sqm. Apartment residential buildings accounted for 5.7% of residential buildings in 2018, with a floor area of 40.6% of the total floor area of residential buildings. The average floor area per multi-apartment building was 922 square metres.

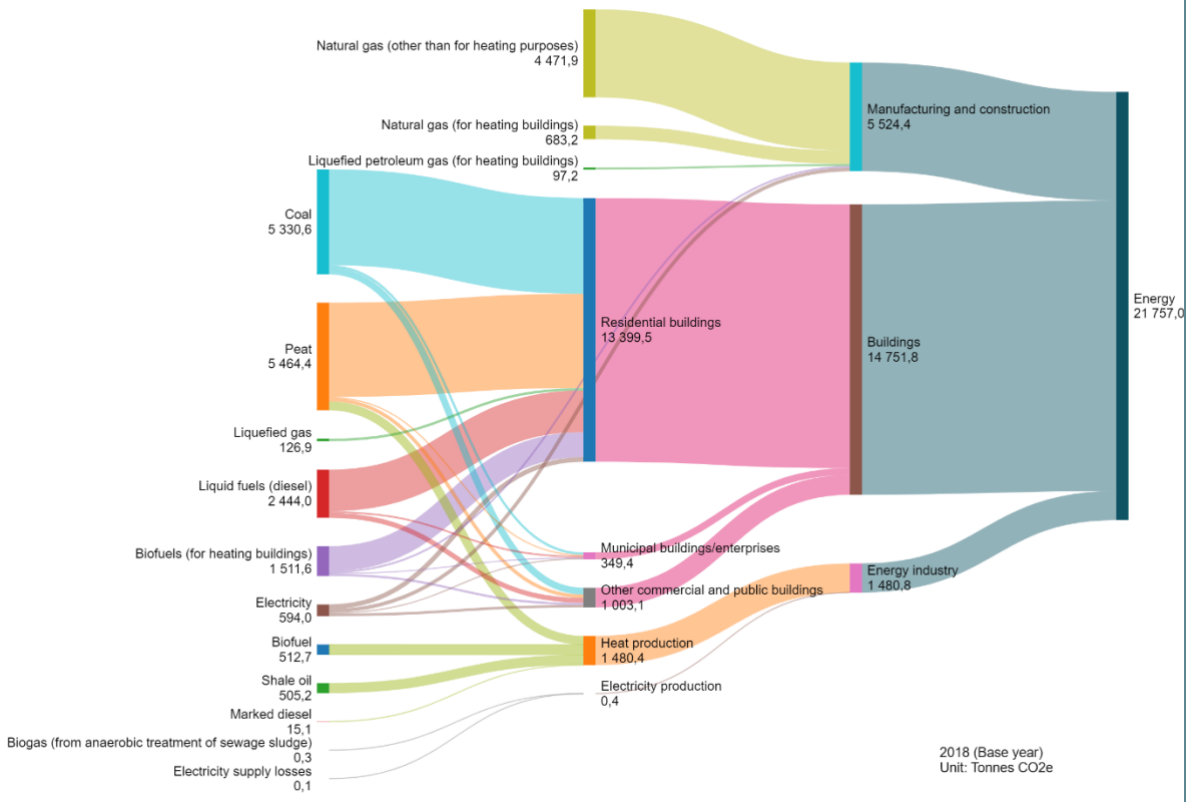


Figure 2-2. GHG emissions from the energy sector by emission source and sub-sector

In terms of fuels used in the energy sector, peat (25.1%) and coal (24.5%) accounted for the largest share of GHG emissions, with natural gas accounting for a significant share (20.6%). Fossil fuels accounted for around 88.8% of GHG emissions in the energy sector, while electricity accounted for around 2.7% and biofuels for 9.3%.

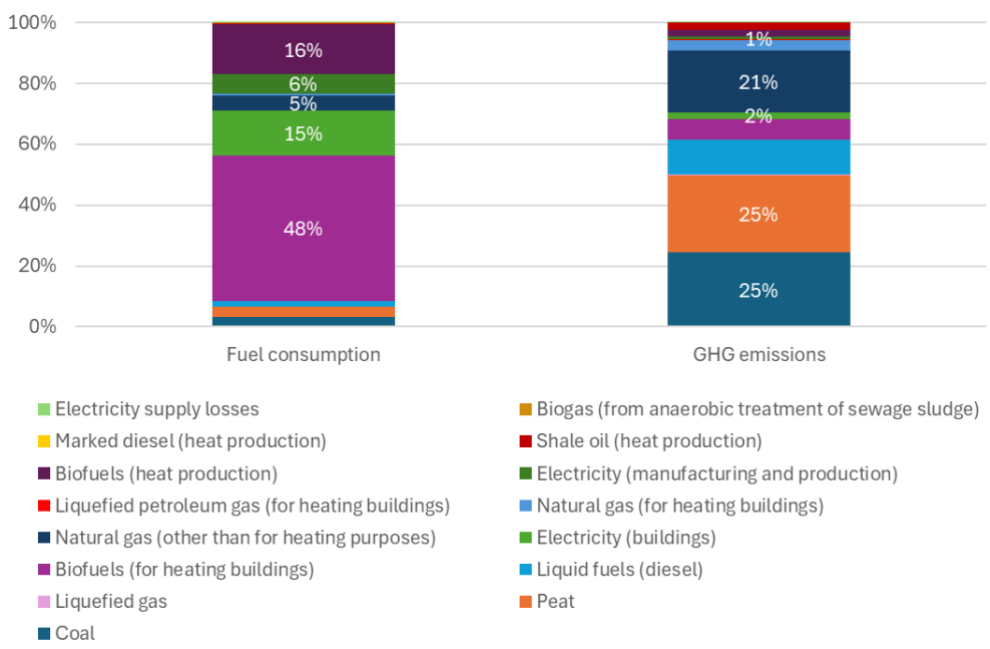


Figure 2-3. Distribution of fuel use and GHG emissions in the energy sector

According to the evidence, a strong focus on reducing the use of fossil fuels and generating clean electricity is needed to achieve climate neutrality, as well as clean electricity generation, which can contribute to the phase-out of fossil fuels used for heat generation. A strong focus on energy efficiency, particularly in residential buildings, but also in other buildings and energy efficiency improvements in manufacturing and construction. Particular attention should be paid to individual houses as they make up the majority of the municipality's residential area.

Transport. The largest share of GHG emissions from the transport sector came from passenger cars, accounting for 58.4%, while trucks and buses accounted for 36.7%. Other modes of transport accounted for 5.1% of transport sector GHG emissions. In Tauragė municipality, as in the national level, the transport sector is dominated using diesel fuel, which results in the highest GHG emissions in the passenger car, truck and bus subsectors respectively. To reduce GHG emissions in the transport sector, the focus must be on increasing the use of alternative fuels. In the passenger car sub-sector, the focus should be on the development of electric vehicles and the shift away from cars towards other, less polluting mobility alternatives. The passenger car sub-sector is dominated by diesel vehicles (in 2018, diesel cars accounted for 77% of all passenger cars and electric cars for 0.04%[12]), which are purchased by the population because of their habits, their easy and affordable servicing, and their clear operating characteristics (in the case of electric cars, there are many doubts about the lack of repairs and technicians, the charging infrastructure, the range, etc). In public transport, the focus should be on the development of electric vehicles, and where there is no possibility of such development, on other alternative fuels. The public transport system is being actively developed not only in the territory of Tauragė District Municipality, but also in the region. As the number of routes increases, it is important to ensure that new travel demand is met by buses running on cleaner fuels. In the heavy transport sub-sector, the focus should be on supporting the currently optimal technology from an economic and business development point of view, to reconcile economic feasibility (cleaner technologies can be several times more expensive than fossil fuel technologies) and GHG reduction targets.

[12] Calculated on the basis of data from State Enterprise “Regitra”.

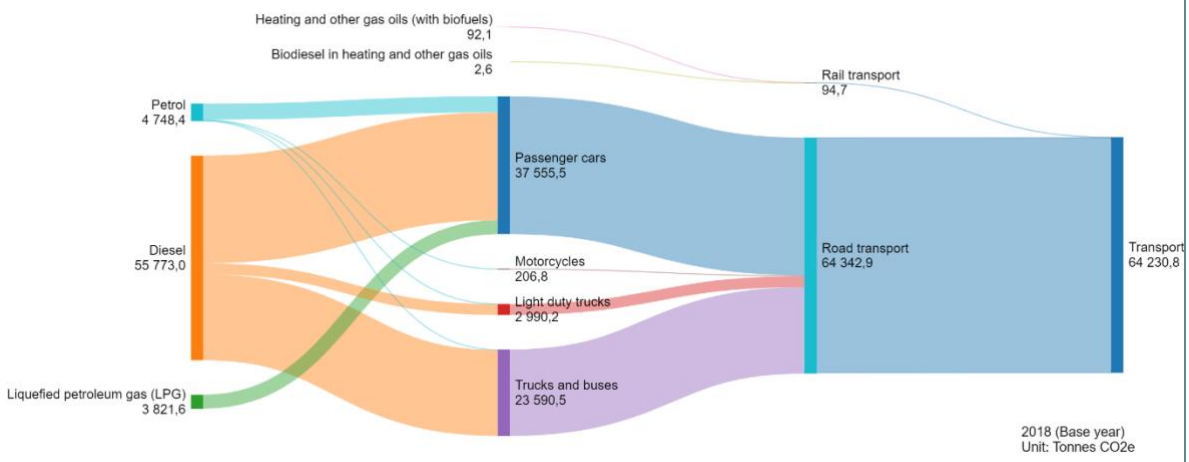


Figure 2-4. GHG emissions from the transport sector by emission source and sub-sector

A significant share of the economy of Tauragė District Municipality in 2023 will be accounted for by wholesale and retail trade and repair of motor vehicles and motorcycles (14%) and transport and storage (11.3%). Therefore, in Tauragė District Municipality, it is not only the habits of the population in terms of their choice of vehicles that are important, but also the perception of sustainability issues among businesses and their involvement in addressing these issues and implementing actions.
Among the businesses involved in the wholesale, retail and repair of motor vehicles and motorcycles, those involved in the sale of cars and light motor vehicles accounted for the largest share, while businesses involved in the sale of other motor vehicles accounted for around one fifth. The main second-hand vehicles sold in Tauragė district municipality are imported from other EU countries, such as France, the Netherlands, etc. There is also trade in second-hand cars from Lithuania. The trade is carried out on a national scale and is not limited to the territory of Tauragė district municipality. Repair services are also provided not only in the municipality of Tauragė, but also nationally, part of the repair services being carried out in preparation of imported vehicles for resale. There are also emerging entities in the Tauragė district municipality providing repair services for electric vehicles, but this activity is not yet well developed and future focus should be on developing this activity in order to take advantage of the existing advantages. There is no national or regional policy on this issue, so it is important for the municipality to develop it primarily at the local level.

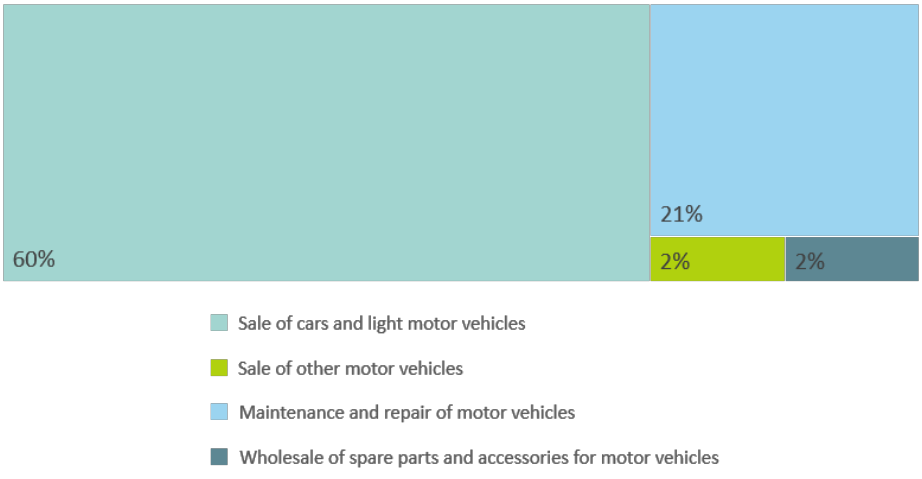


Figure 2-5. Breakdown of economic operators active in the wholesale, retail trade and repair of motor vehicles and motorcycles[13]

[13] Data from the official statistics portal

Among the operators active in transport and storage, road freight transport accounted for the largest share, directly contributing to GHG emissions in the heavy transport and bus sub-sector. At the same time, passenger transport by urban or suburban land transport, which is linked to GHG emissions from buses, accounted for around 2% of transport and storage operators.

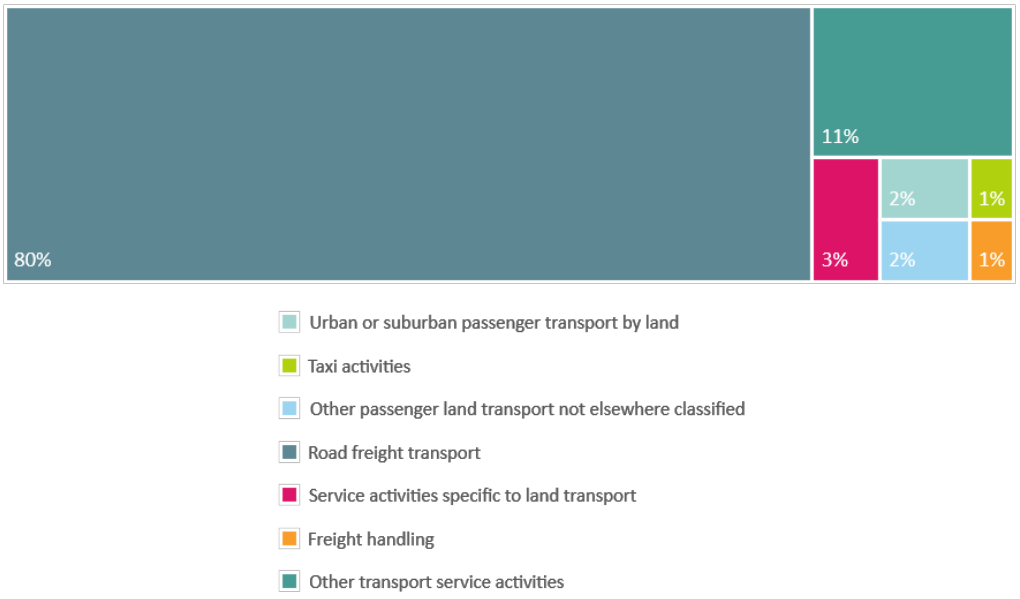


Figure 2-6. Distribution of transport and storage operators[14]

Waste. The largest share of GHG emissions from waste and wastewater was due to landfilling at 61.8%, followed by wastewater treatment at 29.1% and waste biological treatment at 9.1%. Waste incineration accounted for less than 1% of GHG emissions, as only a small part of the waste sorted in MA is sent for incineration. In Lithuania, waste incineration is carried out in the territories of other municipalities. To reduce GHG emissions from the waste sector, the focus should be on reducing waste to landfill, which is linked to better waste sorting (including green waste). In addition, the municipal waste management centre has so far not had a biological treatment plant to ensure proper treatment of biodegradable waste.

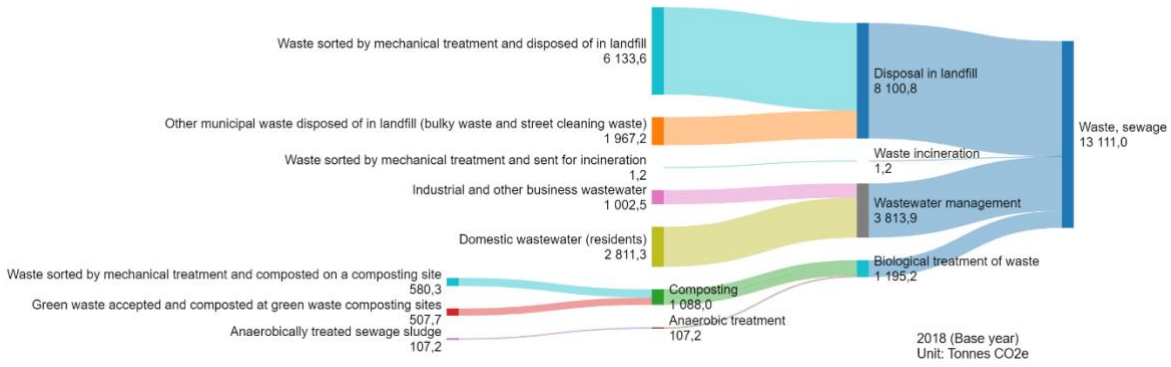


Figure 2-7. Waste sector GHG emissions by emission source and sub-sector

Industry and product use (IPPU). 75% of GHG emissions in this sector are emissions of ozone-depleting fluorinated substitutes, mainly from mobile air conditioning systems in vehicles. Tauragė District Municipality is characterised by a high level of services in the transport sector, including vehicle sales, repairs etc. Given the importance of these activities for the economy of the Tauragė Municipality, a reduction in their scale poses a risk. Other significant sources of GHG emissions are

[14] Data from the official statistics portal

household solvents, dry cleaning, degreasing and chemical products. These are linked to the consumption habits of the population.

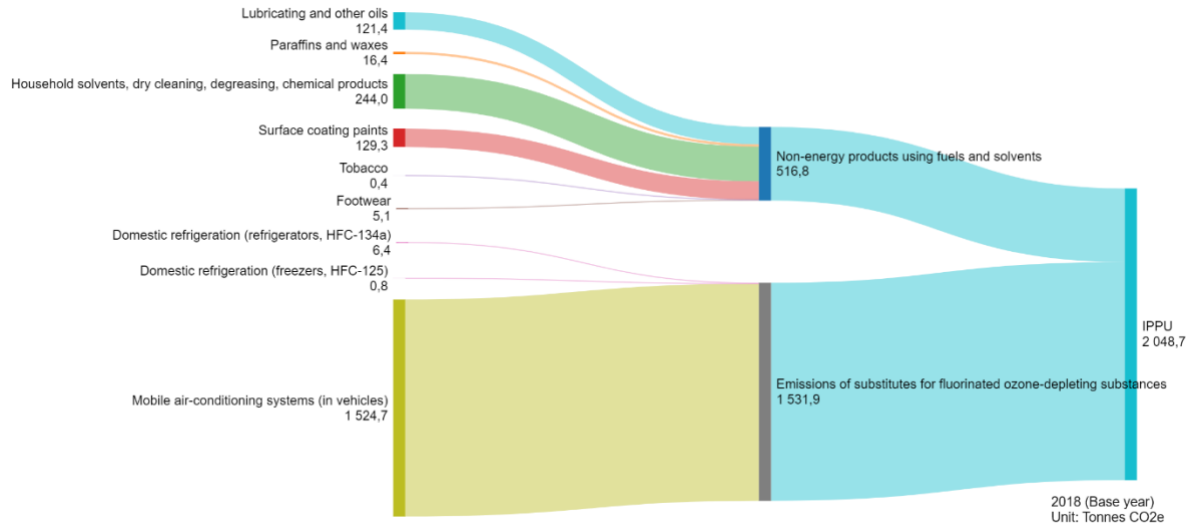


Figure 2-8. GHG emissions from the IPPU sector by emission source and sub-sector

Agriculture, forestry and land use (AFOLU) – Carbon emissions. The AFOLU sector is very important for the Tauragė district municipality, as on the one hand it provides employment for a large part of the population (the number of farms in 2020 amounted to 4,900), but it also provides the potential to absorb carbon. Agricultural land accounted for about 49% of the territory of Tauragė district municipality, while forests accounted for about 38%. Tauragė district municipality has many wetlands, some of which are located in protected areas, but some peatlands are also in operation. The AFOLU sector is very important for the municipality to reduce GHG emissions, with emissions in this sector amounting to 167,500 tonnes CO2e. On the other hand, the carbon sequestration potential is also very high and sustainable by nature, as the forest area has remained almost unchanged over the last few years. Moreover, there is potential for forest expansion.

Given the large area of agricultural land, it is also possible to develop renewable energy facilities in this area. Wind power plants can be developed in the northern part of the municipality, as the southern part is restricted by the military due to national security. Solar power plants and parks can be developed throughout the municipality, but farmers are more interested in the production of energy from livestock gases. There is no opposition from the population in the municipality, as the population is largely in favour of renewable energy development in the context of energy security, climate neutrality and energy cost reduction.

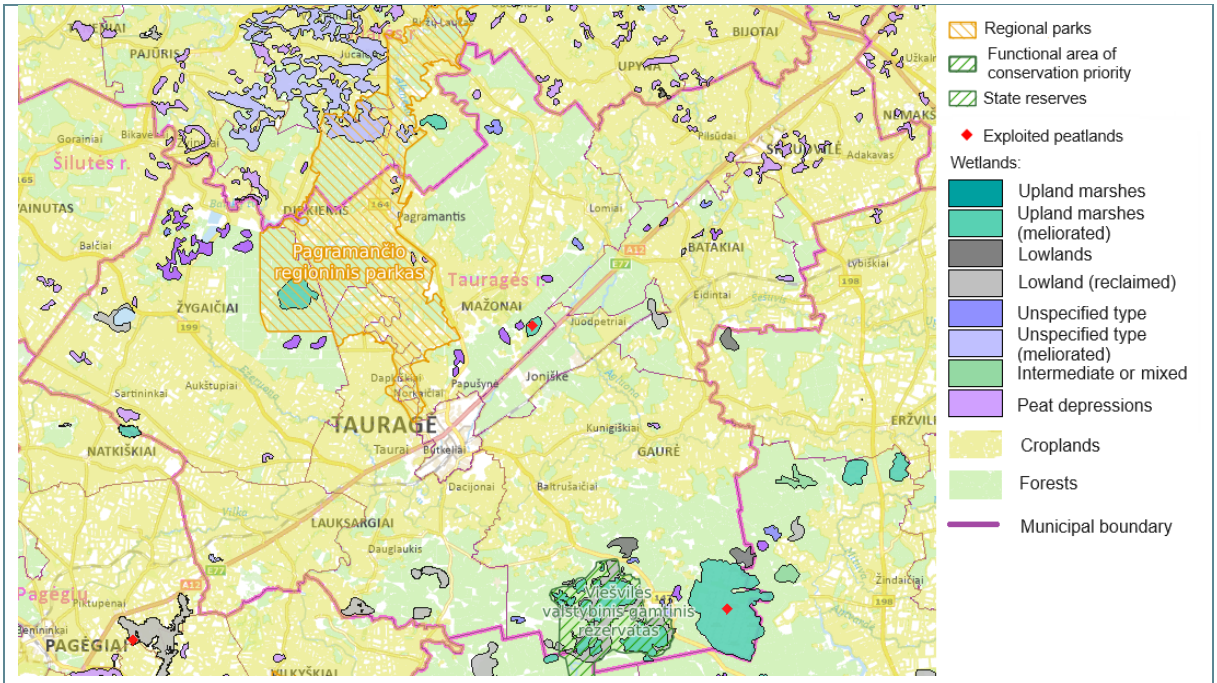


Figure 2-9. Important areas of the AFOLU sector: crops, forests, protected areas, wetlands

The most important contributors to the GHG emissions from this sector were fermentation caused by cattle (34.8% of GHG emissions), wetland land due to peat extraction in the territory of the Tauragė District Municipality (25.9% of GHG emissions) and fertiliser use (20.3% of GHG emissions). In this context, the focus should be on animal feeding technologies, peat extraction activities and reducing fertiliser use. In this sector, the number of livestock, i.e. the scale of the activity, has a significant impact on GHG emissions. However, to maintain an important economic sector for the Tauragė municipality, reducing livestock numbers cannot be considered as a GHG reduction option. On the other hand, there are good examples of organic farming in the Tauragė municipality which can inspire other farmers to act in an environmentally and human health friendly way.

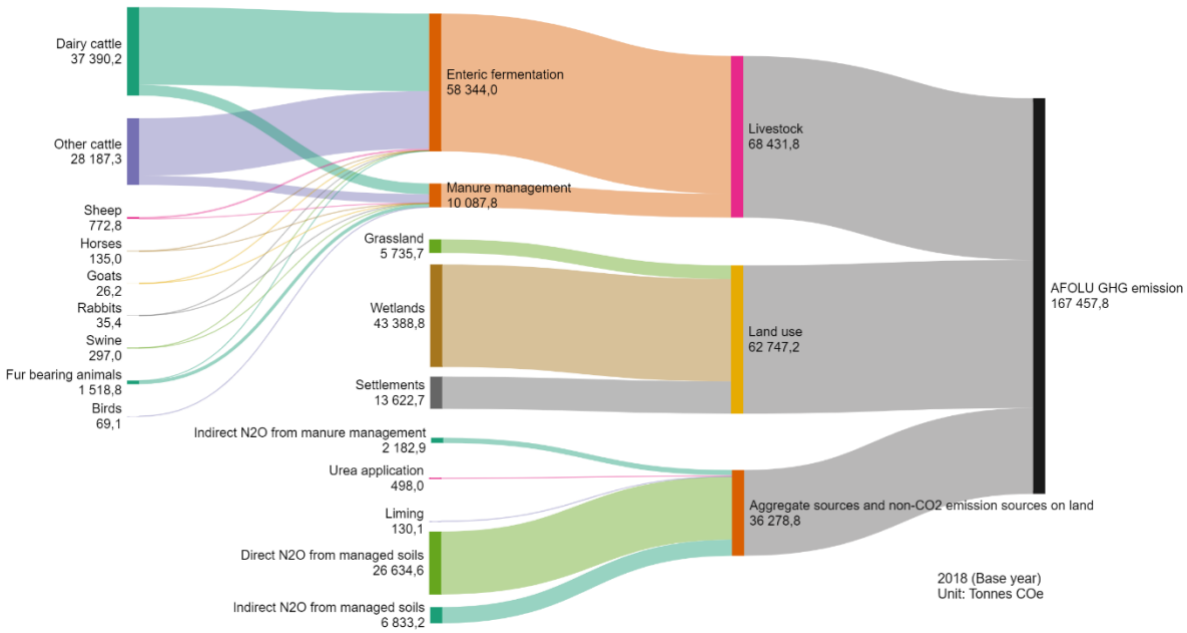


Figure 2-10. AFOLU sector GHG emissions by emission source and sub-sector

Agriculture, forestry and land use (AFOLU) - Carbon sequestration. The largest carbon sink in the territory of Tauragė district municipality is forests – 76.9%. The following protected areas have

been established in the territory of the municipality: the Pagramančius Regional Park, the Visbari Biosphere Polygon, the Viešvilė State Nature Reserve, the Ancija Landscape Reserve, and the Meška Botanical-Zoological Reserve. Carbon sequestration potential can be increased by expanding forests and increasing sequestration on cropland (using sustainable farming techniques). Given that the forest area has remained virtually unchanged over the last few years, these removals can be considered sustainable and long term. In addition, there are various measures at national level to promote climate-smart agriculture on forest land with the aim of increasing forest absorption. These measures can be implemented by entities throughout the territory of Lithuania, including the Tauragė district municipality. In addition, these measures are aimed at both private entities and entities managing public forests.

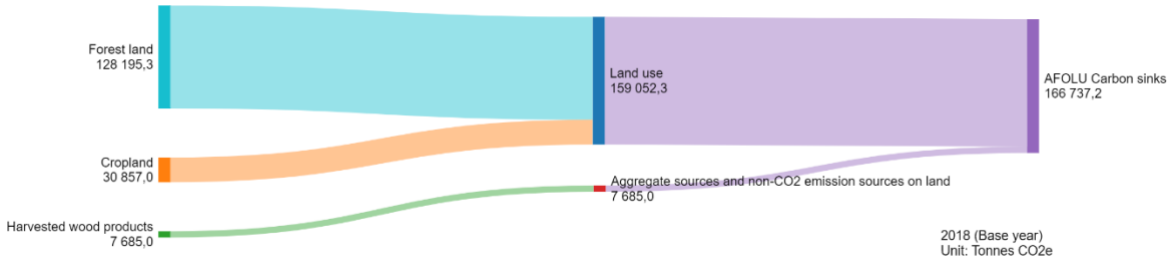


Figure 2-11. AFOLU sector GHG removals by emission sources and subsectors

2.2 Module A-2 Current Policies and Strategies Assessment

This module presents and assesses existing policies, strategies, initiatives or legislation at local, regional and national level related to the transition to climate neutrality in the municipality of Tauragė. This assessment aims to contribute to the gap between the GHG emission reductions achieved by existing policies and measures and the need to reduce them in order to achieve climate neutrality by 2030 (if such a gap exists).

The following is a list of local policies, strategies, concepts, as well as regional and national initiatives that influence local climate action.

A-2.1: List of relevant policies, strategies and legislation

Document type	Level	Name	Description	Importance	Need for action
Strategy	National	Climate change management agenda	It sets out a vision for Lithuania's climate change management policy in 2050, national and sectoral mitigation goals and targets, as well as adaptation goals and targets, and the horizontal directions that will ensure the implementation of the agenda	The directions envisaged for climate change management provide a roadmap for actions planned at regional and local level, showing where the most commitment and action is needed	Implemented

A-2.1: List of relevant policies, strategies and legislation					
Document type	**Level**	**Name**	**Description**	**Importance**	**Need for action**
			and the monitoring of its implementation		
Strategy	National	Lithuanian Long-Term Renovation Strategy	The target is to renovate 74% of buildings - almost 440,000 buildings - by 2050, thus eliminating CO2 emissions in the buildings sector and reducing annual CO2 emissions from buildings to 0.	Measures to modernise buildings to reduce CO2 emissions and increase energy efficiency.	Implemented
Plan	National	National Energy and Climate Action Plan 2021-2030 (draft)	Sets out the key changes the country needs to achieve over the next decade to ensure progress in the social, economic, environmental and security fields	Climate change mitigation measures are set out and targets for municipalities to contribute to	The updated plan should be submitted by September 2024
Plan	National	Strategic plan for Lithuanian agriculture and rural development 2023-2027	Future directions for financing Lithuania's agriculture and rural development until 2027	National support measures (direct payments, intervention measures). Focus on systems that benefit the climate, the environment and animal welfare	Implemented
Plan	Municipality	Tauragė District Municipality Strategic Development Plan 2021-2030	The Strategic Development Plan sets out coordinated initiatives and policies to promote sustainable development,	The Roadmap is directly linked to the EU's mission to achieve climate neutrality by 2030	Implemented

A-2.1: List of relevant policies, strategies and legislation					
Document type	**Level**	**Name**	**Description**	**Importance**	**Need for action**
			economic growth, infrastructure improvement and social and environmental well-being in the territory of Tauragė Municipality		
Plan	Municipality	Tauragė District Municipality Renewable Energy Action Plan 2030	Describes the Tauragė district municipality. An action plan for the development of the RES, identifying current consumption, measures, selection criteria and financing	The plan is directly linked to the city's efforts to move away from fossil fuels and contribute to reducing climate change	Implemented
Plan	Municipality	Tauragė Sustainable Mobility Plan	It provides for actions to develop and integrate different modes of transport, giving priority to public passenger and non-motorised or low-emission transport, to reconcile the needs of sustainable development, economic viability, social equity, health and environmental quality; to make balanced use of urban spaces, to improve safety, to improve environmental attractiveness, etc.	Polluting vehicle traffic and a high proportion of journeys made by private cars are significant sources of GHGs. Long-term investment in public transport, cycling and improvements to public transport and pedestrian infrastructure helps to reduce emissions	Implemented by updating the Action Plan

A-2.1: List of relevant policies, strategies and legislation					
Document type	**Level**	**Name**	**Description**	**Importance**	**Need for action**
Plan	Municipality	Tauragė City Sustainable Mobility Action Plan 2030	Provides measures to improve people's mobility in Tauragė, including or promoting sustainable travel modes	The updated Action Plan sets out actions to promote the development of low-emission transport in Tauragė, as well as the integration of non-motorised transport, awareness-raising, the inclusion of people with different needs in the transport system etc.	Implemented
Strategy	Municipality	Sustainable Development Strategy for Tauragė 2023-2029	The aim is to make Tauragė more attractive for people to move to and invest in the city by, among other things, ensuring a sustainable urban environment.	The Climate Neutral and Smart City strategy is identified as a means to develop public spaces that meet the needs of today's citizens and to reduce the lack of infrastructure. GHG emission reductions are foreseen. Covers only the territory of Tauragė City (not the entire territory of the municipality).	Implemented
Plan	Municipality	Action Plan for the implementation of the Sustainable Development Strategy for the City of Tauragė 2023-2029	Measures to improve the city's infrastructure, attractiveness and tourism, while incorporating measures that contribute to	The plan is directly linked to the city's efforts to contribute to national and international goals for sustainable economic, social and	Implemented

A-2.1: List of relevant policies, strategies and legislation					
Document type	**Level**	**Name**	**Description**	**Importance**	**Need for action**
			environmental objectives	other development	
Strategy	Municipality	Tauragė+ Functional Area Strategy 2023-2029	The strategy sets out how the urban area will be divided into different functional areas in order to organise the territory efficiently, to improve the quality of life, and to promote sustainable urban growth and development	The strategy will not only contribute to spatial planning for efficiency and quality of life, but will also contribute directly to climate change mitigation by integrating green infrastructure, sustainable transport and energy efficiency measures	Implemented
Plan	Municipality	Tauragė District Municipality Waste Prevention and Management Plan 2021-2027	The city's annual plan for waste prevention and management identifies actions related to waste management and prevention over time, as well as existing and foreseen measures contributing to climate change mitigation	Conscious production and consumption lead to less waste, which contributes, among other things, to a low climate impact, thus contributing to sustainable urban policy objectives	Implemented
Programme	Municipality	Tauragė District Municipality Environmental Monitoring Programme 2022-2027	Estimated targets for air, water, etc. pollution	The programme relates to the city's efforts to contribute to national and international environmental objectives	Implemented
Plan	Municipality	Tauragė district heat management special plan 2014-2015	The measures will improve energy efficiency while reducing negative	The use of biofuels reduces CO_2 and SO_2 emissions, which has a	Implemented (to be renewed in 2024)

A-2.1: List of relevant policies, strategies and legislation					
Document type	**Level**	**Name**	**Description**	**Importance**	**Need for action**
			environmental impacts	positive impact on residential air quality and the environment	

The following is a description and assessment of existing policies relevant to achieving climate neutrality, their context, main thrusts and implementation approaches.

A-2.2: Description and evaluation of policies

The vision of Tauragė District is to become a green, vibrant and open district, a municipality worth watching. The municipality's Strategic Development Plan (a long-term strategic planning document based on the State's long-term planning documents and the findings of the environmental analysis), which forms the long-term basis for strategic decisions and the actions needed to implement them, envisages the municipality's ambition to become the greenest municipality in the country by 2030. The municipality sees this ambition as a reduction of its GHG mission through a multi-pronged approach - energy production from RES, building modernisation, CHP development, sustainable mobility solutions. These axes are in line with the climate change management axes identified in the national documents. It therefore envisages the direction not only at the municipal level, but also as a contribution to the national objectives, i.e. there is synergy between national and local documents. In addition, the priorities of the Tauragė District Municipality for the period 2023-2027 include an action line aimed at ensuring sustainable use of natural resources, actively participating in the mission to become a climate-neutral municipality. This is to be implemented by increasing the number of buildings equipped with upgraded renewable energy generation facilities, energy saving projects installed, charging stations for electric vehicles, bicycle paths and sidewalks installed and upgraded, clean buses purchased, and projects to promote the recycling of green, agricultural and other biodegradable wastes into green energy. In addition, the implementation of the other actions foreseen should focus on activities relevant to climate change mitigation, prioritising green business projects and promoting the afforestation of wasteland.
In line with the strategic GHG reduction pathways outlined above, the municipality has developed and implemented related documents:

- in the buildings and energy sector: the Action Plan for the Development of the Use of Renewable Energy Sources in the Tauragė District Municipality until 2030, the Tauragė District Heat Management Special Plan 2014-2015.The former focuses on modernisation of multi-apartment buildings and public buildings, energy efficiency measures, reduction of fossil fuel use, and the introduction of renewable energy technologies in the private and public sector. The second document follows the principle of maintaining and developing district heating in Tauragė district, and the environmental impact assessment of the solutions proposed in the document shows that they will help to ensure a reliable, safe and low-cost heat supply, contribute to the reduction of environmental pollution, and create a high-quality living and working environment.
- in the transport sector: the Tauragė District Municipality Renewable Energy Development Action Plan 2030, the Tauragė City Sustainable Mobility Plan and the Tauragė City Sustainable Mobility Action Plan 2030, and the Tauragė City Sustainable Development Strategy Action Plan 2023-209. The former focuses on promoting the use of public transport, expanding the network of charging stations for electric vehicles, the replacement of polluting vehicles, and the use of renewable energy to provide transport-related services. The second document aims at renewing the vehicle fleet, improving infrastructure, promoting the use of non-motorised transport, and creating a low emission zone. The actions set out in the third document overlap with the measures and actions set out in the above two documents.
- in the waste sector: the Tauragė District Municipality Waste Prevention and Management Plan 2021-2027. This plan focuses on waste prevention and sorting, measures to promote waste sorting, improvement of the waste collection system, including infrastructure, and development of waste monitoring.

A-2.2: Description and evaluation of policies

There is no separate document for the agriculture, forestry and land use sector, nor is there much attention paid to it in the Tauragė District Municipality Strategic Development Plan 2021-2030. This sector is also given a lot of attention in the nationally implemented National Energy and Climate Action Plan 2021-2030 of the Republic of Lithuania. Support is also provided nationally to farmers for the implementation of eco-solutions in the framework of the Climate Change and Environment schemes in the Lithuanian Strategic Plan for Agriculture and Rural Development 2023-2027 (29% of the funding is allocated to climate change and the environment). Arable land activities such as crop rotation, intercropping, non-farm conservation agriculture techniques, etc., as well as the maintenance of landscape features, perennial grass strips, organic farming, conversion of arable peatland to grassland, extensive wetland management and other measures that benefit the climate, the environment and the well-being of animals, are supported.
In addition, a Sustainable Development Strategy for the City of Tauragė 2023-2029 and a Planned Action Plan for the implementation of the Sustainable Development Strategy for the City of Tauragė 2023-2029 have been prepared separately for Tauragė, which is the centre of the municipality of Tauragė, focusing on measures such as the acquisition of environmentally friendly means of transport, the development of the non-motorised transport system, the promotion of infrastructure for electric buses, and the greening of urban areas.
The Tauragė+ Functional Area Strategy 2023-2029 includes measures for sustainable mobility and wastewater management.
The measures referred to in the different documents are in some cases duplicative or complementary. They cover the following main groups of mitigation measures:

- building renovation;
- energy efficiency improvement;
- reduction of the use of fossil fuels (in the energy and transport sectors);
- promoting the production and use of RES;
- increasing the use of public transport;
- promoting the use of non-motorised transport;
- promoting the use of cleaner fuels, including the establishment of urban no-polluting zones;
- developing the circular economy (including waste re-use, life-cycle extension, wastewater management, etc.);
- greening of Tauragė district areas (urban and rural);
- information and education measures in various sectors.

Measures included in different documents are in many cases not assessed in the context of GHG reductions. In the preparation of the Action Plan, all the measures included in other strategic documents were analysed and selected to form a list of existing measures (some measures are repeated in several documents). The selected measures were analysed in terms of whether they were funded, had a clear scope for implementation or had already started to be implemented. The impact of the measures on GHG emissions was assessed. Those measures for which funding is already planned, implementation has already started, and investment plans have already been prepared are treated as existing measures in this plan and are not included in Module B-2. Their GHG emission reductions shall be included in the emission reductions foreseen in other action plans. These measures include actions such as replacement of heating installations, renovation, installation of cycle paths, improvement of waste management infrastructure, etc. In the event that the need to increase the scope of implementation of a measure is identified, the measure with the additional scope of implementation is included in Module B-2. The remaining measures for which the scope of implementation is not clear and the need for funding is not foreseen are included in Module B-2. This approach has allowed to identify and fill planning gaps, considering the need for GHG reductions.
Thus, the existing measures lead to a reduction in GHG emissions of 27,200 tCO2e or 27%. The largest reductions are achieved in the transport sector, which is assumed to reduce the number of journeys through a number of sustainable mobility initiatives. As the reductions achieved are insufficient to meet the target, additional measures need to be planned and implemented. This is particularly relevant in the AFOLU sector, where there is currently a lack of planning at municipal level (only a few measures are being implemented, and there is no strategic direction or document at municipal level for the development of this sector).

Residual GHG emissions cover all sectors and account for 15% of total emissions. Residual emissions are highest in the transport sector, which correlates with the structure of GHG emissions. These

emissions cannot be avoided as the transport sector has a large number of decision makers and the impact on these decision makers is therefore complex. Another important aspect in this area is the geographical area of the municipality, which comprises one city, several smaller settlements and rural areas. People living in more remote areas travel longer distances and have less access to EV charging. There are also constraints on the expansion of charging capacity due to a lack of available capacity on the grid. Another important factor is the limited financial capacity of people to renew their vehicle fleet in order to switch to new clean vehicles and the limited supply on the secondary market for clean vehicles.

It should be noted that no GHG emission reductions are foreseen in the IPPU sector. In this sector, emissions are mainly due to mobile air-conditioning systems (in vehicles). There are alternatives to the gases used in these systems and these will gradually change, but these changes must also be included in the GHG assessment methodology. Currently, a national methodology is used at municipal level, which covers only certain gases used in air conditioning systems. Updating this methodology can track changes in GHG accounting in the IPPU sector, but the assessment is currently limited.

In the buildings sector, residual emissions are mainly driven by fuels used to heat individual houses and apartment buildings not connected to district heating. Among the existing measures and in Module B-2, there are also measures to promote changes in heating patterns and energy efficiency. However, given that the building sector is dominated by individual houses of 1-2 flats, decisions have to be taken by a large number of owners with very different financial situations, habits and beliefs. Influencing this area is complex and requires an integrated approach combining financial incentives with information and education activities and demonstrating the benefits of the necessary actions not only in terms of climate neutrality, but also for the individual homeowner. In the area of multi-apartment buildings, actions are complicated by the need for consensus and decision making - the owners of the apartments in a multi-apartment building have to take a joint decision on the retrofitting of their building, which is difficult due to the lack of community spirit, the different financial situation, the different perception of the benefits etc.

Residual emissions from the waste sector are difficult to avoid for the time being as projects to improve waste management infrastructure are planned and implemented, but the benefits are likely to be realised towards the end of the period or after 2030. Another important aspect is that the (incomplete) gas collected at the landfill site is not yet used for energy production. Such options are being considered and analysed (such an action is included in Module B-2), but it is not yet possible to say how much of the gas could be recovered and whether this would be cost-effective.

GHG emissions target, gap and residual emissions											
		(1) Baseline emissions	**(2) Emissions Reduction Target 2030**		**(3) Emission reduction through other Action Plans**		**(4) Emissions Gap**		**(5) Emissions reduction through the CCC Action Plan to address the Gap**		**(6) Residual emissions**	
		Base year – 2018					(4) = (2) – (3)		.		(6) = (1) – (3) – (5)	
		$t CO_2e$	$t CO_2e$	(%)	$t CO_2e$	(%)	$t CO_2e$	(%)	$t CO_2e$	(%)	$t CO_2e$	(%)
Buildings		21 757	17 406	80	790	4	16 616	95	15 792	73	5 175	24
Transport		64 438	51 550	80	19 643	30	31 907	62	16 049	25	28 746	45
Waste		13 111	10 489	80	6 855	52	3 634	35	3 056	23	3 200	24
Industrial Process and Product Use (IPPU)		2 048	1 638	80	0	0	1 638	0	0	0	2 048	100
Agriculture, forestry and land use (AFOLU)	Sources (positive emissions)	167 458	577	80	0	0	577	100	24 339	15	143 119	85
	Sequestration (negative emissions)	-166 737			0	0			Actions are included in the residual emissions reduction strategy and are therefore not included here	-	-166 737	100
Total:		102 075	81 660	80	27 288	27	54 372	67	59 236	58	15 551	15

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

This module identifies key systems and stakeholders in order to identify systemic barriers and opportunities. The analysis carried out in this module forms the basis for action planning to address the identified barriers and exploit opportunities. In addition, a participatory model for climate neutrality in the municipality of Tauragė is described.

A-3.1: System & stakeholder mapping			
System	**Stakeholders**	**Implications for a city's climate neutral ambitions**	**Interest in achieving urban climate neutrality**
Technologies in the transport sector	Residents Business (all sectors) Municipality and its institutions Ministry of Transport and Communications Ministry of Environment	Can contribute to reducing GHG emissions from vehicles by shifting away from more polluting fuels. The impact also depends on incentives offered at national level, interest rates, technological developments at global level.	Interest often depends on the incentives offered to encourage technological change. Interest is based on energy savings targets, cost reduction opportunities.
Infrastructure in the transport sector	The municipality and its institutions Business Residents (indirectly, as users of public infrastructure) Ministry of Transport and Communications	Can contribute to reducing GHG emissions from transport by facilitating the use of less polluting and, in particular, non-motorised transport. The impact also depends on the incentives offered at national level, interest rates, technological developments at global level.	The municipality and its agencies are working towards climate neutrality and sustainable mobility objectives, to encourage residents and businesses, and to create the conditions for reduced or less polluting transport use.
Technology/infrastructure in the energy sector	Residents (single and multi-family houses) Businesses (all sectors, with a particular focus on industry) Home developers and builders Municipality and its institutions Ministry of Energy	Both the choice of resources for energy production and the reduction of energy consumption are important. The use of RES-based technologies and associated infrastructure and energy-efficient	It is important to have the interest and cooperation of all stakeholders to implement the most appropriate interventions. The interest is based on energy independence, the possibility of cost reduction, including not

A-3.1: System & stakeholder mapping			
System	**Stakeholders**	**Implications for a city's climate neutral ambitions**	**Interest in achieving urban climate neutrality**
	Ministry of the Environment	technologies is particularly important in residential buildings. Both municipal and national measures and private initiatives are relevant.	only energy production from RES but also technologies that allow reducing energy consumption, i.e. increasing energy efficiency.
Technologies for agriculture, forestry and other land uses	Cattle farms Other livestock holdings Crop production farms Ministry of Agriculture	Replacing existing technologies with more environmentally friendly ones (both in livestock and crop production) contributes to reducing GHG emissions. National regulations and incentives have an impact.	The interest is linked to nationally defined performance requirements and eligibility requirements. Low motivation for the need for investment and doubts about the return on investment.
Political	Tauragė district municipality Mayor and Council Government of the Republic of Lithuania	Decisions are taken on ambitions, targets, commitments and measures.	The need to implement international commitments, national commitments, development vision, strategic objectives, etc.
Institutional and organisational	Tauragė district municipal administration and subordinate bodies	It prepares proposals for decisions, coordinates process, implements decisions, and cooperates with various stakeholders.	The need to implement international commitments, national commitments, development vision, strategic objectives, etc., and accountability for implementation.
Financial	Tauragė district municipality Mayor and Council Tauragė district municipal administration and its subordinate bodies Government of the Republic of Lithuania Business Citizens Financial institutions	The availability of funding depends on the feasibility of the measures envisaged. The feasibility of achieving the climate neutrality targets depends on the financial capacity of all those implementing the measures. The Government and the municipality have the potential to promote green transformation through financing mechanisms.	Interest in funding opportunities is high, and funding opportunities often drive interest in climate neutrality measures and influence considerations and decisions on their implementation.

A-3.1: System & stakeholder mapping			
System	**Stakeholders**	**Implications for a city's climate neutral ambitions**	**Interest in achieving urban climate neutrality**
		Businesses and citizens often need financial incentives to take the necessary actions. A financing system becomes essential to involve vulnerable groups.	
Social	Residents Community organisations (including youth, vulnerable groups) Businesses (all sectors, including agriculture) Municipality and its institutions	Achieving climate neutrality requires all parts of society to work together. Sensitisation is therefore necessary, starting with the youngest inhabitants of the municipality and involving socially sensitive groups. It is essential to ensure that climate action considers all parts of society.	The need to be involved in decision-making, to influence decisions, to reap benefits.
Behavioural	Residents Businesses (all sectors, including agriculture) Municipality and its institutions	Changing behavioural patterns can reduce energy consumption, the number of journeys made, the choice of vehicles, the choice of devices, etc. This contributes to reducing GHG emissions.	The interest is based on the economic and social benefits, the need to reduce negative impacts on the climate and the need to protect and preserve the environment.
Environmental protection and management	Viešvilė State Nature Reserve Pagramantis Regional Park Tauragė District Municipality MRU Environmental Management Laboratory	Activities focus on environmental protection and sustainable management, contributing to climate mitigation, dissemination of ideas, research activities	Finding, applying and evaluating options and approaches to mitigate the impacts of climate change

A-3.2: Influence and interest of systems & stakeholders – evaluation			
System	**Stakeholders**	**Influence* (high, medium, low; + positive influence, - negative influence)**	**Interest** (high, medium, low) + positive interest, - negative interest)**
Technologies in the transport sector	Residents	Medium +	Medium +
	Business (all sectors)	High +	Medium +
	The municipality and its institutions	High +	High +
	Ministry of Transport and Communications (national level***)	High +	High +
	Ministry of the Environment (national level***)	High +	High +
Infrastructure in the transport sector	The municipality and its institutions	High +	High +
	Business	Low +	Low +
	Residents (indirectly, as users of public infrastructure)	High +	High +
	Ministry of Transport and Communications (national level***)	High +	High +
Technology/infrastructure in the energy sector	Residents (single and multi-family houses)	High +	High +
	Business (all sectors, with a particular focus on industry)	High +	High +
	Home developers and builders	High +	High +
	The municipality and its institutions	High +	High +
	Ministry of Energy (national level***)	High +	High +
	Ministry of the Environment (national level***)	High +	High +
Technologies in agriculture	Cattle farms	High +	Low -
	Other livestock farms	High +	Low -
	Agricultural farms	High +	Low -
	Ministry of Agriculture (national level***)	High +	High +
Political	Tauragė district municipality Mayor and Council	High +	High +
	Government of the Republic of Lithuania (nationwide***)	High +	High +
Institutional and organisational	Tauragė district municipal administration and subordinate bodies	High +	High +
Financial	Tauragė district municipality Mayor and Council	High +	High +
	Tauragė district municipal administration and subordinate bodies	High +	High +
	Government of the Republic of Lithuania (nationwide***)	High +	High +

A-3.2: Influence and interest of systems & stakeholders – evaluation			
System	**Stakeholders**	**Influence* (high, medium, low; + positive influence, - negative influence)**	**Interest** (high, medium, low) + positive interest, - negative interest)**
	Business	High +	Medium +
	Residents	Low +	Low +
	Financial institutions	High +	High +
Social	Residents	Medium +	Medium +
	Community organisations (including youth, vulnerable groups)	High +	Medium +
	Business (all sectors, including agriculture)	High +	Medium +
	The municipality and its institutions	High +	High +
Behavioural	Residents	Medium +	Medium +
	Business (all sectors, including agriculture)	High +	Medium +
	The municipality and its institutions	High +	High +
Environmental protection and management	Viešvilė State Nature Reserve	Medium +	High +
	Pagramantis Regional Park	Medium +	High +
	MRU Environmental Management Laboratory	High +	High +

* "Influence" describes the degree of formal or informal power to affect the transition positively or negatively to climate neutrality (high, medium, low).
** "Interest" describes the level of positive or negative concern about moving towards climate neutrality (high, medium, low).
*** National scale means that the authority takes decisions at national level that are implemented locally and can have a significant impact on the achievement of climate neutrality, e.g. on support measures that are available to the entire population, or to eligible farmers operating in the municipality under analysis.

A-3.3: Description of systemic bottlenecks and opportunities – textual elements

Systemic barriers are outlined below, considering the key systems identified and the influence and interest of stakeholders specific to those systems:

Technologies

- Limited financial capacity to deploy technologies that reduce climate impacts (e.g. electric cars, energy generation equipment, etc.). This barrier affects all stakeholders – the population as well as the private and public sectors. The municipality is subject to a borrowing limit and is therefore limited in its ability to implement the measures through debt financing. Long payback periods for different projects, resulting in less motivation to implement them or less ability to realise their financial benefits.
- Not all technologies that attract interest contribute to real GHG emission reductions, even though they are environmentally friendly, i.e. not all deployments of technologies (e.g. renewable electricity generation) reduce GHG emissions from polluting technologies, and therefore the implementation of measures to encourage their deployment will not be reflected in GHG accounting. This means that GHG reduction opportunities may reach a point where reductions by conventional means are not feasible, and new technologies are either not available, at an early stage of development or require prohibitive investments.
- Very limited use of energy storage, which hinders the production of green electricity (related to the infrastructure challenge of spare technical capacity).

A-3.3: Description of systemic bottlenecks and opportunities – textual elements

Infrastructure

- Underdeveloped infrastructure for charging or refuelling alternative fuel and electric vehicles, both for light and non-light vehicles.
- Lack of spare capacity in electricity networks: one ESO substation has no spare technical capacity, another ESO substation has 10 MW of spare technical capacity. LITGRID does not have any spare technical and balancing technical capacity on its 110 kV section. In the event that there is no spare technical capacity on the network, all the energy generated must be consumed or stored.
- Spatial planning, including the siting of various facilities (residential, commercial, etc.), which create the preconditions and conditions for increased car use.

Political system

- The decisions needed may be politically unpopular, making them more difficult to adopt and implement. This is the case for national decisions that need to be implemented nationwide, including in the Tauragė municipality, such as increasing excise duties on fossil fuels or removing subsidies, environmental requirements for agricultural activities, introducing taxes and increasing their rates, etc. It can also be decisions taken at municipal level, such as low emission zones, changing road widths, parking charges, increasing waste management fees (to fund sustainable solutions), etc.
- Local policies must not only be developed considering the diverse interests of local stakeholders, but also be compatible with national and EU level policies in the context of climate neutrality. The municipality has to develop multidisciplinary documents that are relevant to climate neutrality, but also have to be aligned with the municipality's strategic documents, which makes the planning process complex, multilevel and requires coordination and adaptation across different documents. This leads to a significant increase in time and resources.
- Some sectors depend on measures taken at the national level, e.g. agriculture, industry participating in the ETS, and therefore have very limited local influence or ability to influence activities.
- The political situation in the agricultural sector in the EU, nationally and at local level is complex. Limited scope for discussion on GHG emission reductions if the aim is to maintain or increase the current size of the agricultural sector (number of agricultural holdings, production levels).

Institutional and organisational framework

- The feasibility of implementing the measures depends strongly on the financial support, and thus on the timing and content of the calls (e.g. the requirements for applicants, the costs to be reimbursed, the intensity of support, etc.). These measures are usually developed on a national or regional basis, which does not consider local needs or specificities.
- The need for infrastructure related to climate neutrality targets (e.g. charging stations, infrastructure for non-motorised transport, waste separation infrastructure, etc.) requiring investment and a medium to long construction/installation period (usually more than 1 year). Also financing the maintenance of such infrastructure during its operation. In some cases, such as electricity transmission networks, changes cannot be made at local level but require changes at national level (including significant investments).
- Lack of knowledge and skills in assessing and mitigating climate change impacts, lack of experience in submitting proposals. This leads to a lack of motivation, ability to identify the necessary actions and to implement them successfully. There is also a lack of skills and experience in applying for funding under the measures, both for the population and for the private and public sector. A related issue is the design of the instruments' documents: their clarity, consistency (there are cases where requirements change during the lifetime of a call), complexity (e.g. very specific requirements or complexly described requirements). Hiring specialists who can draw up the necessary documents involves additional costs.
- Shortage of climate change and sustainability specialists and experts in both the public and private sectors.

A-3.3: Description of systemic bottlenecks and opportunities – textual elements

- Despite the fact that the municipality has climate-neutral goals and targets, and the solutions needed to achieve them, GHG emission reductions or carbon sequestration are rarely assessed. This does not allow for a full assessment of the benefits of the solutions or for their prioritisation, which is particularly relevant in view of the limited funding and the need to use it optimally.
- Lack of organisational/governance framework - there is no entity (working group, responsible staff, board, etc.) in the municipality that is responsible for the management of climate action, including the development of strategic objectives, the preparation of measures, monitoring and control, representation at national and international level, and any other necessary actions in this area.

Finance

- The deployment or use of new technologies often requires higher investment than the deployment or use of "conventional" technologies, and is therefore less attractive, both from the point of view of the population and in terms of its payback. For example, current recycling technologies are often more expensive than landfilling or incineration and the purchase of raw materials.
- High competition for measures at national level, resulting in limited access to funding under these measures. This barrier is particularly significant for individuals and the private sector. For example, when a tender is launched for support for the installation of solar power plants, applications for the amount requested are collected in a very short time (less than one day).

Social system

- Lack of community ownership of joint energy projects, which hinders opportunities for faster and more efficient development of local energy generation capacity.
- Negative attitudes or experiences in some sectors regarding requirements, policies and measures to reduce climate impacts and protect the environment, e.g. agriculture, industry. The resulting hostility in this area and lack of support for related initiatives.
- Difficulties in reaching agreement between groups with different interests, need for cooperation. This is relevant for cooperation between residents to implement joint projects that contribute to the climate neutrality objective, such as agreement on renovation, the creation of energy communities etc. It is also relevant for projects that can only be implemented through public-private cooperation (e.g. on financing, securing the necessary skills, etc.). Lack of community, lack of trust in other parties, the need to appoint a responsible or representative stakeholder (taking on personal commitments or responsibilities) can hamper the implementation of significant climate neutrality measures.
- Treating the topic of climate change and related actions as an obligation imposed by the municipality or government. The perception that the topic is only relevant to the municipality and does not affect residents or businesses. Lack of proactivity and initiative from residents and businesses.
- Lack of NGOs working in the field of climate, environment – no NGOs working in this field.

Behaviour

- Travel habits of the population (most trips are made by car), which are partly determined by socio-cultural attitudes towards owning a car - owning a car is associated with a successful life. The city is also designed in such a way that it is more convenient for people to travel by car than by walking, cycling, public transport and other modes of travel. Therefore, giving up car travel is a difficult decision. Other aspects include the unattractiveness of public transport for the population, and the fact that the municipality covers rural areas where public transport is poorly developed. In addition, there is a well-developed second-hand car market in Lithuania, which makes it possible to buy used and often polluting cars at relatively low prices. Tauragė District Municipality has a well-developed used car sales business.
- People's daily habits, such as energy consumption due to the use of appliances, equipment, waste sorting, cleaning products, which are difficult to change, require motivation and commitment, and sometimes additional knowledge.

Environmental protection and management

A-3.3: Description of systemic bottlenecks and opportunities – textual elements

- Carbon sequestration is limited by land use characteristics and opportunities for nature-based solutions. Less interest and knowledge in implementing nature-based solutions. However, there is also a greater focus on GHG emission reduction measures than carbon sequestration measures, both at national and regional level. Therefore, the focus on GHG emission reduction measures is predominant.

The following are options to support climate neutrality, based on the systems identified and considering their stakeholders and their influence and interests:

Technologies

- The desire to produce energy for our own needs, to avoid dependence on energy suppliers and imports. For this reason, the high popularity of financial instruments to promote the production of energy from renewable sources.
- Tauragė District's geographical area is favourable for the development of renewable energy projects.

Infrastructure

- Using the infrastructure created for walking, cycling, other non-motorised means of transport and public transport, breaking the daily habits that lead to GHG emissions.

Political system

- Tauragė District Municipality's strategic ambition to become the greenest municipality in Lithuania, i.e. a strong motivation at municipal level to achieve climate neutrality. Active and strong political leadership within the municipality to achieve climate neutrality. This ambition is long term and continuous despite political cycles and changes. Relevant documents have been developed which cover a wide range of measures relevant to climate neutrality. This means that the strategic objective and measures are agreed at political level, and that the municipal administration is involved in the implementation of these objectives and measures.
- Developing cooperation in the Tauragė region in order to achieve common objectives of regional importance (including those of relevance to the Tauragė municipality) that contribute to climate neutrality, such as improving the attractiveness of public transport, measures in the field of tourism etc.

Institutional and organisational framework

- Alignment and interlinking of policies and measures from different documents in the preparation of the Action Plan. This allows to identify optimal solutions, focus on the most beneficial solutions, and attract funding and organisational resources for them.

Finance

- There is a very high level of interest and activity in national measures for residents, such as support for installing renewable energy equipment and purchasing clean vehicles. Applicants from all over the country are eligible to participate, so the nationwide measures open to residents of Tauragė District Municipality are.
- A large share of EU funds focuses on environmentally and climate-friendly solutions. These funds are targeted at public sector entities, including municipalities, the private sector and citizens. Funding for targeted measures also comes from other sources such as the Climate Change Programme.

Social system

- Inclusion of socially excluded people in mitigating climate impacts, focusing on measures that not only reduce energy poverty, but also increase energy efficiency, reduce the use of polluting fuels, and address other areas relevant to climate neutrality.

Behaviour

A-3.3: Description of systemic bottlenecks and opportunities – textual elements

- Re-use of items, repair of defective items, i.e. extending the life cycle of products instead of purchasing new ones, attractive among the population because of the potential savings in resources (economic benefits).
- The interest, recognition and awareness of climate change among the residents of Tauragė district municipality increases their motivation to contribute to the implementation of climate change mitigation actions. Publicising good practices in the municipality to show that it is possible to implement different solutions at local level, exposing local climate ambassadors through good practices and involving them in related actions, dissemination of information, etc.

The stakeholder meetings focused on the barriers faced in a particular sector and the opportunities that can be exploited to reduce GHG emissions in the municipality. The discussions covered both the challenges and opportunities faced at municipal level and those that have not been exploited or have been under-exploited, as well as the barriers faced as a result of decisions taken or implemented at national level and the opportunities offered at national level. The following are the barriers and opportunities identified at both municipal and national level that are relevant for Tauragė District Municipality:

Barriers identified by stakeholders and opportunities to reduce them

Sector	Barriers identified by stakeholders	Opportunities identified by stakeholders
Energy (manufacturing and buildings)	Households are not monitored for fuel use. The power tax limits the development of green energy. Green energy is not chosen because of its higher cost. Difficulties and uncertainties in the application of legislation. High competition between applicants for renewable energy incentives, resulting in limited access to support for individual house owners. Requirements for wind turbine development (height, protection zones, etc.). Uncertainty about the metering system for generation consumers (consideration is being given to changing the current one to one that stakeholders say is less favourable to them). Lack of available technical capacity, which prevents the development of green energy (except by investing in aggregators). Contracting with the energy distribution operator is not always possible. Frequent changes in strategic documents and legislation in the field of renovation. Unattractive conditions issued by ESO to renovating apartment blocks (significantly increasing the value of the project). Prioritisation of heat pumps compared to CHS development (funding for heat	CHS development. Promoting the installation of heat pumps. Educating citizens and organisations to increase green energy procurement. Changing heating technologies, in particular away from fossil fuels (in households). Abolition of fossil fuel incentives. GHG accounting at company level and development and implementation of company climate plans. Additional municipal funding for residents and businesses implementing RES measures. "Green Corridor for municipalities preparing a climate change strategy (first priority for applying for measures). Elimination of the use of natural gas in industry (replacement by cleaner fuels). Provision of assistance to small businesses on climate issues (creation of assistants, consultants, educators, etc.). Developing green hydrogen production. Development of green energy balancing, storage capacity. Inventorying boilers and targeting measures based on the results of the inventory.

A-3.3: Description of systemic bottlenecks and opportunities – textual elements		
	pumps, no funding for connection to CHS). Lengthy preparation of project financing conditions.	
Transport	Lack of data on fuel consumption (by fuel type) at municipal level. Consumer preference for the cheapest fuel type, reluctance to pay more for cleaner fuels. Lack of a single preferred technology for heavy transport. Lack of infrastructure for alternative fuels. Limited opportunities for green energy production and deployment due to ESO requirements, policies and options. Some of the vehicles registered in the Tauragė District Municipality use fuels from other municipalities or European countries, but they are included in the Tauragė District Municipality GHG inventory. Services with a lower CO_2 footprint are not procured on local and foreign markets due to their higher cost (despite the fact that such services are required on foreign markets). Low attractiveness of electric cars for car rental due to lack of charging infrastructure. Lack of available technical capacity in energy distribution networks. The habits of the population to use cars, including a preference for diesel cars. Low awareness and knowledge of sustainability among businesses and lack of sustainability professionals.	Encouraging the take-up of electric vehicles (replacing polluting fuel vehicles). Development of alternative fuel vehicles. Development of alternative fuel infrastructure. Incentives for businesses to acquire new technologies. Biomethane production and use in the transport sector. Use of green energy in the transport sector. Participation in the implementation of national measures for the transport sector (provide capital). Changing habits and attitudes of the population. Changing the vehicle fleet of the municipality and its subordinate bodies and companies (implementation of the provisions of the Law on Alternative Fuels). Developing and modernising public transport infrastructure and improving accessibility. Information and education of businesses on sustainability. Opportunity to develop Tauragė as a secondary market location for electric vehicles.
Waste	The amount of waste to be incinerated is agreed in advance, so more waste than agreed cannot be delivered when needed (limited incineration capacity). If the price paid by municipalities for waste incineration is lower than the price paid by businesses, it is more profitable for incinerators to incinerate the waste of businesses rather than municipalities. The gases collected at the landfill are not used as a fuel source. Poor sorting. Implementation of the priorities and measures envisaged is not fast enough. Reduction in the scale of projects due to lack of funding.	Expanding gas collection capacity at landfill sites. Develop the capacity to utilise the gas collected in the landfill. Educate the population on waste sorting. Control of waste sorting during collection. Applying tax measures to residents who do not sort their waste. Improving the effectiveness of the implementation of the measures envisaged. Finding additional sources of investment. Development of recycling capacity for secondary raw materials and packaging in the municipality.

A-3.3: Description of systemic bottlenecks and opportunities – textual elements		
	Low interest in recycling of secondary raw materials and packaging at national level. Lack of recycling capacity at national level. Much of the wastewater is treated individually in self-contained wastewater treatment plants. Limited list of recyclables collected (number of waste types included) due to restrictions imposed by packaging recyclers who finance the collection of such waste.	Developing and reconstructing wastewater networks. Treatment and transfer of sludge for use as an energy source. Strengthening the control of stand-alone wastewater treatment plants (municipal and national, according to the competences assigned). Use and development of the wastewater management system (operating at national level). Extension of the list of recyclable waste to be collected. Carrying out a survey of the population on the reasons for not separating waste. Separate collection of food waste (currently collected in special bags, but in common mixed municipal waste containers).
Industrial Process and Product Use (IPPU)	Only HFC-134a gas in the field of mobile air-conditioning systems is evaluated.	Accounting for other gases used.
Agricultural, Forestry and Land Use (AFOLU)	The data and data sources used in the national GHG inventory are not always suitable for use at the municipal level, leading to data gaps at municipal level. The use of national average data for municipal level accounting results in data at municipal level that does not reflect the real situation of the municipality. The use of national average data in municipal accounting may result in the impact of GHG reduction actions implemented in the municipality not being reflected in the GHG accounting, i.e. the real impact will not be captured due to the accounting method used. Lack of data at business entity level (peatland operations). The use of electricity generated from biogas is limited due to the limited availability of connection to the distribution grid. Low farmer involvement in achieving climate neutrality targets. Short-termism and slow expansion of organic farms due to lack of profitability. Potential expansion of military infrastructure (ranges, bases, etc.) and installation in forested areas, which will increase the need for increased GHG sequestration measures.	Inventory the technologies and other data used on farms (livestock numbers, fertiliser use, etc.) to collect data at farm level. Moving towards more accurate GHG accounting based on farm-level data. Provision of more accurate data at business entity level to the municipality, which will carry out GHG accounting. Use of different technologies for manure and slurry management. Biogas production and use.

A-3.4: Description or visualisation of the climate-neutral engagement model – textual and visual elements
Achieving climate neutrality requires the involvement of a wide range of stakeholders. The involvement of different stakeholders ensures that different systemic perspectives are considered from different angles, considering diverging interests. The Tauragė district municipality envisages a two-level engagement model. The first level includes participation during the development of the Strategy, the second level includes participation during the implementation of the Strategy. The participation model has two phases. The first involves involving stakeholders in the development of the Strategy. The second phase involves action to implement the Strategy. **Level 1 of the Participation Model.** The first level of the Participation Model included several important steps: mapping stakeholders and categorising them according to their interests and capacities, planning ways to engage stakeholders, implementing stakeholder engagement, including timing, preparation of the necessary materials, organising and taking any other necessary actions. **Mapping stakeholders.** Stakeholders in Tauragė district municipality are divided into five types according to their involvement in the development of the Strategy. The first type includes the Strategy development team, which consists of representatives (staff) of the Ministry of Environment, Tauragė district municipality and the consultant who is preparing the documents. This type of stakeholders communicates on a regular basis to address issues relevant to the preparation of the documents and regularly monitors the progress of the process. The internal type includes the stakeholders directly responsible for the preparation of the Strategy, i.e. the municipality's political power and administration, and the stakeholders related to the municipality, i.e. the municipality's subordinate bodies and companies in which the municipality is a shareholder. The stakeholders in this type are directly interlinked and their decisions or actions are coordinated and can be targeted towards a common goal, and some of them have a direct financial link in terms of allocations or financial and investment decisions. The external type includes stakeholders that are active in the territory of the Tauragė district municipality. This type includes community-based organisations, business and agricultural representatives, scientific organisations and other relevant organisations. Their involvement in the development and implementation of the Strategy is critical, but their links to the Tauragė district municipality are often not direct or based on subordination (governance, funding etc.). Therefore, it is very important to engage with these stakeholders and involve them first in the development and then in the implementation of the Strategy. These types of stakeholders have little interest but a lot of power to drive change. The fourth type includes nationally relevant stakeholders, but these stakeholders have different interests and power.

A-3.4: Description or visualisation of the climate-neutral engagement model – textual and visual elements

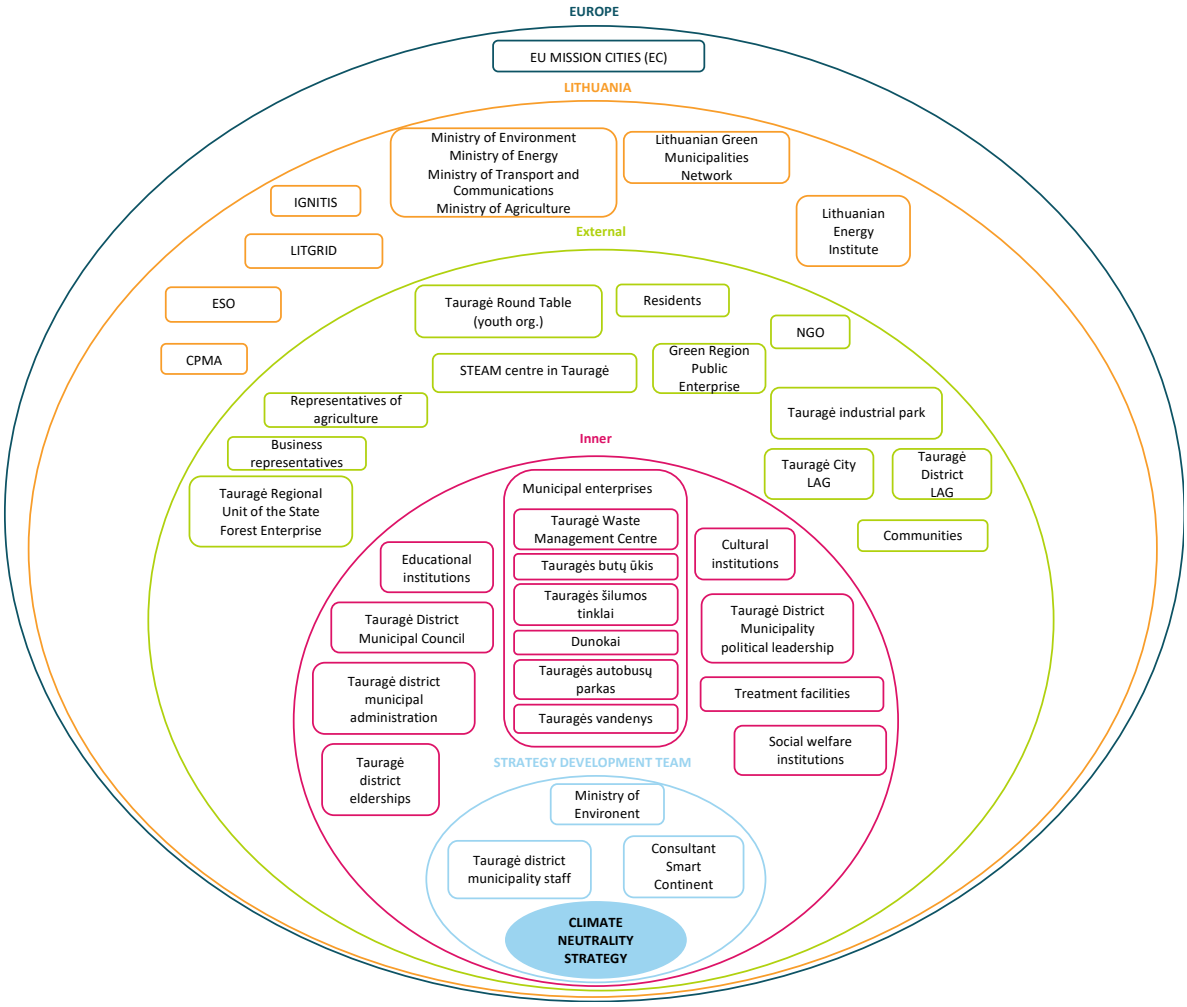


Figure 2-12. Stakeholder map

Stakeholder grouping according to their interests and powers. The identified stakeholders have been assigned to categories of interest and power according to the specificities of Tauragė District Municipality. The most affected and empowered are considered to be the municipal companies, as well as the Tauragė Division of the State Forest Enterprise, which is responsible for the management of state-owned forests in the territory of the Tauragė District. The population is considered to be strongly affected, but their power varies in different areas. Their power is strong in areas where behavioural change is important, such as daily travel choices, reducing energy consumption, and waste management at household level. The political leadership and administration of the Tauragė district municipality, the Council, as well as the municipal staff and, at the national level, the ministries that formulate and implement policies at the national level. A strong focus must be given to stakeholders who have a lot of power but so far have had little interest in engaging in climate neutrality aspects. In the case of Tauragė district municipality, this group must pay special attention to the involvement of business and agriculture in the development of the Strategy. Their involvement is generally low, but their actions are key to achieving the climate neutrality objectives. The fourth group of stakeholders is considered to have little influence and power. This group includes active communities, NGOs, cultural and educational institutions and academics. They play a key role in informing, educating and persuading and their involvement is therefore essential.

A-3.4: Description or visualisation of the climate-neutral engagement model – textual and visual elements

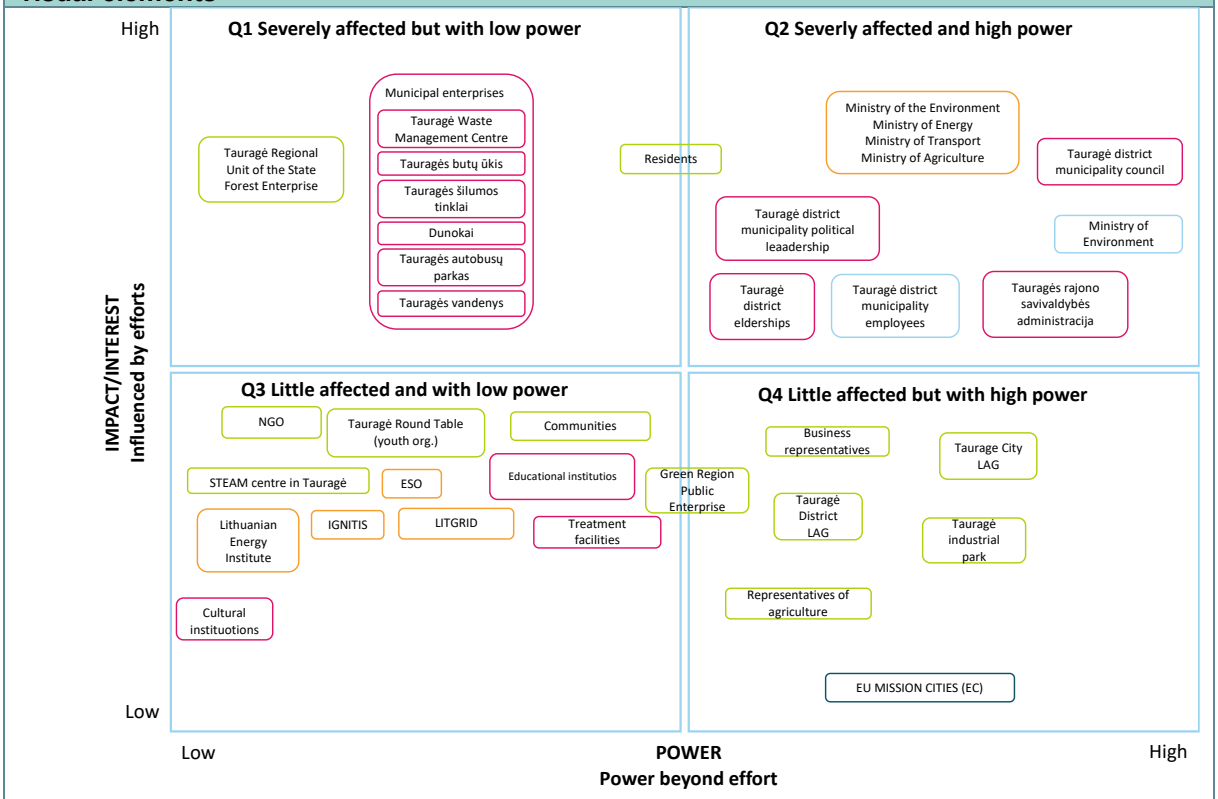


Figure 2-13. Categories of stakeholder interests and power

Ways to involve stakeholders. Considering the situation of Tauragė district municipality, the activity of the stakeholders and the different needs of the different stakeholders, different ways of stakeholder involvement have been planned. At the beginning of the process, an introductory event was planned to familiarise the stakeholders with the whole process, to explain the objectives and the process and to provide other necessary information. In order to involve stakeholders in the search for ways to achieve the objectives, it was decided to organise sectoral meetings, which allow focusing on a specific sector and getting deeper into its issues. The sectoral representatives are here also used as experts with knowledge of the specificities of the sector. Given that climate transformation requires the widest possible involvement of a wide range of stakeholders, a great deal of attention has been paid to engaging with residents and communities. To this end, a less formal meeting format has been chosen, with green picnics. In order to involve stakeholders from different sectors beyond those directly related to GHG emissions, a workshop was organised focusing on the involvement of social partners, communities, NGOs, etc. in the generation of actions needed for climate transformation.

A-3.4: Description or visualisation of the climate-neutral engagement model – textual and visual elements

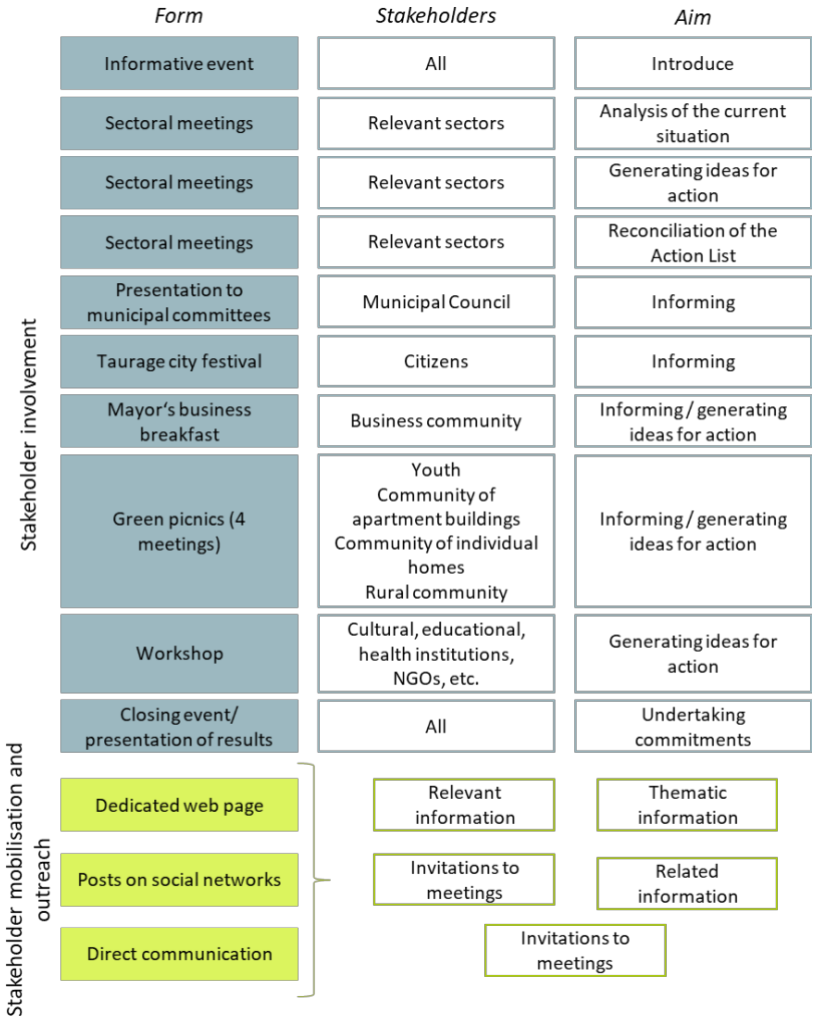


Figure 2-14. Stakeholder engagement model

In order to ensure a smooth and inclusive dissemination of information and to encourage more people to get involved in the process of developing the Action Plan measures, communication with the population was carried out through various platforms, including the zalia.taurage.lt website, the radio, newspapers, community chairpersons and elders, and social networks. All residents were given the opportunity to contribute to the strategy development process, which was open. A dedicated platform for sharing ideas was created and shared in various communication tools.

A Focused conversation (ORID) methodology was used for the meetings with the sectoral representatives. This methodology uses four groups of questions: purpose, reflection, interpretation and decision. For each of these groups, the questions on which the discussion is based.

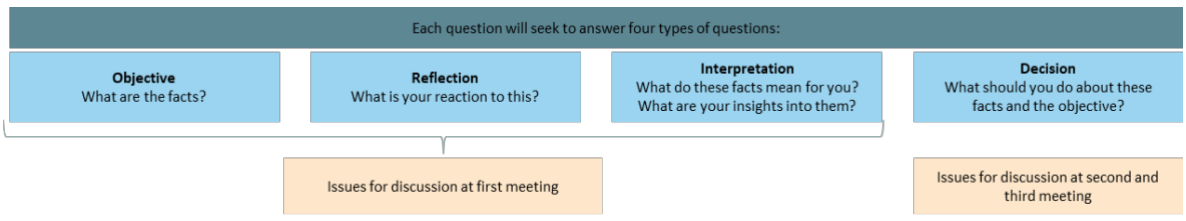


Figure 2-15. Methodology for discussion

A-3.4: Description or visualisation of the climate-neutral engagement model – textual and visual elements

OBJECTIVE	1. Were you aware of these facts until now? 2. What interested you about these facts? 3. Are you assessing your GHGs or planning to do so? 4. Is this how you imagined GHG accounting (what does it include, how is it calculated?)? 5. Were all existing measures to reduce GHGs presented? 6. Have you identified measures that reduce GHGs?
REFLECTION	1. What do you think of the facts presented? 2. What worries / surprises you when you see these figures / statistics? 3. What do you usually associate the issue of climate neutrality with? 4. What are your biggest hopes/concerns for climate neutrality and why? 5. Do you know of any good practices in addressing climate neutrality (local, foreign)?
INTERPRETATION	1. Where can changes towards climate neutrality be made? 2. Where more work/initiatives are needed? 3. What kind of changes are needed in the area of waste to achieve climate neutrality? 4. Under what circumstances/conditions are actors most likely to make changes? 5. What is the main challenge to achieving climate neutrality? What are the challenges you face in achieving climate neutrality? 6. What opportunities do you see for achieving climate neutrality?
DECISION	1. What measures can be taken to achieve climate neutrality? 2. Where should we start, what actions should be taken immediately, what actions should be taken at later stages? 3. What do these actions mean for your activities? 4. What are the sources of funding for these actions? 5. Who should be responsible for implementing the measures and to whom? How should responsibilities be divided between the different actors? 6. How to ensure the implementation of the proposed measures?

Figure 2-16. Methodology for organising meetings with sectoral representatives: focused interview

The World Cafe method was chosen for the workshop. The workshop aims to focus on key challenges that communities, institutions, NGOs and other organisations can be mobilised to address.

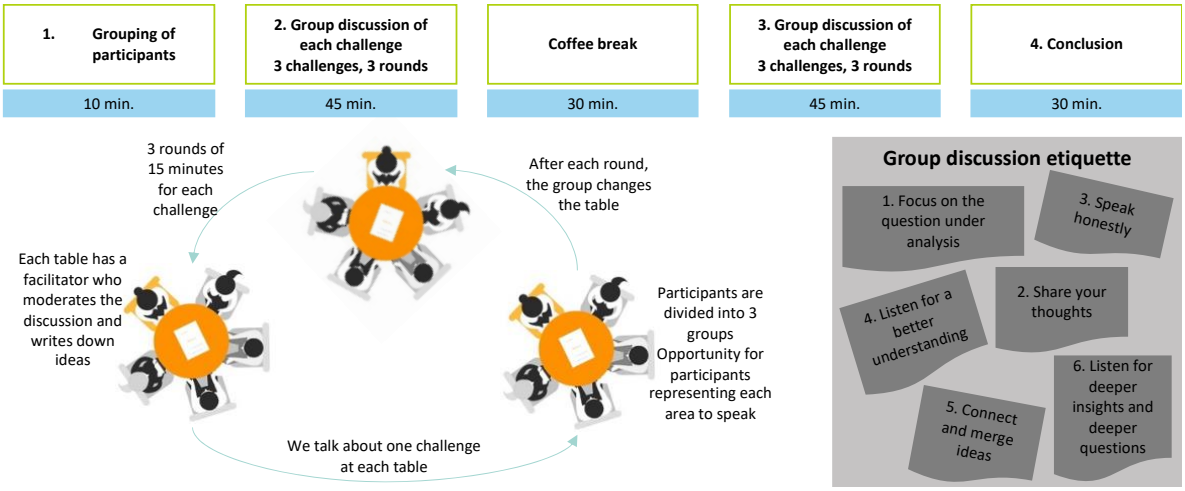


Figure 2-17. Methodology for organising the workshop

Participants are divided into three groups, each group analysing all the challenges prepared in advance. Challenges identified during the preparation of the Action Plan, during the sectoral discussions, during other meetings.

A-3.4: Description or visualisation of the climate-neutral engagement model – textual and visual elements

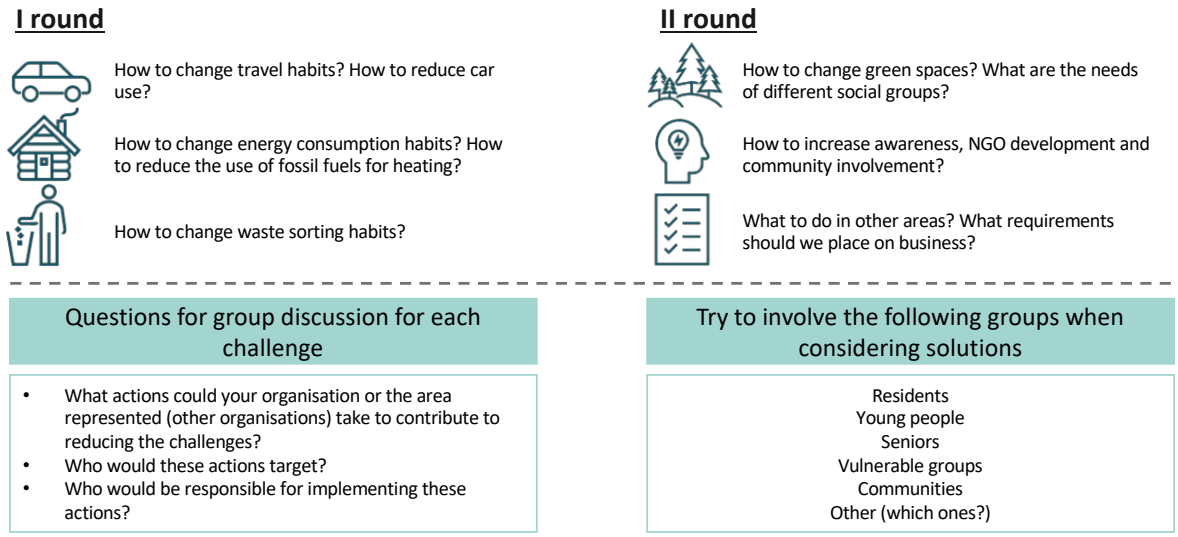
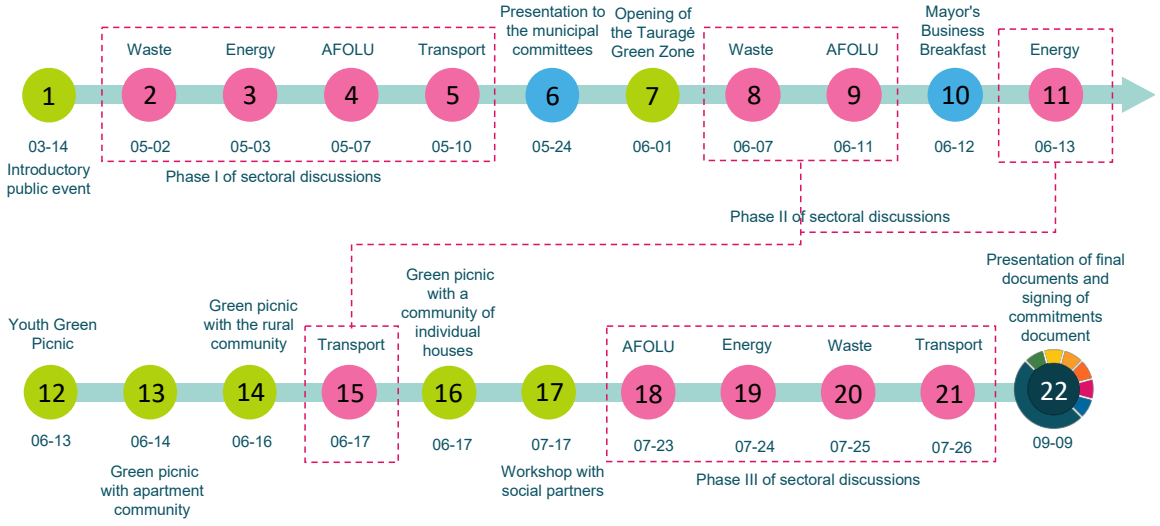


Figure 2-18. Issues analysed during the workshop

Implementing stakeholder involvement. During the preparation of the Action Plan, various events such as a town festival, debates for residents, youth and various community groups were organised to discuss various climate change issues, share experiences and ideas on how to address the challenges. A meeting was also organised with the social partners of Tauragė district municipality, i.e. youth organisations, educational institutions, cultural institutions, during which education and training and other measures that can contribute to the engagement and education of citizens, youth and students on climate change were discussed. Meetings were also organised with business representatives to explore ways to collaborate on climate neutrality objectives. Interim results and ideas were presented to the City Council, whose members were actively invited to participate in all meetings, discussions and events.

Meetings were held with representatives of different sectors to consider different systemic perspectives. Three meetings were held with each sector to discuss the current situation (starting point), to generate ideas for action, and to discuss and draw up a list of actions that would be acceptable to all parties and for which the parties would take responsibility for implementation. The process of drafting the Strategy ends with the signing of a commitment document at a joint meeting of all stakeholders.



A-3.4: Description or visualisation of the climate-neutral engagement model – textual and visual elements

Figure 2-19. Presentation and discussion timeline of preparing a Climate Neutrality Strategy for Tauragė district municipality 2024

Level 2 of the participation model. Action Plan once developed, must be regularly reviewed to identify the progress of actions and the impact on GHG emissions. Different stakeholders are responsible for implementing the actions. This is why stakeholders are first and foremost involved as responsible actors. Another aspect of involvement is participation in the monitoring process.

The participatory climate neutrality management model is described in detail in Module C-1. This model will be implemented in 2024. in the fall (so far the model has not been implemented).The model provides for the establishment of a coordination group and working groups responsible for coordinating and monitoring the implementation of the Strategy. The coordination group and working groups will include representatives of the municipality, entities responsible for implementing the measures, and other necessary stakeholders. To make sure the interests of vulnerable groups are represented by the participation of all municipal employees responsible for these groups in the working groups, and other relevant stakeholders will be included as needed. Additionally, representatives of the citizens, NGOs, educational and cultural institutions, and other relevant parties will be invited to the annual meetings.

Progress should be monitored regularly, on an annual basis. The participatory model of climate neutrality management foresees the collection of data on the progress of the implementation of the measures from the stakeholders responsible for implementing the measures. Progress in the implementation of the measures is measured by the indicators set out in the Action Plan (Module B-3). The data collected shall be summarised and a conclusion drawn on the progress achieved. On the other hand, GHG emissions have to be assessed in order to identify changes (positive or negative) and to consider changes in activity data (as the scale of activities changes, GHG emissions may also change). Depending on whether progress has been made and how GHG emissions have evolved, decisions have to be taken on the appropriateness and continuity of the actions envisaged (whether or not to continue), as well as the need for new measures. Sectoral considerations must be considered when monitoring progress. The cooperation of stakeholders in providing the necessary data is key to this process.

A-3.4: Description or visualisation of the climate-neutral engagement model – textual and visual elements

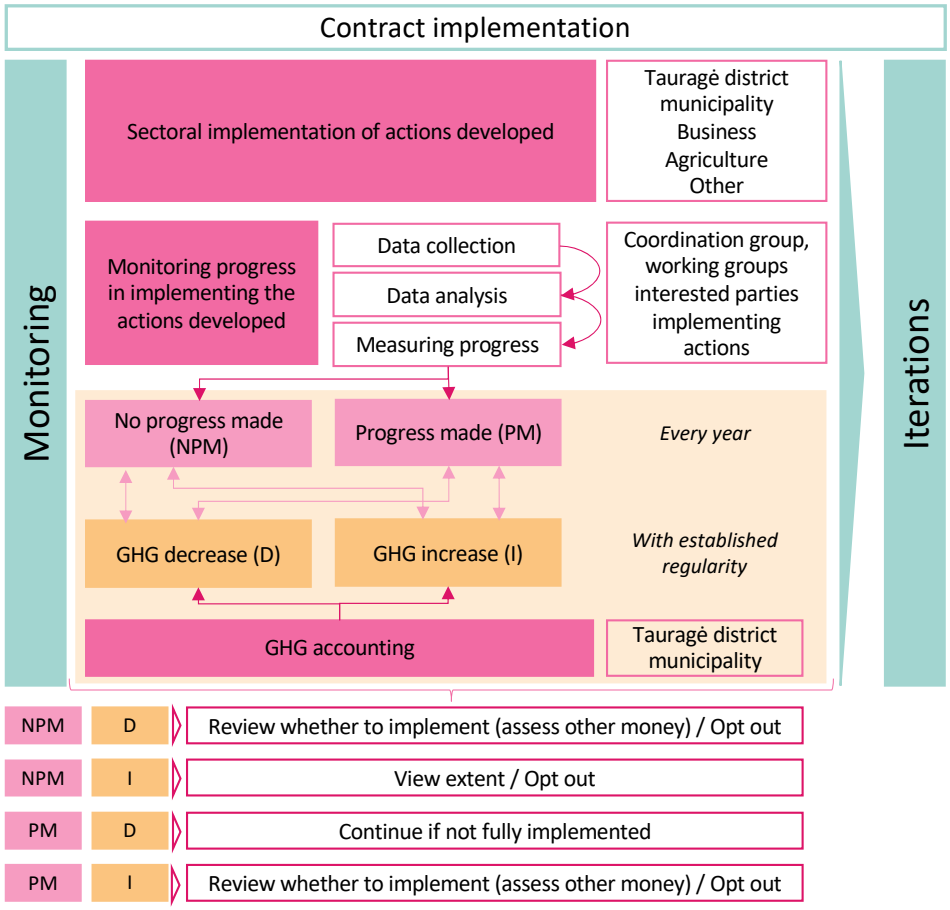


Figure 2-20. Stakeholder involvement in monitoring the implementation of the Strategy

3 Part B – Pathways towards Climate Neutrality by 2030

Part B represents the core of the CCC Action Plan, shaped by local authorities, local businesses, and stakeholders, comprising of the most essential elements: scenarios, strategic objectives, impacts, action portfolios and indicators for monitoring, evaluation, and learning.

3.1 Module B-1 Climate Neutrality Scenarios and Impact Pathways

Module B-1 "Climate Neutrality Scenarios and Pathways" lists and describes impact pathways, early and late changes, and direct and indirect impacts (co-benefits) by activity, considering the NetZeroCities Theory of Change and the Action Plan Guidelines.

The pathways to climate neutrality have been developed through a long process, using analytical methods to characterise the current situation and involving different stakeholders. The process identified the current situation and the sectors and activities with the highest GHG emissions and identified barriers and opportunities for achieving climate neutrality through stakeholder discussions. The focus was on identifying actions in each sector and the necessary conditions for them. This process led to the identification of four main impact pathways:

- **Climate-neutral households.** Households in Tauragė district municipality are key to achieving climate neutrality and were therefore given special attention in the formulation of actions. Households can contribute to climate neutrality in many sectors through various actions to reduce fossil fuel consumption, use RES for energy production, increase energy efficiency, reduce consumerism, etc.
- **Climate-neutral public sector.** The public sector plays a key role in the climate neutral path. The public sector sets an example by its actions for other stakeholders, demonstrating the feasibility of actions. Therefore, the public sector and its institutions must strive to transform its activities towards climate neutrality in a wide range of activities, including fossil fuel reduction, energy efficiency, etc. In addition, the public sector coordinates the implementation of climate neutrality and must ensure transparency and accountability in this process.
- **Climate-neutral production and consumption.** The municipality is home to a wide range of businesses engaged in various types of production, sales, service and other economic activities. Agriculture is an important sector in the municipality and accounts for a large part of the territory. The municipality also aspires, and good practices are in the use of RES for energy production. Economic activities generate GHG emissions but have the potential to reduce them. All these opportunities need to be optimally exploited in order to achieve climate neutrality.
- **A climate-neutral community.** Habit patterns, lack of community spirit, negative attitudes and experiences, and lack of thematic NGOs are seen as significant barriers to achieving climate neutrality. These barriers hinder the implementation of measures that directly reduce GHG emissions, and it is therefore necessary to focus on targeted community education and outreach, starting with the youngest members of the community and involving all social groups, including the vulnerable.

Each of the impact pathways covers 20 portfolios of instruments. The number of instrument portfolios assigned to each pathway varies. These portfolios of measures include not only the actions identified in Module B-2 (69 measures, excluding carbon sequestration measures), but also management and social

innovations (32 innovations in total), as they create the conditions and support the implementation of the actions.

Impact pathways	*Measure portfolios*
Climate neutral households	Clean heat
	Self-generated green electricity
	Reduced number of car journeys
	Electromobility
	Responsible consumption
	More energy-efficient housing
Climate neutral public sector	Green electricity
	Decarbonised vehicle fleet
	Green environment
	Energy efficient buildings
	Effective management of climate neutrality
	Improved capacity and capability
Climate-neutral production and consumption	Decarbonised heat production
	Green electricity generated
	The business of decarbonising the transport fleet
	Decarbonised waste management
	Climate-smart agriculture and other land uses
	Responsible and engaged business
A climate-neutral community	Young people with awareness and knowledge
	Aware and knowledgeable citizens

Figure 3-1. Impact pathways and their portfolios of instruments

Each portfolio includes at least one instrument. These Action Portfolios can be expanded through iterations of the Action Plan, and new Action Portfolios can be developed according to future needs.

The following is a breakdown of the portfolios and their instruments by sector/activity under the impact pathways.

Impact pathways and action portfolios by sector/activity								
Sector / field of activity	**Impact pathways**							
	Climate-neutral households		**Climate-neutral public sector**		**Climate-neutral production and consumption**		**A climate-neutral community**	
	Portfolio	**Measure**	**Portfolio**	**Measure**	**Portfolio**	**Measure**	**Portfolio**	**Measure**
Energy systems	Clean heat	Implementation of the national ban on the use of coal and peat for domestic heating Inventory of household heating installations	Green electricity	Develop municipal RECs and CECs Green energy consumption in municipal institutions/enterprises	Decarbonised heat production	Installation of thermal collectors for hot water and solar collectors Complete elimination of the use of fossil fuels for district heating Decarbonisation of heat production in the industrial sector	Aware and knowledgeable citizens	Implementation of educational programmes on renewable energy Organisation of information meetings with owners of individual houses
	Self-generated green electricity	Developing RES-based energy production in households			Green electricity generated	Development of energy production using RES (non-profit legal entities) Development of energy production from RES (legal entities)Development of solar power plants in UAB Tauragės vandenys Development of wind turbines		
Mobility and transport	Reduced number of car journeys	Installing cycle paths in remote settlements, near recreational areas, garden communities Installation of a bicycle storage facility in the bus station area Provision of a bicycle service in public and intercity bus transport Taxed parking in the city centre	Decarbonised vehicle fleet	Creation of a sustainable car sharing platform for municipal institutions Study on the optimisation of light transport for municipalities and their institutions Replacement of polluting vehicles owned by the	The business of decarbonising the transport fleet	Creation of electric car hub in Tauragė district municipality Acquisition of electric or other non-polluting fuel vehicles by individuals and legal entities [15] Installation of charging stations for electric vehicles in households and in	Aware and knowledgeable citizens	Develop an information campaign to promote sustainable mobility or the purchase of sustainable vehicles

[15] This measure covers individuals and enterpises and is therefore included in both the Climate Neutral Households and Climate Neutral Production and Consumption impact pathways

Impact pathways and action portfolios by sector/activity								
Sector / field of activity	**Impact pathways**							
	Climate-neutral households		**Climate-neutral public sector**		**Climate-neutral production and consumption**		**A climate-neutral community**	
	Portfolio	**Measure**	**Portfolio**	**Measure**	**Portfolio**	**Measure**	**Portfolio**	**Measure**
		Installation of charging stations for non-motorised vehicles Optimising public transport routes Develop a concept and design principles for Tauragė as a cycling and walking city		municipality and the companies it manages with new non-polluting vehicles Replacing polluting buses owned by the municipality and its owned companies with vehicles running on cleaner fuels Decarbonise the heavy polluting vehicles owned by the municipality and the companies it manages		the industrial and business sector [16]		
	Electromobility	Provide a shuttle service for residents Acquisition by individuals and legal entities of vehicles powered by electricity or other clean fuels Installing charging stations for electric vehicles in households and the industrial and business sector						
Waste and circular economy	Responsible consumption	Implementing control over the composition of municipal waste Developing the network of "Padėk" stations in the region Carrying out a survey of the population on their sorting habits Encouraging residents to install more environmentally friendly domestic wastewater treatment plants	-	-	Decarbonised waste management	Incineration of non-recyclable waste Increasing landfill gas collection Utilisation of landfill gas for energy production Optimisation of waste collection route	Aware and knowledgeable citizens	Developing a strategy to raise awareness, sensitisation and education on waste management, sorting and recycling

[16] This measure covers individuals and legal entities and is therefore included in both the Climate Neutral Households and Climate Neutral Production and Consumption impact pathways

Impact pathways and action portfolios by sector/activity								
Sector / field of activity	**Impact pathways**							
	Climate-neutral households		**Climate-neutral public sector**		**Climate-neutral production and consumption**		**A climate-neutral community**	
	Portfolio	**Measure**	**Portfolio**	**Measure**	**Portfolio**	**Measure**	**Portfolio**	**Measure**
Buildings	More energy-efficient housing	Renovation of multi-family houses (3 or more apartments) connected to district heating Renovation of multi-apartment buildings (3 or more apartments) not connected to a district heating system Renovation/modernisation of one- or two-apartment dwellings of individuals. Encouraging the renovation of individual houses (1-2 flats) Feasibility study on the improvement of energy inefficient individual (1-2 flat) houses	Energy efficient buildings	Renovate public buildings	-	-	Aware and knowledgeable citizens	Develop the activities of the Energy Resource Advice Centre at the Public Library
Agriculture	-	-	-	-	Climate-friendly agriculture and other land uses	Banning fur farming (implementation of a nationally adopted decision) Promotion of the use of feed/supplements to reduce methane emissions in livestock production Use of biological agents for manure and slurry treatment Investment support for the introduction of climate-friendly farming practices on livestock farms (acidification of slurry) (implementation of a national measure)	Aware and knowledgeable citizens	Public education campaigns on healthy and environmentally friendly diets (implementation of national measure)

Impact pathways and action portfolios by sector/activity								
Sector / field of activity	Impact pathways							
	Climate-neutral households		Climate-neutral public sector		Climate-neutral production and consumption		A climate-neutral community	
	Portfolio	Measure	Portfolio	Measure	Portfolio	Measure	Portfolio	Measure
						Investment support for the introduction of climate-smart farming practices on livestock holdings (slurry incorporation) (implementation of a national measure) Compensation for land research Promotion of initiatives to develop organic farming (certification) Promotion of organic farming (implementation of a national measure) Development of precision fertilisation technologies (implementation of a national measure) Development of protein crops (implementation of a national measure) Sustainable horticulture and gardening (implementation of a national measure) Development of near-field technologies, in particular direct drilling (implementation of a national measure) Inventorying the area of existing peatlands		

Impact pathways and action portfolios by sector/activity								
Sector / field of activity	**Impact pathways**							
	Climate-neutral households		**Climate-neutral public sector**		**Climate-neutral production and consumption**		**A climate-neutral community**	
	Portfolio	**Measure**	**Portfolio**	**Measure**	**Portfolio**	**Measure**	**Portfolio**	**Measure**
						Decommissioning of undisturbed areas Rehabilitation of damaged wetland areas Implementation of activities on local farms to achieve climate neutrality Improving forest quality (implementation of a national measure)		
					Responsible and engaged business	Organisation of information events on catch crops and their benefits for farmers Information and advice on the application of sustainable farming methods (implementation of a national measure) Provision of information on climate neutrality On-site best practice workshops		
Other measures	Aware and knowledgeable citizens	Encouraging people to reduce consumerism	Effective management of climate neutrality	Establishment of the Tauragė district municipality Decarbonisation Coordination Group Establishment of working groups Promoting innovation and new ideas Involvement of Coordination Group	Responsible and engaged business	Sustainability reporting for municipally owned companies Organising seminars, information events on climate neutrality and sustainability for businesses and other institutions	Aware and knowledgeable youth	Eco-Friendly School competition Celebrating International Climate Day in educational institutions Integrating Sustainability and Climate

Impact pathways and action portfolios by sector/activity								
Sector / field of activity	**Impact pathways**							
	Climate-neutral households		**Climate-neutral public sector**		**Climate-neutral production and consumption**		**A climate-neutral community**	
	Portfolio	**Measure**	**Portfolio**	**Measure**	**Portfolio**	**Measure**	**Portfolio**	**Measure**
				representatives or Working group representatives in national climate change programmes, legislative process Integrating climate neutrality into existing municipal programmes				Neutrality into the General Education Curriculum Educational programme on sustainability, sorting and recycling for children (2-4 grade students) Expansion of the STEAM Open Access Centre
			Improved capacity and capability	Creation of a Climate Neutrality Coordinator position Establishment of a Climate Neutrality Project Manager position Improving GHG accounting (setting up a system) at municipal level Staff training Promoting cooperation and joint projects with other EU Cities Mission cities Joining an information hub on available compensation and energy saving options Create an information sharing platform for working groups (data, statistics, etc.) Integrating GHG calculations into			Aware and knowledgeable citizens	Organisation of the annual Climate Neutrality Conference Climate Neutrality Week Implementation of the "Passing the Torch" programme Organising interactive exhibitions and public art galleries for residents and visitors Organisation of the Sustainability Marches, Rides and Mobility Week in Tauragė district municipality Development and

Impact pathways and action portfolios by sector/activity								
Sector / field of activity	**Impact pathways**							
	Climate-neutral households		**Climate-neutral public sector**		**Climate-neutral production and consumption**		**A climate-neutral community**	
	Portfolio	**Measure**	**Portfolio**	**Measure**	**Portfolio**	**Measure**	**Portfolio**	**Measure**
				municipal strategic documents				implementation of an information campaign Sustainable Tauragė Tourism Initiative Encourage the establishment of climate neutrality NGOs in Tauragė Establish an environmental ambassador programme and network

The early and late changes driven by the exposure pathways are presented below, according to their systemic levers and the direct and indirect effects that result. For the direct impacts, i.e. reductions in GHG emissions, the same methodology was used as for GHG accounting (see Module A-1 for more details). For each measure, the direct impacts were sought to be determined using a variety of tactics to collect or calculate the necessary data. Table B-1.1 shows the total direct impacts by sector. For each measure, the first step was to determine how energy consumption or other activity data used to calculate GHG emissions would change as a result of the measure. The scale of implementation of the measure was used to determine the changes, and the necessary assumptions were made in the absence of specific data on this. The assumptions were made on the basis of available supporting data. For example, the energy savings from renovation were based on historical renovation data and the energy savings per house multiplied by the number of houses to be renovated. Assumptions on the scale of implementation of measures were also based on national targets such as the number of electric vehicles, the number of buses running on cleaner fuels, the number of green households, etc. Once the change in energy consumption has been identified, energy sources were identified. Once the change in energy consumption was identified, the energy sources were identified. Once the energy sources have been identified, the corresponding emission factors were used, and the emission reductions calculated. In case it is not possible to determine with certainty which energy source will change, a weighted average has been calculated, for example in the case of individual houses, for a change in heating method, where coal, peat, biofuels and other energy sources are used to heat individual houses. For some groups of actions, the overall impact on GHG reductions was calculated. This decision was taken in case the action group achieves an overall result and it would be difficult or duplicative to determine the impact of each measure separately. This is the case in the energy field for the phase-out of fossil fuel in district heating, as well as in the impact assessment of sustainable mobility measures, where the cluster of measures aims to reduce the number of car journeys, the introduction of manure and slurry management technologies expected to increase the amount of manure and slurry treated, and the implementation of measures that are expected to increase the number and size of organic farms.

In the case of a national measure to be implemented at the municipal level (relevant in the context of agriculture and carbon sequestration), the direct impacts calculated at the national level have been used and have been recalculated proportionally for the municipality of Tauragė district. The proportions were calculated on the basis of the shares of the Tauragė district municipality's land area, orchards and berry-gardens, forests and other areas in relation to the corresponding areas in Lithuania.

B-1.1: Impact pathways

Fields of action	Systematic leverage	Early changes (1-2 years)	Late changes (3-4 years)	Direct impacts (emission reductions, t CO_2e)	Indirect impacts (associated benefits)
Energy systems	Technology and infrastructure	Project preparation and implementation	Eliminating the use of fossil fuels for heat and hot water production	13 061	Reduced energy costs (compared to the current situation) Increased energy independence from imported fossil fuels and electricity Improved air quality
		Establishing the conditions necessary for the development of RES, preparing and implementing projects	Increasing the capacity and scale of RES production: harnessing solar energy		
		Establishing the conditions necessary for the development of RES, preparing and implementing projects	Increasing the capacity and scale of RES production: harnessing wind energy		
	Governance and policy	Implementation of national legislation at municipal level (according to the mechanism provided for in the legislation)	Eliminating the use of fossil fuels for heat and hot water production		

B-1.1: Impact pathways					
Fields of action	**Systematic leverage**	**Early changes (1-2 years)**	**Late changes (3-4 years)**	**Direct impacts (emission reductions, t CO_2e)**	**Indirect impacts (associated benefits)**
		Data collection, processing, analysis and drawing conclusions	Development and implementation of targeted measures based on the data collected		
		Contracts for the purchase of green electricity are signed	Eliminating the use of polluting electricity		
	Training and capacity	Education, awareness-raising programmes and campaigns implemented	Increase in production capacity and scale of RES		
		Organised events for owners of individual houses	Increase in production capacity and scale of RES		
Mobility and transport	Technology and infrastructure	Bicycle lane installed	Increased number of journeys by non-motorised means of transport	16 049	Reduction of air pollution Noise reduction Increase in travel opportunities for different social groups, including the vulnerable Increase in traffic safety Reduced fuel costs
		Infrastructure for non-motorised vehicle users	Increased number of journeys by non-motorised means of transport		
		Increase in the number of clean transport	Reduction in fossil fuel consumption		
	Governance and policy	Creating a hub for electric cars	Reduction in fossil fuel consumption		
	Social innovation	Services provided (transport) to vulnerable populations	Reduction in fossil fuel consumption		
	Finance and funding	Implementation of the taxation system	Reduction in fossil fuel consumption		
	Training and capacity	Education, awareness-raising programmes and campaigns implemented	Increased number of journeys by non-motorised means of transport		
Waste and circular economy	Technology and infrastructure	Reduced waste going to landfill	Increased waste sorting and recycling	3 056	Reduction of air pollution Reduced waste management costs Re-use of waste Elimination of primary raw materials Improved living conditions/quality of life Reduced costs for new items
		Increase in the number of environmentally friendly domestic wastewater treatment plants	Increase in the volume of wastewater treated in an environmentally friendly way and reduction of GHG emissions from domestic wastewater management		
		Installation of gas collection infrastructure at a landfill site	Reduction of direct gas emissions		
		Installation of gas utilisation infrastructure at a landfill site	Electricity generated from landfill gas and substitution of		

B-1.1: Impact pathways					
Fields of action	**Systematic leverage**	**Early changes (1-2 years)**	**Late changes (3-4 years)**	**Direct impacts (emission reductions, t CO_2e)**	**Indirect impacts (associated benefits)**
			electricity generated by other means		
	Governance and policy	Reduction of waste going to landfill as a result of controls	Increased waste sorting and recycling		
		Data collection, processing, analysis and drawing conclusions	Increased waste sorting and recycling		
	Social innovation	Reduced waste to landfill through sharing	Increased waste sorting and recycling		
	Training and capacity	Education, awareness-raising programmes and campaigns implemented	Increased waste sorting and recycling		
Buildings	Technology and infrastructure	Renovated apartment buildings	Reduced energy consumption	2 731	Lower energy costs Better access to work / services Better living conditions
		Renovated public buildings	Reduced energy consumption		
		Renovated detached houses (1-2 apartments)	Reduced energy consumption		
	Social innovation	Data collection, processing, analysis and drawing conclusions	Reduced energy consumption		
Agriculture	Technology and infrastructure	Changes in livestock feeding technology	Changes in livestock fermentation processes and reduced GHG emissions	24 339	Reducing air pollution Preserving biodiversity
		Increased amount of acidified manure and slurry	Reduced GHG emissions from the livestock sector		
		Technological developments in manure and slurry management	Reduced GHG emissions from the livestock sector		
		Implementation of new technologies	Reduction in fertiliser use		
		Implementation of new technologies	GHG reductions due to change of cultivation method (ploughing)		
		Restoration of damaged wetlands	Reduction of GHG emissions from exploited wetland land		
		Surviving area of natural wetlands	Reduction of GHG emissions from exploited wetland land		
	Finance and funding	Increase in the amount of land surveys carried out	Reduction in fertiliser use		

B-1.1: Impact pathways					
Fields of action	**Systematic leverage**	**Early changes (1-2 years)**	**Late changes (3-4 years)**	**Direct impacts (emission reductions, t CO_2e)**	**Indirect impacts (associated benefits)**
		Increase in the number of organic farms	Reduction in fertiliser use		
		Increase in the number of organic farms	Reduction in fertiliser use		
	Training and capacity	Education, awareness-raising programmes and campaigns implemented	Reduction in fertiliser use		
		Data collection, processing, analysis and drawing conclusions	Reduction of GHG emissions from exploited wetland land		
		Education, awareness-raising programmes and campaigns implemented	Increased implementation of new technologies		
Other measures	Training and capacity	Implementing a competition involving as many training institutions as possible	Increased knowledge and awareness among young people	-	-
		Education, awareness-raising programmes and campaigns implemented	Increased knowledge and awareness among young people		
		An app that calculates your GHG footprint	Increased knowledge and awareness of the population		
		Education, awareness-raising programmes and campaigns implemented	Increased knowledge and awareness of the population		
		Education, awareness-raising programmes and campaigns implemented	Increased business knowledge and awareness		

B-1.2: Description of impact pathways

The impact pathways are based on the data and information collected in Module A, linking them together and selecting the optimal solutions to achieve climate neutrality in the Tauragė District municipality.

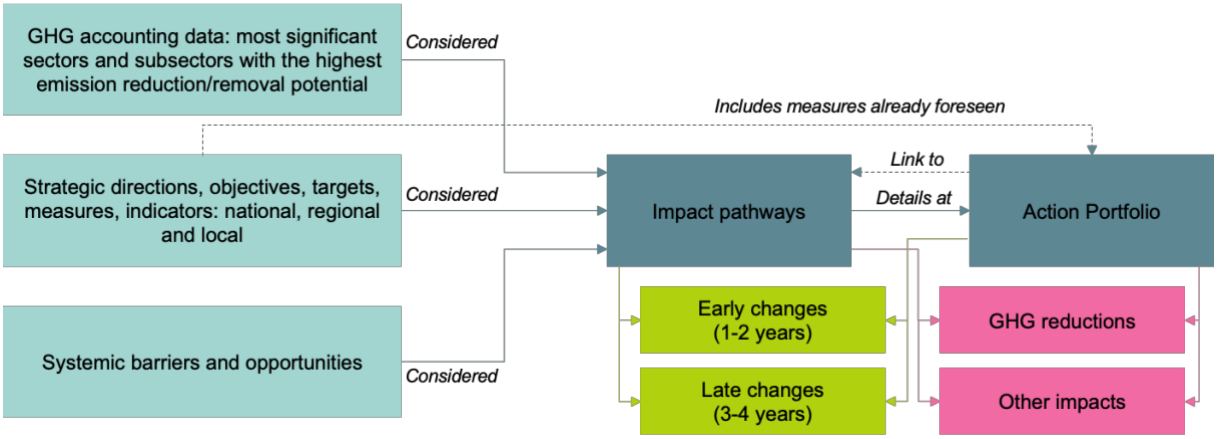


Figure 3-2. Developing impact pathways

The choice of impact pathways is based primarily on the GHG data analysed in Module A-1, i.e. the most GHG-intensive sectors and activities in them. Attention has also been paid to the feasibility of implementing changes in these sectors. The Tauragė District Municipality covers not only the urban and urban areas, settlements, but also agricultural areas, which have a significant impact on the climate (according to the GHG inventory). Therefore, this Plan also focuses on the agricultural and forestry sectors. These sectors also have an impact on GHG absorption capacity. The main directions for the development of these sectors have been identified at national level, and the Action Plan therefore seeks to clarify how these actions can be implemented in the Tauragė Municipality. These decisions have been coordinated with stakeholders involved in agriculture and forestry.

The impact pathways aim to reduce the systemic barriers identified earlier and to exploit opportunities in the context of the conditions and powers of local government. The impact pathways focus on groups of actors that should contribute to climate neutrality. Each impact pathway should aim to reduce the identified systemic barriers. The main barriers that the identified pathways aim to address are listed below:

- **Climate-neutral household** impacts aim to reduce the limited financial opportunities for technology deployment and the unattractiveness of such technologies due to their cost, to promote the use of electricity storage while reducing the constraint of lack of available bandwidth, to encourage the development of charging infrastructure for electric vehicles, to plan areas in a way that allows for a reduction in the use of polluting fuel-powered vehicles, and to change the travelling and other daily habits of residents. The aim is to take advantage of energy self-sufficiency and the favourable geographical area for it, to promote the use of existing infrastructure for non-car travel, to take advantage of national funding opportunities for action, to involve the socially excluded, and to increase the reuse of objects.
- **The impact of climate-neutral local government** aims to reduce the unattractiveness of new technologies and increase the motivation to adopt them, reduce the difficulty of implementing politically complex decisions, develop local policies in line with national and EU policies, and reduce the limited scope for local influence, reducing gaps in the conditions for nationally planned financial investments, reducing knowledge and capacity gaps, including the shortage of climate neutrality specialists and experts, expanding GHG assessment capacity and capability, reducing negative attitudes towards climate neutrality, developing a model for organisational governance, and increasing community involvement. The aim is to build on the political consensus to become the greenest municipality in Lithuania, to develop cooperation, to harmonise the objectives of the different documents, and to exploit national funding opportunities for action.
- **The impact of climate-neutral production and consumption** aims to reduce the limited financial opportunities for technology deployment and the unattractiveness of such technologies due to their cost, to reduce the limitations of technologies to achieve GHG reductions, to

B-1.2: Description of impact pathways
promote the development of charging infrastructure for electric vehicles, to reduce the limitations of local action through national measures, to reduce negative attitudes towards climate change and the actions needed to achieve climate neutrality, to reduce the knowledge and skills gap, and to implement flagship projects. The aim is to exploit the opportunities for national funding to implement actions. • **The impact of climate neutral community** aims to reduce the difficulty of communities to agree together to implement certain actions, reduce negative attitudes towards climate action, raise awareness of climate neutrality, reduce knowledge gaps in the field, encourage the creation of NGOs working in the field, and change people's travelling and other daily habits. The aim is to exploit various opportunities to increase people's interest in climate change. The barriers identified by stakeholders have also been considered in the design of impact pathways and specific actions. For example, it aims to address the lack of data for GHG accounting at national level, the difficulties in developing green energy, the low attractiveness of electric vehicles, the use of landfill gas, the low involvement of farmers, etc.

3.2 Module B-2 Climate Neutrality Portfolio Design

This module provides a description of each action in the Action Plan. These actions include actions to reduce GHG emissions (the GHG Emissions Reduction Strategy) and actions to build or develop carbon sequestration capacity to reduce residual GHG emissions (the Residual GHG Emissions Strategy).

B-2.1: Description of action portfolios – textual or visual		
Fields of action	Portfolio description	
	List of actions	Descriptions
Energy systems	1) Installation of thermal collectors for hot water and solar collectors 2) Complete elimination of the use of fossil fuels for district heating 3) Decarbonisation of heat production in the industrial sector 4) Implementation of the national ban on the use of coal and peat for heat generation in households 5) Inventory of household heating installations 6) Develop municipal RECs and CECs 7) Development of energy production using RES (non-profit legal entities) 8) Developing RES-based energy production in households 9)Development of energy production from RES (legal entities) 10) Development of solar power plants in UAB Tauragės vandenys 11) Development of wind power plants	The list of energy system measures is based on the sources of GHG emissions. In particular, the focus is on reducing the use of fossil fuels in the district heating subsector and in the individually produced heat subsector. Some of the affected actions are already included in existing strategic documents, e.g. optimisation of the district heating system, reduction of heat losses, promotion of the purchase of heat pumps etc. The district heating sub-sector is dominated by biofuels, but a small share of fossil fuels still remains. The measures therefore focus on fossil fuel divestment. Particular attention is paid to decarbonising heat production in the industrial sector. The sectoral discussions identified that this process is already underway, and that decarbonisation of heat produced and used in the industrial sector by 2030 can be achieved by connecting this sector to district heating. Individual heat production is still based on coal, peat and liquid fuels. This sub-sector is dominated by 1-2 flat houses. The formulation of impact measures for this sector has focused on increasing the availability and use of heat pumps - the development of RES power plants. The development of RES - solar and wind - not only contributes to increasing the availability of cleaner electricity, but also makes the use of heat pumps more economically attractive (discussions have shown that heat pumps have become less attractive as electricity prices have risen). Another important aspect of the development of RES plants is the

	12) Development of green energy consumption in municipal institutions/enterprises 13) Implementation of educational programmes on renewable energy 14) Organisation of information meetings with owners of individual houses	reduction of energy dependence on both fossil fuels and imported electricity. This is a national objective, and each municipality should strive to contribute to it. Tauragė District Municipality is geographically favourable for the development of wind turbines. The measures envisaged include the expansion of capacity to the extent possible within the limits of grid capacity. Given that the Tauragė municipality is faced with a lack of available capacity in the electricity supply network, it is also important to promote the purchase of green energy from suppliers, especially in areas where there is no longer any available capacity. Future grid reconstruction and expansion is planned at national level, so that RES generation can continue to be developed after 2030. The lack of awareness and education to advance in the above areas was also identified during the preparation of this plan. Therefore, this plan includes measures to increase awareness and education of the population.
Mobility & transport	1) Develop an information campaign to promote sustainable mobility or the purchase of sustainable vehicles 2) Provide a shuttle service for residents 3) Install cycle paths in remote settlements, near recreational areas, garden communities 4) Provision of bicycle storage in the bus station area 5) Provision of a bicycle transport service on public and intercity bus transport 6) Taxed parking in the city centre 7) Installation of charging stations for non-motorised vehicles 8) Creation of a sustainable car sharing platform for municipal institutions 9) Establishment of an electric car hub in Tauragė District Municipality 10) Acquisition of electric or other non-polluting fuel vehicles by individuals and legal entities 11) Installation of charging stations for electric vehicles in households and in the industrial and business sector	Mobility and transport focus on two main axes: 1) the phasing out and downscaling of cars and 2) the decarbonisation of the transport fleet. For the first strand, a set of measures is foreseen in the existing plans for sustainable mobility development. However, meetings with stakeholders have identified missing actions. These actions are included in this list of measures. Awareness raising and consciousness-raising is also foreseen to implement the actions included. A large part of the business in Tauragė District Municipality is related to the import, repair, sale and other related activities. Businesses have acquired skills and experience in this area. Therefore, in order to promote electro-mobility not only in Tauragė but also to contribute to the achievement of the national objectives in this field, this plan foresees the development of an electro-mobility hub, so that the Tauragė municipality becomes a hub for importing and handling electro-mobility vehicles in the country. To this end, a range of actions are envisaged. This should contribute to the decarbonisation of the transport fleet. The decarbonisation of the transport fleet has two strands: one focusing on the decarbonisation of the transport fleet of individuals and legal entities, and the other on the decarbonisation of the transport fleet of the municipality, its institutions and enterprises. The individual and legal entity route includes the development of charging stations in individual households or businesses as a prerequisite for increasing the number of electric vehicles. The transport fleet of the municipality, its institutions and enterprises include cars, special vehicles and buses. In addition to the management of its own fleet, outsourcing of services is envisaged.

	12) Study on the optimisation of passenger cars in the municipality and its institutions 13) Replacement of polluting passenger cars owned by the municipality and the companies it manages with new non-polluting vehicles 14) Replacement of polluting buses owned by the municipality and the companies it manages with non-polluting buses 15) Decarbonize the polluting heavy transport owned by the municipality and the companies it manages 16) Optimising public transport routes 17) Develop a concept and design principles for Tauragė as a cycling and walking city	
Waste & circular economy	1) Implementing control over the composition of municipal waste 2) Developing the network of "Padėk" stations[17] in the region 3) Incineration of non-recyclable waste 4) Developing a strategy to raise awareness, sensitisation and education on waste management, sorting and recycling 5) Carrying out a survey of the population on their sorting habits 6) Encouraging residents to install more environmentally friendly domestic wastewater treatment plants 7) Increasing landfill gas collection 8) Utilisation of landfill gas for energy production 9) Optimization of waste collection routes	The waste and circular economy sector focuses on promoting waste sorting and reuse. These measures aim to contribute to reducing the amount of waste going to landfill. This sector does not focus on infrastructure development, as these measures are foreseen in the strategic documents. Another important aspect is the management of domestic wastewater. In parts of the territory, the development of centralised domestic wastewater management networks is not economically viable, and the focus is therefore on the installation of more environmentally friendly facilities. A third important area is landfill gas collection, which is currently being implemented, but not to its full extent. The aim is to capture all the gas and use it for energy production. Analytical work in this area is currently underway and should provide more precise answers on the possibilities in this area.

[17] The "Padėk" station is a place where residents can deliver their no-longer-used items and leave them there free of charge. Other residents can take those items free of charge for their own use. Various items can be shared, such as furniture, textiles, electrical and electronic devices, etc. Items must be suitable for re-use, i.e. unbroken, untorn, dry, clean.

Buildings	1) Renovation of multi-family houses 2) Renovation of public buildings (additional) 3) Renovation / modernisation of one- or two-apartment dwellings of individuals. 4) Encouraging the renovation of individual houses (1-2 flats) 5) Feasibility study on the improvement of energy inefficient individual (1-2 flat) houses	Renovation is a major focus of this plan in order to achieve savings in energy consumption. Renovations are foreseen in existing strategic documents but are not sufficient in scale to reduce both fossil fuel use for heating and electricity consumption. This plan, unlike the existing strategic documents, focuses on individual houses, which dominate the Tauragė district municipality. In Tauragė municipality, some of the detached houses have a very large footprint, which has made them unattractive to their owners, and the municipality is therefore seeking to investigate how such houses can be retrofitted, with a particular focus on retrofitting options to help socially vulnerable people.
AFOLU	1) Banning fur farming (implementation of a nationally adopted decision) 2) Promotion of the use of feed/supplements to reduce methane emissions in livestock production 3) Use of biological agents for manure and slurry treatment 4) Investment support for the introduction of climate-friendly farming practices on livestock farms (acidification of slurry) (implementation of a national measure) 5) Investment support for the introduction of climate-smart farming practices on livestock holdings (slurry incorporation) (implementation of a national measure) 6) Compensation for land research 7) Organisation of information events on catch crops and their benefits for farmers 8) Promotion of initiatives to develop organic farming (certification) 9) Promotion of organic farming (implementation of a national measure) 10) Development of precision fertilisation technologies (implementation of a national measure) 11) Development of protein crops (implementation of a national measure)	In the agricultural sector, the focus is on reducing GHG emissions from livestock farming, as well as reducing fertiliser use. The former includes measures on both fermentation processes and the management of manure and slurry, the implementation of which is to be stimulated by financial support to farmers in the municipality of Tauragė district. On the other hand, measures are being developed and implemented at national level to increase farmers' involvement in sustainability. These measures include both direct payments and investment support, all of which are open to all farmers in the country. Therefore, some of the measures included in this plan foresee the implementation of national measures at the level of the Tauragė municipality. The need for and the benefits of information and education activities targeting farmers have been expressed. To this end, various types of training and information measures are envisaged. At both municipal and national level, the development of organic farms is a major focus. Financial support is foreseen for this purpose. Peat extraction is another important area for the Tauragė region. In cooperation with businesses operating peat extraction in the territory of the Tauragė municipality, measures have been identified to reduce the impact of this activity on GHG emissions.

	12) Information and advice on the application of sustainable farming methods (implementation of a national measure) 13) Sustainable horticulture and gardening (implementation of a national measure) 14) Development of near-field technologies, in particular direct drilling (implementation of a national measure) 15) Inventorying the area of existing farms 16) Decommissioning of undisturbed areas 17) Rehabilitation of damaged wetland areas 18) Provision of information on climate neutrality 19) On-site best practice workshops 20) Implementation of activities on local farms to achieve climate neutrality 21) Public education campaigns on healthy and environmentally friendly diets (implementation of national measure) 22) Improving the quality of forests (implementation of the national measure)	
Carbon sequestration (residual GHG emissions strategy)	1) Reimbursement of the cost of forest seedlings to encourage reforestation 2) Development of green infrastructure in urbanised environments 3) Afforestation of state land 4) Afforestation on private land (implementation of a national measure) 5) Establishment of young plantations in the state forests (implementation of national measure) 6) Conservation of self-sown trees and inclusion in the forest land inventory (implementation of national measure) 7) Conversion of forests for hydrological restoration (implementation of national measure)	Offsetting residual GHG emissions is a long-term action, focusing on the development and improvement of forests. The focus is limited to private forest owners as well as public forests. It also aims to develop green infrastructure, which should contribute to carbon sequestration in the urban area.

The portfolio of actions includes a large number of actions, which are often quite detailed, but by listing all the actions, the aim is to clearly identify the actors responsible for their implementation, and to allocate actions to specific sectors/activities. Given the large number of actions, the governance model presented in Module C-1 includes an element of prioritisation. Prioritisation of actions will be the responsibility of the coordination and working groups, which will consider the different circumstances and possibilities for implementing the actions and will be able to check with the actors responsible for implementation during the prioritisation.

Some of the actions in the Action Portfolio do not have a direct impact on GHG emission reductions, but allow for the proper implementation of other actions, or lay the groundwork for additional actions that may be required in the iterations of the Action Plan. The total costs presented in Table B-2.2 include investment and operating costs, the sum of which is also used to determine the cost per CO2e.

Name of action	Sector/area of activity	Description of the link/benefits	Related actions from the Action Portfolio
Inventory of household heating installations	Energy systems	Provides information for the implementation of the ban on the use of coal and peat for domestic heating. It also provides a basis for future actions to target incentives to encourage people to switch away from the most polluting fuels first, or to bring about changes in a given area, etc.	Implementation of the national ban on the use of coal and peat for domestic heating
Implementation of educational programmes on renewable energy	Energy systems	Raises people's awareness and knowledge of renewable energy, and provides information on the different ways of using RES. It can therefore not only encourage the direct implementation of RES projects, but also not interfere with projects developed by businesses.	Development of energy production using RES (non-profit legal entities) Developing RES-based energy production in households Development of energy production from RES (legal entities)
Organisation of information meetings with owners of individual houses	Energy systems	Information on various energy issues is provided to owners of individual houses, who make up the majority of house owners (the majority of dwellings in the Tauragė district municipality are individual houses with 1-2 apartments). A wide range of information is planned, thus enabling the implementation of actions in the field of both energy systems and buildings.	Implementation of the national ban on the use of coal and peat for domestic heating Inventory of household heating installations Developing RES-based energy production in households Renovation/modernisation of one- or two-apartment dwellings of individuals Encouraging the renovation of individual houses (1-2 flats)
Develop an information campaign to promote sustainable mobility or the purchase of sustainable vehicles	Mobility and transport	It provides information on non-car travel options, and can also have persuasive elements, informing about the availability of various incentives, thus providing a basis for a range of actions.	Installing cycle paths in remote settlements, near recreational areas, garden communities Installation of a bicycle storage facility in the bus station area Provision of a bicycle service in public and intercity bus transport Installation of charging stations for non-motorised vehicles Acquisition of electric or other non-polluting fuel vehicles by individuals and legal entities Installing charging stations for electric vehicles in households and the industrial and business sector
Creation of a sustainable car sharing platform for municipal institutions	Mobility and transport	It provides a basis for phasing out part of the municipality's polluting fleet and optimising the existing fleet to make the best use of the available clean vehicles. In this way, operating costs can be reduced.	Replacement of polluting vehicles owned by the municipality and the companies it manages with new non-polluting vehicles Replacing polluting buses owned by the municipality and its owned companies with vehicles running on cleaner fuels Decarbonise the heavy polluting vehicles owned by the municipality and the companies it manages
Creation of electric car hub in Tauragė district municipality	Mobility and transport	Facilitating the use of EVs: buying and operating them, reducing the fear of repairs, saleability, etc.	Acquisition of electric or other non-polluting fuel vehicles by individuals and legal entities

Name of action	Sector/area of activity	Description of the link/benefits	Related actions from the Action Portfolio
Study on the optimisation of light transport for municipalities and their institutions	Mobility and transport	It allows optimal decisions to be taken on fleet replacement, the need for a car-sharing platform, etc. It should answer the question: how best to optimise the transport fleet of the municipality and the companies it manages.	Creation of a sustainable car sharing platform for municipal institutions Replacement of polluting vehicles owned by the municipality and the companies it manages with new non-polluting vehicles Replacing polluting buses owned by the municipality and its owned companies with vehicles running on cleaner fuels Decarbonise the heavy polluting vehicles owned by the municipality and the companies it manages
Optimising public transport routes	Mobility and transport	Does not directly contribute to the implementation of the actions foreseen but facilitates the implementation of the measures foreseen in other documents on the increased use of public transport. It also responds to the needs of the population regarding the use of public transport.	-
Develop a concept and design principles for Tauragė as a cycling and walking city	Mobility and transport	Creates the conditions for developing the city in a way that encourages the use of non-motorised means of transport, such as walking, i.e. by discouraging the use of private cars.	Installation of a bicycle storage facility in the bus station area Installation of charging stations for non-motorised vehicles
Developing a strategy to raise awareness, sensitisation and education on waste management, sorting and recycling	Waste and circular economy	It would provide information and raise awareness, thus helping to sort waste properly, develop “Padėk" stations, and provide suitable items.	Implementing control over the composition of municipal waste Developing the network of "Padėk" stations in the region
Carrying out a survey of the population on their sorting habits	Waste and circular economy	It would provide information and raise awareness, thus helping to sort waste properly, develop “Padėk" stations and provide suitable items. In the future, it could help to develop targeted measures (through iterations of the Action Plan) in the light of the survey results.	Implementing control over the composition of municipal waste Developing the network of "Padėk" stations in the region
Optimising waste collection routes	Waste and circular economy	Fewer routes, lower costs and lower fuel consumption (not yet determinable).	-
Feasibility study on the improvement of energy inefficient individual (1-2 flat) houses	Buildings	Creates the conditions for using the existing building stock to meet the needs of the municipality through energy efficiency. Allows for the analysis of the various options for use and the selection of the optimal one.	-
Compensation for land research	AFOLU	It provides information on the fertility of the land, enabling optimum use of fertilisers and other farming options to conserve or improve the soil.	Development of precision fertilisation technologies (implementation of a national measure) Development of protein crops (implementation of a national measure)
Organisation of information events on catch crops and their benefits for farmers	AFOLU	It provides information on which intercrops to choose for a specific purpose, allowing you to choose the optimal farming technology.	Promotion of initiatives to develop organic farming (certification) Promotion of organic farming (implementation of a national measure) Development of protein crops (implementation of a national measure)
Information and advice on the application of sustainable farming methods (implementation of a national measure)	AFOLU	Provides information and examples of how to implement the various measures in practice. It also provides information on funding opportunities and creates the conditions to try out certain activities.	Promotion of the use of feed/supplements to reduce methane emissions in livestock production Use of biological agents for manure and slurry treatment Investment support for the introduction of climate-friendly farming practices on livestock

Name of action	Sector/area of activity	Description of the link/benefits	Related actions from the Action Portfolio
Provision of information on climate neutrality	AFOLU		farms (acidification of slurry) (implementation of a national measure) Investment support for the introduction of climate-smart farming practices on livestock holdings (slurry incorporation) (implementation of a national measure) Promotion of initiatives to develop organic farming (certification) Promotion of organic farming (implementation of a national measure) Development of precision fertilisation technologies (implementation of a national measure) Development of protein crops (implementation of a national measure) Sustainable horticulture and gardening (implementation of a national measure) Development of near-field technologies, in particular direct ploughing (implementation of a national measure)
On-site best practice workshops	AFOLU		
Implementation of activities on local farms to achieve climate neutrality	AFOLU		
Inventorying the area of existing peatlands	AFOLU	Provide information on the situation of the areas within the area of the managed peatland and take decisions on their continued operation.	Decommissioning of undisturbed areas Rehabilitation of damaged wetland areas
Developing green infrastructure in urbanised environments (action in the Carbon Absorption Strategy)	AFOLU	A greening plan is being developed, which will include measures to increase greening. Provides a basis for including specific actions in future iterations of the Action Plan.	-

B-2.2: Individual action outlines		
Energy systems		
Action outline	Action name	**Installation of thermal collectors for hot water and solar collectors**
	Action type	Reducing the use of fossil fuels
	Action description	Heat pump system with a total thermal output of 4,770 kW, Electric generation 1,590 kW; Solar power plant with cooling (heat generation): 5,300 modules.
Reference to impact pathway	Field of action	Energy systems
	Systemic lever	Technology and infrastructure
	Outcome (according to module B-1.1)	Early changes (1-2 years): project preparation and implementation Late changes (3-4 years): eliminating the use of fossil fuels for heat and hot water production
Implementation	Responsible bodies/person for implementation	UAB Tauragės šilumos tinklai
	Action scale & addressed entities	Heat pumps have a thermal output of 4,77 kW and an electrical output of 1,59 kW Residents and businesses supplied with heat
	Involved stakeholders	UAB Tauragės šilumos tinklai Tauragė district municipality
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2028
Impact & cost	Generated renewable energy (if applicable)	1,59 kW (solar power plant with cooling)

	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	2 410,0 tCO_2e (impact calculated in combination with the measure *Total fossil fuel phase-out in district heating*)
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 13 150 thousand 7 116,1 Eur/tCO_2e (combined with the investment and impact of the measure *Total fossil fuel phase-out in district heating*)
Action outline	Action name	**Complete elimination of the use of fossil fuels for district heating**
	Action type	Reducing the use of fossil fuels
	Action description	The plan is to replace two liquid fuel standby boilers with a biofuel cogeneration plant.
Reference to impact pathway	Field of action	Energy systems
	Systemic lever	Technology and infrastructure
	Outcome (according to module B-1.1)	Early changes (1-2 years): project preparation and implementation Late changes (3-4 years): eliminating the use of fossil fuels for heat and hot water production
Implementation	Responsible bodies/person for implementation	UAB Tauragės šilumos tinklai
	Action scale & addressed entities	UAB Tauragės šilumos tinklai
	Involved stakeholders	UAB Tauragės šilumos tinklai Tauragė district municipality
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	Shale oil - 1 826 MWh Peat - 1 186 MWh Marked diesel - 58 MWh
	GHG emissions reduction estimate (total) per emission source sector	2 410,0 tCO_2e (impact calculated in combination with the measure *Installation of thermal collectors for hot water and solar collectors*)
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 4 000 thousand 7 116,1 Eur/tCO_2e (together with the investment and impact of the measure *Installation of thermal collectors for hot water and solar collectors*)
Action outline	Action name	**Decarbonisation of heat production in the industrial sector**
	Action type	Reducing the use of fossil fuels
	Action description	Connecting industrial sector entities using gas for heat production to district heating
	Field of action	Energy systems

Reference to impact pathway	Systemic lever	Technology and infrastructure
	Outcome (according to module B-1.1)	Early changes (1-2 years): project preparation and implementation Late changes (3-4 years): eliminating the use of fossil fuels for heat and hot water production
Implementation	Responsible bodies/person for implementation	UAB Tauragės šilumos tinklai Business enterprises
	Action scale & addressed entities	Natural gas (for heating of buildings) - 3 426 MWh Liquefied petroleum gas (for heating buildings) - 404 MWh Business/industrial entities
	Involved stakeholders	UAB Tauragės šilumos tinklai Business/industrial entities Tauragė district municipality
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	Natural gas (for heating of buildings) - 3 426 MWh Liquefied petroleum gas (for heating buildings) - 404 MWh
	GHG emissions reduction estimate (total) per emission source sector	780,4 t CO_2e
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	Under evaluation
Action outline	Action name	**Implementation of the national ban on the use of coal and peat for heat generation in households**
	Action type	Reducing the use of fossil fuels
	Action description	Implementation and monitoring of the national ban on the use of coal and peat for heating in individual dwellings
Reference to impact pathway	Field of action	Energy systems
	Systemic lever	Governance and policy
	Outcome (according to module B-1.1)	Early changes (1-2 years): implementation of national legislation at municipal level (according to the mechanism provided for in the legislation) Late changes (3-4 years): eliminating the use of fossil fuels for heat and hot water production
Implementation	Responsible bodies/person for implementation	Tauragė district municipality
	Action scale & addressed entities	Coal - 14 156 MWh Peat - 12 686 MWh Residents
	Involved stakeholders	Residents Tauragė district municipality
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030

Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	Coal - 14 156 MWh Peat - 12 686 MWh
	GHG emissions reduction estimate (total) per emission source sector	9 652,5 t CO_2e
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 158,4 thousand 16,4 Eur/ t CO_2e
Action outline	Action name	**Inventory of household heating installations**
	Action type	Reducing the use of fossil fuels
	Action description	Inventory of equipment and heating methods used for household heating
Reference to impact pathway	Field of action	Energy systems
	Systemic lever	Governance and policy
	Outcome (according to module B-1.1)	Early changes (1-2 years): data collection, processing, analysis and drawing conclusions Late changes (3-4 years): development and implementation of targeted measures based on the data collected
Implementation	Responsible bodies/person for implementation	Tauragė district municipality
	Action scale & addressed entities	Residents
	Involved stakeholders	Tauragė district municipality Residents (owners of 1-2 flats and apartment buildings)
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	0 t CO_2e (no direct effect identified)
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 50 thousand Costs per CO_2e are not assessed
Action outline	Action name	**Develop municipal RECs and CECs**
	Action type	Increase the production and consumption of energy production from renewable resources
	Action description	To develop the municipality's RECs and CECs in addition to the measures foreseen in the strategic documents, in accordance with the spare capacity available for this purpose

Reference to impact pathway	Field of action	Energy systems
	Systemic lever	Technology and infrastructure
	Outcome (according to module B-1.1)	Early changes (1-2 years): establishing the conditions necessary for the development of RES, preparing and implementing projects Late changes (3-4 years): increasing the capacity and scale of RES production – harnessing solar energy
Implementation	Responsible bodies/person for implementation	Tauragė district municipality
	Action scale & addressed entities	Tauragė district municipal entities
	Involved stakeholders	Tauragė district municipal entities Tauragė district municipality Business enterprises (ESO)
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	0,46 MW
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	2,8 t CO_2e
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 507,6 thousand 181 030,9 Eur/ t CO2e
Action outline	Action name	**Development of energy production using RES (non-profit legal entities)**
	Action type	Increase the production and consumption of energy production from renewable resources
	Action description	Developing solar power plants for non-profit legal entities (producing consumers) Development of solar power plants by non-profit legal entities (non-producing consumers), where the energy produced is used for their own and farm consumption
Reference to impact pathway	Field of action	Energy systems
	Systemic lever	Technology and infrastructure
	Outcome (according to module B-1.1)	Early changes (1-2 years): establishing the conditions necessary for the development of RES, preparing and implementing projects Late changes (3-4 years): increasing the capacity and scale of RES production – harnessing solar energy
Implementation	Responsible bodies/person for implementation	Non-profit-making legal entities
	Action scale & addressed entities	Non-profit-making legal entities
	Involved stakeholders	Non-profit-making legal entities

		Business enterprises (ESO)
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	1,38 MW
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	8,4 t CO_2e
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 1 670,6 thousand 198 617,4 Eur/t CO_2e
Action outline	Action name	**Developing RES-based energy production in households**
	Action type	Increase the production and consumption of energy production from renewable resources
	Action description	Encourage people to install solar power plants to meet their own needs Encourage residents to purchase remote solar power plants from solar parks Encourage residents to install electricity storage facilities
Reference to impact pathway	Field of action	Energy systems
	Systemic lever	Technology and infrastructure
	Outcome (according to module B-1.1)	Early changes (1-2 years): establishing the conditions necessary for the development of RES, preparing and implementing projects Late changes (3-4 years): increasing the capacity and scale of RES production – harnessing solar energy
Implementation	Responsible bodies/person for implementation	Residents
	Action scale & addressed entities	Residents
	Involved stakeholders	Residents Business enterprises (ESO)
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	4,35 MW
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	19 t CO_2e

	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 6 824,1 thousand 357 697,2 Eur/ t CO_2e
Action outline	Action name	**Development of energy production from RES (legal entities)**
	Action type	Increase the production and consumption of energy production from renewable resources
	Action description	Developing solar parks for legal entities (generating consumers) Developing solar power plants for legal entities Development of RECs and CECs (non-municipal) Development of solar power plants for legal entities (producing consumers)
Reference to impact pathway	Field of action	Energy systems
	Systemic lever	Technology and infrastructure
	Outcome (according to module B-1.1)	Early changes (1-2 years): establishing the conditions necessary for the development of RES, preparing and implementing projects Late changes (3-4 years): increasing the capacity and scale of RES production – harnessing solar energy
Implementation	Responsible bodies/person for implementation	Legal entities
	Action scale & addressed entities	Legal entities
	Involved stakeholders	Legal entities Electricity Distribution Operator (ESO)
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	5,97 MW
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	36,4 t CO_2e
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 7 067,4 thousand 194 220,8 Eur/ t CO_2e
Action outline	Action name	**Development of solar power plants in UAB Tauragės vandenys**
	Action type	Increase the production and consumption of energy production from renewable resources
	Action description	Installation of solar power plants on the territory of UAB Tauragės vandenys.
Reference to impact pathway	Field of action	Energy systems
	Systemic lever	Technology and infrastructure

	Outcome (according to module B-1.1)	Early changes (1-2 years): establishing the conditions necessary for the development of RES, preparing and implementing projects Late changes (3-4 years): increasing the capacity and scale of RES production – harnessing solar energy
Implementation	Responsible bodies/person for implementation	UAB Tauragės vandenys
	Action scale & addressed entities	Three solar power plants with a total capacity of 650 kW. UAB Tauragės vandenys
	Involved stakeholders	UAB Tauragės vandenys Tauragė district municipality Business enterprises
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2024–2029
Impact & cost	Generated renewable energy (if applicable)	650 kW
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	4,0 t CO_2e
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 458,2 thousand 115 646,3 Eur/ t CO_2e
Action outline	Action name	**Development of wind power plants**
	Action type	Increase the production and consumption of energy production from renewable resources
	Action description	6 wind turbines planned in Tauragė district municipality
Reference to impact pathway	Field of action	Energy systems
	Systemic lever	Technology and infrastructure
	Outcome (according to module B-1.1)	Early changes (1-2 years): establishing the conditions necessary for the development of RES, preparing and implementing projects Late changes (3-4 years): increasing the capacity and scale of RES production – harnessing wind energy
Implementation	Responsible bodies/person for implementation	Business enterprises
	Action scale & addressed entities	6 wind turbines Residents (national)
	Involved stakeholders	Tauragė district municipality Residents Business enterprises
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2024–2030

Impact & cost	Generated renewable energy (if applicable)	9,98 MW
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	96,7 t CO_2e
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	Information not available
Action outline	Action name	**Development of green energy consumption in municipal institutions/enterprises**
	Action type	Increase the production and consumption of energy production from renewable resources
	Action description	Use only green energy (with guarantees of origin) in all municipal buildings
Reference to impact pathway	Field of action	Energy systems
	Systemic lever	Governance and policy
	Outcome (according to module B-1.1)	Early changes (1-2 years): contracts for the purchase of green electricity are signed Late changes (3-4 years): eliminating the use of polluting electricity
Implementation	Responsible bodies/person for implementation	Tauragė district municipality
	Action scale & addressed entities	8 345 MWh Tauragė district municipality entities
	Involved stakeholders	Tauragė district municipality Tauragė district municipality entities
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	8 345 MWh
	GHG emissions reduction estimate (total) per emission source sector	50,6 t CO_2e
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 83,5 thousand 1 650,5 Eur/ t CO_2e
Action outline	Action name	**Implementation of educational programmes on renewable energy**
	Action type	Educate residents on clean energy issues
	Action description	The measure is designed to raise public awareness of renewable energy sources and promote their sustainable use. The aim of the measure is to educate the public, especially young people, about

		the importance, benefits and feasibility of renewable energy. The means of implementation of the measure are information messages, articles, seminars, lectures, events, etc.
Reference to impact pathway	Field of action	Energy systems
	Systemic lever	Training and capacity
	Outcome (according to module B-1.1)	Early changes (1-2 years): education, awareness-raising programmes and campaigns implemented Late changes (3-4 years): increase in production capacity and scale of RES
Implementation	Responsible bodies/person for implementation	Tauragė district municipality
	Action scale & addressed entities	Residents
	Involved stakeholders	Tauragė district municipality Residents NGOs Educational institutions
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	0 t CO_2e (no direct effect identified)
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 6 thousand Cost per CO_2e is not assessed
Action outline	Action name	**Organisation of information meetings with owners of individual houses**
	Action type	Educate residents on clean energy issues
	Action description	Organisation of information meetings with owners of individual houses to inform them about opportunities to reduce fossil fuels and energy efficiency
Reference to impact pathway	Field of action	Energy systems
	Systemic lever	Training and capacity
	Outcome (according to module B-1.1)	Early changes (1-2 years): organised events for owners of individual houses Late changes (3-4 years): increase in production capacity and scale of RES;
Implementation	Responsible bodies/person for implementation	Tauragė district municipality
	Action scale & addressed entities	Residents (owners of individual houses)
	Involved stakeholders	Tauragė district municipality Residents (owners of individual houses) NGOs

	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	0 t CO_2e (no direct effect identified)
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 3 thousand Cost per CO_2e is not assessed
Transport		
Action outline	Action name	**Develop an information campaign to promote sustainable mobility or the purchase of sustainable vehicles**
	Action type	Development of sustainable mobility/promoting the phasing out of passenger cars
	Action description	The aim is to raise public awareness of green transport solutions. The campaign will provide information on the benefits of sustainable mobility, encourage people to choose fewer polluting modes of transport such as electric cars, bicycles and public transport. The aim is to reduce GHG emissions and improve quality of life.
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lever	Training and capacity
	Outcome (according to module B-1.1)	Early changes (1-2 years): education, awareness-raising programmes and campaigns implemented Late changes (3-4 years): increased number of journeys by non-motorised means of transport
Implementation	Responsible bodies/person for implementation	Tauragė district municipality
	Action scale & addressed entities	Residents
	Involved stakeholders	Tauragė district municipality Residents NGOs Educational institutions
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	0 t CO_2e (no direct effect identified)

	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 6 thousand Cost per CO_2e is not assessed
Action outline	Action name	**Provide a shuttle service for residents**
	Action type	Development of sustainable mobility/promoting the phasing out of passenger cars
	Action description	Public transport initiative. Residents can order a car "door to door" and drive not on fixed routes, but on demand. The service is provided by using clean vehicles and ensuring their charging access. The service can be ordered using a mobile app or by phone. The target group of the service is residents who live in more remote areas.
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lever	Social innovation
	Outcome (according to module B-1.1)	Early changes (1-2 years): services provided (transport) to vulnerable populations Late changes (3-4 years): reduction in fossil fuel consumption
Implementation	Responsible bodies/person for implementation	Tauragė district municipality
	Action scale & addressed entities	Residents Socially vulnerable residents
	Involved stakeholders	Tauragė district municipality UAB Tauragės autobusų parkas
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	4,60 t CO_2e
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 445,0 thousand 96 821,1 Eur/ t CO_2e
Action outline	Action name	**Install cycle paths in remote settlements, near recreational areas, garden communities**
	Action type	Development of sustainable mobility/promoting the phasing out of passenger cars
	Action description	This measure includes the development of a network of cycle paths in the outer reaches of the city, recreational areas and garden communities, connecting them to the main roads of the city. This will help residents conveniently reach recreation and leisure areas, reduce the need to use a car, promote

		an active lifestyle and contribute to reducing air pollution.
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lever	Technology and infrastructure
	Outcome (according to module B-1.1)	Early changes (1-2 years): bicycle lane installed Late changes (3-4 years): increased number of journeys by non-motorised means of transport
Implementation	Responsible bodies/person for implementation	Tauragė district municipality
	Action scale & addressed entities	About 86 km of cycle paths (Via Lithuania – 66 km, Tauragė district municipality – 20 km) Residents
	Involved stakeholders	Tauragė district municipality Residents Garden communities Business enterprises Via Lithuania
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	2 802,41 t CO_2e (is counted together with the following measures: *Installation of bicycle storage in the bus station area, Provision of bicycle transport service in public and intercity bus transport, Taxed car parking in the city centre, Installation of charging stations for non-motorized vehicles*)
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 22 449,0 thousand 8 037,9 Eur/ t CO_2e (is counted together with the following measures: *Installation of bicycle storage in the bus station area, Provision of bicycle transport service in public and intercity bus transport, Taxed car parking in the city centre, Installation of charging stations for non-motorized vehicles*)
Action outline	Action name	**Provision of bicycle storage in the bus station area**
	Action type	Promoting the abandonment of passenger cars
	Action description	To install a closed storage facility for 20 bicycles for residents going to workplaces by bus.
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lever	Technology and infrastructure
	Outcome (according to module B-1.1)	Early changes (1-2 years): infrastructure for non-motorised vehicle users Late changes (3-4 years): increased number of journeys by non-motorised means of transport
Implementation	Responsible bodies/person for implementation	Tauragė district municipality

	Action scale & addressed entities	Residents Tourists
	Involved stakeholders	Tauragė district municipality Business enterprises
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2026
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	2 802,41 t CO_2e (is counted together with the following measures: *Installation of bicycle storage in the bus station area, Provision of bicycle transport service in public and intercity bus transport, Taxed car parking in the city centre, Installation of charging stations for non-motorized vehicles*)
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 20,9 thousand 8 037,9 Eur/ t CO_2e (is counted together with the following measures: *Installation of bicycle storage in the bus station area, Provision of bicycle transport service in public and intercity bus transport, Taxed car parking in the city centre, Installation of charging stations for non-motorized vehicles*)
Action outline	Action name	**Provision of a bicycle transport service on public and intercity bus transport**
	Action type	Promoting the abandonment of passenger cars
	Action description	The bicycle lock service in public and intercity bus transport enables passengers to transport their bicycles together with the bus. This is implemented by installing special bike racks on buses that securely fix bikes and ensure the convenience of other passengers. This service promotes environmentally friendly modes of transport and meets the needs of cycling enthusiasts when traveling longer distances.
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lever	Technology and infrastructure
	Outcome (according to module B-1.1)	Early changes (1-2 years): infrastructure for non-motorised vehicle users Late changes (3-4 years): increased number of journeys by non-motorised means of transport
Implementation	Responsible bodies/person for implementation	UAB Tauragės autobusų parkas
	Action scale & addressed entities	Residents Tourists
	Involved stakeholders	UAB Tauragės autobusų parkas Tauragė district municipality Residents Tourists

	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	2 802,41 t CO_2e (is counted together with the following measures: *Installation of bicycle storage in the bus station area, Provision of bicycle transport service in public and intercity bus transport, Taxed car parking in the city centre, Installation of charging stations for non-motorized vehicles*)
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 10 thousand 8 037,9 Eur/ t CO_2e (is counted together with the following measures: *Installation of bicycle storage in the bus station area, Provision of bicycle transport service in public and intercity bus transport, Taxed car parking in the city centre, Installation of charging stations for non-motorized vehicles*)
Action outline	Action name	**Taxed parking in the city centre**
	Action type	Promoting the abandonment of passenger cars
	Action description	In order to reduce the number of cars in the city centre of Tauragė, parking meters have been installed on certain streets.
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lever	Finance and funding
	Outcome (according to module B-1.1)	Early changes (1-2 years): implementation of the taxation system Late changes (3-4 years): reduction in fossil fuel consumption
Implementation	Responsible bodies/person for implementation	Tauragė district municipality
	Action scale & addressed entities	Tauragė district municipality
	Involved stakeholders	Tauragė district municipality
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	2 802,41 t CO_2e (is counted together with the following measures: *Installation of bicycle storage in the bus station area, Provision of bicycle transport service in public and intercity bus transport, Taxed*

		car parking in the city centre, Installation of charging stations for non-motorized vehicles)
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 35,5 thousand 8 037,9 Eur/ t CO_2e (is counted together with the following measures: *Installation of bicycle storage in the bus station area, Provision of bicycle transport service in public and intercity bus transport, Taxed car parking in the city centre, Installation of charging stations for non-motorized vehicles*)
Action outline	Action name	**Installation of charging stations for non-motorised vehicles**
	Action type	Promoting the abandonment of passenger cars
	Action description	Install charging stations for non-motorized vehicles (scooters, e-bikes, etc.) in the central parts of the city and in other places
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lever	Technology and infrastructure
	Outcome (according to module B-1.1)	Early changes (1-2 years): infrastructure for non-motorised vehicle users Late changes (3-4 years): increased number of journeys by non-motorised means of transport
Implementation	Responsible bodies/person for implementation	Tauragė district municipality
	Action scale & addressed entities	Residents Tourists
	Involved stakeholders	Tauragė district municipality Business enterprises Residents
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2028
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	2 802,41 t CO_2e (is counted together with the following measures: *Installation of bicycle storage in the bus station area, Provision of bicycle transport service in public and intercity bus transport, Taxed car parking in the city centre, Installation of charging stations for non-motorized vehicles*)
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 10 thousand 8 037,9 Eur/ t CO_2e (is counted together with the following measures: *Installation of bicycle storage in the bus station area, Provision of bicycle transport service in public and intercity bus transport, Taxed car parking in the city centre, Installation of charging stations for non-motorized vehicles*)

Action outline	Action name	**Creation of a sustainable car sharing platform for municipal institutions**
	Action type	Decarbonization and optimization of the transport fleet
	Action description	The measure is intended to promote greener transport and reduce the number of public institutions' cars and increase the efficiency of the use of available cars. The possibility of purchasing such a service from an external supplier (the supplier ensures the availability of cars and services them; the purchase conditions require ensuring clean vehicles)
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lever	Technology and infrastructure
	Outcome (according to module B-1.1)	Early changes (1-2 years): increase in the number of clean transport Late changes (3-4 years): reduction in fossil fuel consumption
Implementation	Responsible bodies/person for implementation	Tauragė district municipality
	Action scale & addressed entities	Tauragė district municipality entities
	Involved stakeholders	Tauragė district municipality Tauragė district municipality entities
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	0 tCO2e (no direct reduction in GHG emissions)
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 70,0 thousand Cost per CO2e not assessed
Action outline	Action name	**Establishment of an electric car hub in Tauragė district municipality**
	Action type	Decarbonization and optimization of the transport fleet
	Action description	The creation of an electric car hub includes a package of measures: 1. Encouraging the training of necessary specialists who can work in the electric car sales and repair service sector by providing scholarships, securing internships, developing apprenticeships, etc. 2. Premises, industrial park, etc. 3. Development of electric vehicle processing capacity (business attraction activities: contact with potential business companies, presentation of

		possible opportunities for business development, presentation of conditions for business development, etc.) 4. Development of electric vehicle utilization capacities (activities of attracting business companies: contact with potential business companies, presentation of possible strategies for business development, presentation of conditions for business development, etc.) 5. Consulting business companies on issues of business creation, development, new markets, sustainability by organizing thematic events, trainings, meetings, lectures, etc. (specialists from various institutions, agencies, etc. may be invited) 6. Consulting (intermediation in consulting) of business companies regarding financing opportunities for the development of their activities (for example, the municipality organizes seminars for companies by inviting specialists from various agencies, institutions, financial institutions, consultants, etc.), e.g. in order to obtain financing for the necessary equipment 7. Development of the necessary infrastructure (roads, charging facilities, stops, etc.) 8. Attracting/adapting necessary services (optimization of bus routes to workplaces, encouraging establishment of catering companies, rental of motor and non-motorized vehicles, attraction of a sports club, development of childcare services, attraction of small business (e.g. self-service kiosk with food products) etc.)
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lever	Governance and policy
	Outcome (according to module B-1.1)	Early changes (1-2 years): creating a hub for electric cars Late changes (3-4 years): reduction in fossil fuel consumption
Implementation	Responsible bodies/person for implementation	Tauragė district municipality Businesses working in the field of sales and repair of electric cars Educational institutions
	Action scale & addressed entities	Businesses working in the field of sales and repair of electric cars Educational institutions Residents
	Involved stakeholders	Businesses working in the field of sales and repair of electric cars Educational institutions
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-

	GHG emissions reduction estimate (total) per emission source sector	0 tCO2e (no direct reduction in GHG emissions)
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 48,0 thousand Cost per CO2e not assessed
Action outline	Action name	**Acquisition of electric or other non-polluting fuel vehicles by individuals and legal entities**
	Action type	Decarbonization and optimization of the transport fleet
	Action description	Acquisition of vehicles powered by electricity or other non-polluting fuel by individuals and legal entities
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lever	Technology and infrastructure
	Outcome (according to module B-1.1)	Early changes (1-2 years): increase in the number of clean transport Late changes (3-4 years): reduction in fossil fuel consumption
Implementation	Responsible bodies/person for implementation	Residents Business enterprises
	Action scale & addressed entities	20% of all light vehicles 16% of all buses and heavy vehicles Residents Business enterprises
	Involved stakeholders	Residents Business enterprises Municipality as change facilitator
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	11 224,5 t CO_2e (estimated together with the measure *Installation of charging stations for electric vehicles in households and in the industrial and business sector*)
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 161 480,0 thousand 14 877,7 Eur/ t CO_2e (estimated together with the measure *Installation of charging stations for electric vehicles in households and in the industrial and business sector*)
Action outline	Action name	**Installation of charging stations for electric vehicles in households and in the industrial and business sector**
	Action type	Decarbonization and optimization of the transport fleet

	Action description	Installation of electric vehicle charging stations in households and in the industrial and business sector
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lever	Technology and infrastructure
	Outcome (according to module B-1.1)	Early changes (1-2 years): increase in the number of clean transport Late changes (3-4 years): reduction in fossil fuel consumption
Implementation	Responsible bodies/person for implementation	Residents Business enterprises
	Action scale & addressed entities	Residents Business enterprises
	Involved stakeholders	Residents Business enterprises Municipality as change facilitator
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	11 224,5 t CO2e (assessed in conjunction with the measure *Acquisition of electric or other non-polluting fuel vehicles by individuals and legal entities*)
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 5 514,9 thousand 14 877,7 Eur/ t CO2e (assessed in conjunction with the measure *Acquisition of electric or other non-volatile fuel vehicles by individuals and legal entities*)
Action outline	Action name	**Study on the optimisation of light transport for municipalities and their institutions**
	Action type	Decarbonization and optimization of the transport fleet
	Action description	Analyse the possibilities of optimizing the fleet of light vehicles managed by the municipality and its institutions: abandoning unfit vehicles, the need and scale of the sharing platform, car rental, etc.
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lever	Training and capacity
	Outcome (according to module B-1.1)	Early changes (1-2 years): data collection, processing, analysis and drawing conclusions Late changes (3-4 years): preparation and implementation of targeted measures based on the collected data
Implementation	Responsible bodies/person for implementation	Tauragė district municipality
	Action scale & addressed entities	1 study Tauragė district municipality
	Involved stakeholders	Tauragė district municipality Tauragė district municipal entities

	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	0 t CO_2e (no direct effect identified)
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 50 thousand Cost per CO_2e is not assessed
Action outline	Action name	**Replacement of polluting vehicles owned by the municipality and the companies it manages with new non-polluting vehicles**
	Action type	Decarbonization and optimization of the transport fleet
	Action description	Change the polluting light vehicles owned by the municipality and its managed companies to vehicles powered by non-polluting fuel
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lever	Technology and infrastructure
	Outcome (according to module B-1.1)	Early changes (1-2 years): increase in the number of clean transport Late changes (3-4 years): reduction in fossil fuel consumption
Implementation	Responsible bodies/person for implementation	Tauragė district municipality
	Action scale & addressed entities	Tauragė district municipality Tauragė district municipal entities
	Involved stakeholders	Tauragė district municipality Tauragė district municipal entities
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	586,5 t CO_2e
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 3 810,0 thousand 6 496,2 Eur/ t CO_2e

Action outline	Action name	**Replacing polluting buses owned by the municipality and its owned companies with vehicles running on cleaner fuels**
	Action type	Decarbonization and optimization of the transport fleet
	Action description	Change the polluting buses owned by the municipality and the companies managed by it to vehicles powered by non-polluting fuel
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lever	Technology and infrastructure
	Outcome (according to module B-1.1)	Early changes (1-2 years): increase in the number of clean transport Late changes (3-4 years): reduction in fossil fuel consumption
Implementation	Responsible bodies/person for implementation	Tauragė district municipality
	Action scale & addressed entities	Tauragė district municipality Tauragė district municipal entities
	Involved stakeholders	Tauragė district municipality Tauragė district municipal entities
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	1 046,7 t CO_2e
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 13 800,0 thousand 13 184,3 Eur/ t CO_2e
Action outline	Action name	**Decarbonise the heavy polluting vehicles owned by the municipality and the companies it manages**
	Action type	Decarbonization and optimization of the transport fleet
	Action description	Change the polluting heavy transport owned by the municipality and the companies managed by it to vehicles powered by non-polluting fuel
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lever	Technology and infrastructure
	Outcome (according to module B-1.1)	Early changes (1-2 years): increase in the number of clean transport Late changes (3-4 years): reduction in fossil fuel consumption
Implementation	Responsible bodies/person for implementation	Tauragė district municipality
	Action scale & addressed entities	Tauragė district municipality Tauragė district municipal entities

	Involved stakeholders	Tauragė district municipality Tauragė district municipal entities
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	384,5 t CO_2e
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 1 995,7 thousand 5 190,3 Eur/ t CO_2e
Action outline	Action name	**Optimising public transport routes**
	Action type	Decarbonization and optimization of the transport fleet
	Action description	Optimise public transport timetables, adapting to the needs of different population groups (schoolchildren, seniors, etc.)
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lever	Social inovation
	Outcome (according to module B-1.1)	Early changes (1-2 years): services provided (transport) to vulnerable populations Late changes (3-4 years): reduction in fossil fuel consumption
Implementation	Responsible bodies/person for implementation	UAB Tauragė buses Green region public enterprise
	Action scale & addressed entities	Residents
	Involved stakeholders	Residents UAB Tauragė buses Green region public enterprise
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025-2030
Impact & cost	Generated renewable energy (if applicable)	–
	Removed/substituted energy, volume, or fuel type	–
	GHG emissions reduction estimate (total) per emission source sector	0 t CO2e (no direct reduction in GHG emissions)
	GHG emissions compensated (natural or technological sinks)	–
	Total costs and costs by CO_2e unit	No costs foreseen

Action outline	Action name	**Develop a concept and design principles for Tauragė as a cycling and walking city**
	Action type	Decarbonization and optimization of the transport fleet
	Action description	Develop a concept for Tauragė as a cycling and pedestrian city by preparing urban design principles, necessary infrastructure, etc.
Reference to impact pathway	Field of action	Mobility and transport
	Systemic lever	Technology and infrastructure
	Outcome (according to module B-1.1)	Early developments (1-2 years): infrastructure for non-motorised users in place Late changes (3-4 years): Increased number of trips made by non-motorised means
Implementation	Responsible bodies/person for implementation	Tauragė district municipality
	Action scale & addressed entities	Residents
	Involved stakeholders	Tauragė district municipality Residents
	Comments on implementation – consider mentioning resources, timelines, milestones	Implemetation period: 2025-2026
Impact & cost	Generated renewable energy (if applicable)	–
	Removed/substituted energy, volume, or fuel type	–
	GHG emissions reduction estimate (total) per emission source sector	0 t CO2e (no direct reduction in GHG emissions)
	GHG emissions compensated (natural or technological sinks)	–
	Total costs and costs by CO_2e unit	EUR 30 thousand Costs per CO2e not assessed
Waste and circular economy		
Action outline	Action name	**Implementing control over the composition of municipal waste**
	Action type	Reducing waste disposal in landfills
	Action description	By implementing the control, it would be ensured that the amount of mixed municipal waste generated would decrease, and the scale of waste sorting would increase.
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lever	Governance and policy
	Outcome (according to module B-1.1)	Early changes (1-2 years): reduction of waste going to landfill as a result of controls Late changes (3-4 years): increased waste sorting and recycling
Implementation	Responsible bodies/person for implementation	TRWMC
	Action scale & addressed entities	Residents Apartment building communities Business enterprises
	Involved stakeholders	TRWMC

		Tauragė district municipality Residents Apartment building communities Business enterprises
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	1032,3 t CO_2e
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 316,8 thousand 306,9 Eur/ t CO_2e
Action outline	Action name	**Developing the network of "Padėk" stations in the region**
	Action type	Reducing waste disposal in landfills
	Action description	This measure is focused on sharing things and is important in the context of promoting aspects of sustainable consumption and waste prevention. By expanding the “Dėkui“ network, residents in the region can be encouraged not only to consume more consciously, but also to share used goods more actively, thus contributing to the implementation of long-term waste reduction goals.
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lever	Social innovation
	Outcome (according to module B-1.1)	Early changes (1-2 years): reduced waste to landfill through sharing Late changes (3-4 years): increased waste sorting and recycling
Implementation	Responsible bodies/person for implementation	TRWMC Communities
	Action scale & addressed entities	11 stops (1 - TRWMC, 10 - Communities) Residents
	Involved stakeholders	TRWMC Tauragė district municipality Residents NGOs
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-

	GHG emissions reduction estimate (total) per emission source sector	13,8 t CO_2e
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 113,0 thousand 8 210,2 Eur/ t CO_2e
Action outline	Action name	**Incineration of non-recyclable waste**
	Action type	Reducing waste disposal in landfills
	Action description	Incinerate waste that cannot be otherwise used or recycled
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lever	Technology and infrastructure
	Outcome (according to module B-1.1)	Early changes (1-2 years): reduction of waste going to landfill as a result of controls Late changes (3-4 years): increased waste sorting and recycling
Implementation	Responsible bodies/person for implementation	TRWMC
	Action scale & addressed entities	TRWMC
	Involved stakeholders	TRWMC
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	171,0 t CO_2e
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 109,1 thousand 638,2 Eur/ t CO_2e
Action outline	Action name	**Developing a strategy to raise awareness, sensitisation and education on waste management, sorting and recycling**
	Action type	Education in the field of circular economy
	Action description	Creating a strategy contributes to the effective education of people. The strategy would develop measures to increase people's awareness and awareness. The measures would include workshops, information campaigns, conferences, etc. organization, etc.
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lever	Training and capacity
	Outcome (according to module B-1.1)	Early changes (1-2 years): education, awareness-raising programmes and campaigns implemented

		Late changes (3-4 years): increased waste sorting and recycling
Implementation	Responsible bodies/person for implementation	TRWMC
	Action scale & addressed entities	Residents
	Involved stakeholders	Tauragė district municipality TRWMC Residents
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	0 t CO_2e (no direct effect identified)
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 30 thousand Cost per CO_2e is not assessed
Action outline	Action name	**Carrying out a survey of the population on their sorting habits**
	Action type	Education in the field of circular economy
	Action description	The survey would allow us to determine which population groups have waste sorting habits and which do not. This would make it possible to determine which groups are most actively sorting waste and which are not. Also, for what reasons it is not sorted, etc., which would allow for a clearer and more targeted formation of educational, informational programs, advertisements, etc.
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lever	Governance and policy
	Outcome (according to module B-1.1)	Early changes (1-2 years): data collection, processing, analysis and drawing conclusions Late changes (3-4 years): increased waste sorting and recycling
Implementation	Responsible bodies/person for implementation	Tauragė district municipality
	Action scale & addressed entities	Residents
	Involved stakeholders	TRWMC Tauragė district municipality Residents
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030

Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	0 t CO_2e (no direct effect identified)
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 10 thousand Cost per CO_2e is not assessed
Action outline	Action name	**Encouraging residents to install more environmentally friendly domestic wastewater treatment plants**
	Action type	Changing domestic wastewater management methods
	Action description	Reimbursement of part of the costs incurred in installing an environmentally friendly/non-harmful domestic wastewater treatment plant. Compensation is provided to individuals.
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lever	Technology and infrastructure
	Outcome (according to module B-1.1)	Early changes (1-2 years): increase in the number of environmentally friendly domestic wastewater treatment plants Late changes (3-4 years): increase in the volume of wastewater treated in an environmentally friendly way and reduction of GHG emissions from domestic wastewater management
Implementation	Responsible bodies/person for implementation	Tauragė district municipality
	Action scale & addressed entities	300 pcs. sewage treatment plants Residents
	Involved stakeholders	Tauragė district municipality Residents Business enterprises UAB Tauragės vandenys
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025-2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	38,1 t CO_2e
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 300 thousand 7 883,3 Eur/ t CO_2e

Action outline	Action name	**Increasing landfill gas collection**
	Action type	Gas collection at waste management sites
	Action description	Develop the scale of gas collection in the landfill in order to collect as much gas as possible)
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lever	Technology and infrastructure
	Outcome (according to module B-1.1)	Early changes (1-2 years): installation of gas collection infrastructure at a landfill site Late changes (3-4 years): reduction of direct gas emissions
Implementation	Responsible bodies/person for implementation	TRWMC
	Action scale & addressed entities	TRWMC
	Involved stakeholders	TRWMC Tauragė district municipality
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	1 800,2 t CO_2e
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 65,0 thousand 36,1 Eur/ t CO_2e
Action outline	Action name	**Utilisation of landfill gas for energy production**
	Action type	Gas collection at waste management sites
	Action description	Electricity generation from landfill gas. Utilization of produced electricity for landfill purposes.
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lever	Technology and infrastructure
	Outcome (according to module B-1.1)	Early changes (1-2 years): installation of gas utilisation infrastructure at a landfill site Late changes (3-4 years): electricity generated from landfill gas and substitution of electricity generated by other means
Implementation	Responsible bodies/person for implementation	TRWMC
	Action scale & addressed entities	TRWMC
	Involved stakeholders	TRWMC Tauragė district municipality
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030

Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	200 MWh
	GHG emissions reduction estimate (total) per emission source sector	1,2 t CO_2e
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	Under evaluation
Action outline	Action name	**Optimising waste collection routes**
	Action type	Reducing waste to landfill
	Action description	Develop a scheme to optimise waste collection routes.
Reference to impact pathway	Field of action	Waste and circular economy
	Systemic lever	Governance and policy
	Outcome (according to module B-1.1)	Early changes (1-2 years): reduced waste going to landfill Late changes (3-4 years): increased waste sorting and recycling
Implementation	Responsible bodies/person for implementation	Dunokai TRWMC
	Action scale & addressed entities	Residents
	Involved stakeholders	Dunokai TRWMC Residents
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025-2030
Impact & cost	Generated renewable energy (if applicable)	–
	Removed/substituted energy, volume, or fuel type	–
	GHG emissions reduction estimate (total) per emission source sector	0 t CO2e (no direct reduction in GHG emissions)
	GHG emissions compensated (natural or technological sinks)	–
	Total costs and costs by CO_2e unit	No costs foreseen
Buildings		
Action outline	Action name	**Renovating apartment buildings**
	Action type	Increase energy efficiency
	Action description	Renovation of multi-apartment buildings connected to district heating and not connected to district heating using the principles of quarterly renovation (with priority given to blocks) (planned renovation of 80 % of the houses not connected to district heating, or 129 multi-apartment buildings)

Reference to impact pathway	Field of action	Buildings
	Systemic lever	Technology and infrastructure
	Outcome (according to module B-1.1)	Early changes (1-2 years): renovated apartment buildings Late changes (3-4 years): reduced energy consumption
Implementation	Responsible bodies/person for implementation	UAB Tauragės šilumos tinklai Owners of apartment buildings
	Action scale & addressed entities	159 apartment blocks to be renovated Residents
	Involved stakeholders	UAB Tauragės šilumos tinklai Owners of apartment buildings Residents Tauragė district municipality as change facilitator
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2024–2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	1 582,7 t CO_2e
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 220 679,6 thousand 139 429,1 Eur/ t CO_2e
Action outline	Action name	**Renovation of public buildings (additional)**
	Action type	Increase energy efficiency
	Action description	Additionally (in addition to what is already provided for in the strategic documents), public purpose buildings are renovated by applying the principles of quarter renovation (giving priority considering the quarters)
Reference to impact pathway	Field of action	Buildings
	Systemic lever	Technology and infrastructure
	Outcome (according to module B-1.1)	Early changes (1-2 years): renovated public buildings Late changes (3-4 years): reduced energy consumption
Implementation	Responsible bodies/person for implementation	Tauragė district municipality
	Action scale & addressed entities	14 buildings to be renovated Tauragė district municipality entities Residents
	Involved stakeholders	Tauragė district municipality Tauragė district municipality entities Residents
	Comments on implementation – consider	Implementation period: 2025-2030

	mentioning resources, timelines, milestones	
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	139,4 t CO_2e
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 6 639,7 thousand 47 644,0 Eur/ t CO_2e
Action outline	Action name	**Renovation/modernisation of one- or two-apartment dwellings**
	Action type	Increase energy efficiency
	Action description	Renovation of individual houses (1-2 apartments)
Reference to impact pathway	Field of action	Buildings
	Systemic lever	Technology and infrastructure
	Outcome (according to module B-1.1)	Early changes (1-2 years): renovated detached houses (1-2 apartments) Late changes (3-4 years): reduced energy consumption
Implementation	Responsible bodies/person for implementation	Residents
	Action scale & addressed entities	300 houses planned to be renovated Residents
	Involved stakeholders	Residents Tauragė district municipality as facilitator
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	756,6 t CO_2e
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 9 000 thousand 11 894,9 Eur / t CO_2e
Action outline	Action name	**Encouraging the renovation of individual houses (1-2 flats)**
	Action type	Increase energy efficiency
	Action description	Provide additional support to residents who renovate their homes and apply for funding under the national measure "Renovation (modernization) of one- or two-apartment residential homes for individuals,

		achieving at least the energy efficiency class of a B house and reducing thermal energy consumption costs by at least 40% compared to with calculated thermal energy costs until the implementation of the renewal (modernization) project" (administered by EPMA). The amount of support provided by the municipality is calculated per square meter of useful area (before renovation). Application of priority considering the principles of quarter renovation.
Reference to impact pathway	Field of action	Buildings
	Systemic lever	Technology and infrastructure
	Outcome (according to module B-1.1)	Early changes (1-2 years): renovated detached houses (1-2 apartments) Late changes (3-4 years): reduced energy consumption
Implementation	Responsible bodies/person for implementation	Tauragė district municipality Residents
	Action scale & addressed entities	100 houses are planned to be renovated Residents
	Involved stakeholders	Tauragė district municipality Residents
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	252,2 t CO_2e
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 106,7 thousand 422,9 Eur / t CO_2e
Action outline	Action name	**Feasibility study on the improvement of energy inefficient individual (1-2 flat) houses**
	Action type	Increase energy efficiency
	Action description	Analyse how many individual houses are not in use, prepare alternatives for their implementation, paying particular attention to meeting the needs of socially vulnerable groups
Reference to impact pathway	Field of action	Buildings
	Systemic lever	Social innovation
	Outcome (according to module B-1.1)	Early changes (1-2 years): data collection, processing, analysis and drawing conclusions Late changes (3-4 years): reduced energy consumption
Implementation	Responsible bodies/person for implementation	Tauragė district municipality
	Action scale & addressed entities	1 study Residents

		Socially vulnerable residents
	Involved stakeholders	Tauragė district municipality Residents Socially vulnerable residents
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period : 2026
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	0 t CO_2e (direct effect not identified)
	GHG emissions compensated (natural or technological sinks)	
	Total costs and costs by CO_2e unit	EUR 30 thousand Cost per CO_2e is not assessed
AFOLU		
Action outline	Action name	**Banning fur farming (implementation of a nationally adopted decision)**
	Action type	Reducing GHG emissions in animal husbandry
	Action description	From 2027 January 1 Keeping and/or breeding animals for the purpose of extracting or selling furs will be prohibited in Lithuania.
Reference to impact pathway	Field of action	AFOLU
	Systemic lever	Governance and policy
	Outcome (according to module B-1.1)	Early changes (1-2 years): implementation of new technologies Late changes (3-4 years): reduced GHG emissions from the livestock sector
Implementation	Responsible bodies/person for implementation	Breeders of fur animals
	Action scale & addressed entities	Breeders of fur animals
	Involved stakeholders	Breeders of fur animals (Business enterprises) Ministry of Agriculture of the Republic of Lithuania Tauragė district municipality
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2024–2026
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	1 812,0 t CO_2e
	GHG emissions compensated (natural or technological sinks)	-

	Total costs and costs by CO_2e unit	EUR 111,9 thousand 61,8 Eur / t CO_2e
Action outline	Action name	**Promotion of the use of feed/supplements to reduce methane emissions in livestock production**
	Action type	Reducing GHG emissions in animal husbandry
	Action description	The municipality promotes the use of feed and supplements that reduce methane emissions in animal husbandry. This measure will help farmers reduce greenhouse gas emissions by improving animal digestion and reducing methane emissions.
Reference to impact pathway	Field of action	AFOLU
	Systemic lever	Technology and infrastructure
	Outcome (according to module B-1.1)	Early changes (1-2 years): changes in livestock feeding technology Late changes (3-4 years): changes in livestock fermentation processes and reduced GHG emissions
Implementation	Responsible bodies/person for implementation	Tauragė district municipality
	Action scale & addressed entities	Farmers
	Involved stakeholders	Farmers Business enterprises Residents Tauragė district municipality Tauragė district farmers union
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	1 144,8 t CO_2e
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 150,9 thousand 131,8 Eur / t CO_2e
Action outline	Action name	**Use of biological agents for manure and slurry treatment**
	Action type	Reducing GHG emissions in animal husbandry
	Action description	Promotion of the municipality to use acidified slurry for fertilization.
Reference to impact pathway	Field of action	AFOLU
	Systemic lever	Technology and infrastructure
	Outcome (according to module B-1.1)	Early changes (1-2 years): increased amount of acidified manure and slurry Late changes (3-4 years): reduced GHG emissions from the livestock sector

Implementation	Responsible bodies/person for implementation	Tauragė district municipality
	Action scale & addressed entities	Farmers
	Involved stakeholders	Tauragė district municipality Business enterprises Farmers Tauragė district farmers union
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	1 085,3 t CO_2e (*assessed together with the Investment support for the introduction of climate-friendly farming practices on livestock farms (acidification of slurry) (implementation of a national measure) and Investment support for the introduction of climate-smart farming practices on livestock holdings (slurry incorporation) (implementation of a national measure))*
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 10,5 thousand 95,4 Eur / t CO_2e (*assessed together with the Investment support for the introduction of climate-friendly farming practices on livestock farms (acidification of slurry) (implementation of a national measure) and Investment support for the introduction of climate-smart farming practices on livestock holdings (slurry incorporation) (implementation of a national measure))*
Action outline	Action name	**Investment support for the introduction of climate-friendly farming practices on livestock farms (acidification of slurry) (implementation of a national measure)**
	Action type	Reducing GHG emissions in animal husbandry
	Action description	Slurry will be acidified when used to fertilize fields. Investment support is paid for this activity according to the Lithuanian Agriculture and Rural Development 2023-2027. strategic plan
Reference to impact pathway	Field of action	AFOLU
	Systemic lever	Technology and infrastructure
	Outcome (according to module B-1.1)	Early changes (1-2 years): technological developments in manure and slurry management Late changes (3-4 years): reduced GHG emissions from the livestock sector
Implementation	Responsible bodies/person for implementation	Ministry of Agriculture of the Republic of Lithuania

	Action scale & addressed entities	Farmers
	Involved stakeholders	Farmers Ministry of Agriculture of the Republic of Lithuania Tauragė district farmers union
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2027
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	1 085,3 t CO2e (to be assessed in conjunction with the measure *Use of biological products for the treatment of manure and slurry and Investment support for the introduction of climate-friendly farming practices in livestock farming (slurry incorporation) (implementation of national measure*)
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 92,8 thousand 95,4 Eur/t CO2e (to be assessed in conjunction with the measure *Use of biological preparations for the treatment of manure and slurry and Investment support for the introduction of climate-friendly farming practices on livestock farms (slurry incorporation) (implementation of national measure*)
Action outline	Action name	**Investment support for the introduction of climate-smart farming practices on livestock holdings (slurry incorporation) (implementation of a national measure)**
	Action type	Reducing GHG emissions in animal husbandry
	Action description	Slurry is directly incorporated into the ground. Investment support is paid for this activity in accordance with the Lithuanian Agricultural and Rural Development 2023-2027 strategic plan
Reference to impact pathway	Field of action	AFOLU
	Systemic lever	Technology and infrastructure
	Outcome (according to module B-1.1)	Early changes (1-2 years): technological developments in manure and slurry management Late changes (3-4 years): reduced GHG emissions from the livestock sector
Implementation	Responsible bodies/person for implementation	Ministry of Agriculture of the Republic of Lithuania
	Action scale & addressed entities	Farmers
	Involved stakeholders	Ministry of Agriculture of the Republic of Lithuania Tauragė district municipality Farmers Tauragė district farmers union
	Comments on implementation – consider	Implementation period: 2025–2027

	mentioning resources, timelines, milestones	
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	1 085,3 t CO2e (to be assessed in conjunction with the measure Use of biological products for the treatment of manure and slurry and Investment support for the introduction of climate-friendly farming practices in livestock farming (slurry incorporation) (implementation of national measure)
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 0,3 thousand 95,4 Eur/t CO2e (to be assessed in conjunction with the measure Use of biological preparations for the treatment of manure and slurry and Investment support for the introduction of climate-friendly farming practices on livestock farms (slurry incorporation) (implementation of national measure)
Action outline	Action name	**Compensation for land research**
	Action type	Reducing the use of fertilizers
	Action description	Farmers will be reimbursed for the cost of soil testing. These studies will help determine the condition and needs of the soil more accurately, allow more rational use of fertilizers and thus contribute to environmental protection and increasing the efficiency of farming.
Reference to impact pathway	Field of action	AFOLU
	Systemic lever	Finance and funding
	Outcome (according to module B-1.1)	Early changes (1-2 years): increase in the amount of land surveys carried out Late changes (3-4 years): reduction in fertiliser use
Implementation	Responsible bodies/person for implementation	Tauragė district municipality
	Action scale & addressed entities	Farmers
	Involved stakeholders	Tauragė district municipality Farmers Tauragė district farmers union
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	0 t CO_2e (direct effect not assessed)

	GHG emissions compensated (natural or technological sinks)	
	Total costs and costs by CO_2e unit	EUR 25 thousand Cost per CO_2e is not assessed
Action outline	Action name	**Organisation of information events on catch crops and their benefits for farmers**
	Action type	Reducing the use of fertilizers
	Action description	Information events are organized about catch crops and their benefits for farmers. The purpose of these events is to educate farmers about the benefits of catch crops, which are grown between main crops. The events will discuss the positive effects of catch crops, such as improving soil structure, reducing erosion, conserving nutrients, etc.
Reference to impact pathway	Field of action	AFOLU
	Systemic lever	Training and capacity
	Outcome (according to module B-1.1)	Early changes (1-2 years): education, awareness-raising programmes and campaigns implemented Late changes (3-4 years): reduction in fertiliser use
Implementation	Responsible bodies/person for implementation	Tauragė district farmers union Lithuanian Agricultural Advisory Service
	Action scale & addressed entities	Farmers
	Involved stakeholders	Tauragė district farmers union Lithuanian Agricultural Advisory Service Farmers Tauragė district municipality NGOs
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	0 t CO_2e (direct effect not assessed)
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 3 thousand Cost per CO_2e is not assessed
Action outline	Action name	**Promotion of initiatives to develop organic farming (certification)**
	Action type	Reducing the use of fertilizers
	Action description	Payment of certification service fee
Reference to impact pathway	Field of action	AFOLU
	Systemic lever	Finance and funding
	Outcome (according to module B-1.1)	Early changes (1-2 years): increase in the number of organic farms Late changes (3-4 years): reduction in fertiliser use

Implementation	Responsible bodies/person for implementation	Tauragė district municipality
	Action scale & addressed entities	Farmers
	Involved stakeholders	Tauragė district municipality Farmers Tauragė district farmers union
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: iki 2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	2 707,8 t CO_2e (evaluated together with the measure *Promotion of organic farming (implementation of the national measure*)
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 60 thousand 3 662,3 Eur / t CO_2e (evaluated together with the measure *Promotion of organic farming (implementation of the national measure*)
Action outline	Action name	**Promotion of organic farming (implementation of the national measure)**
	Action type	Reducing the use of fertilizers
	Action description	The measure is designed to promote organic farming. The measure will address the challenges of providing the population with quality food products, reducing negative environmental impacts, preserving biodiversity and maintaining the stability of ecosystems.
Reference to impact pathway	Field of action	AFOLU
	Systemic lever	Finance and funding
	Outcome (according to module B-1.1)	Early changes (1-2 years): increase in the number of organic farms Late changes (3-4 years): reduction in fertiliser use
Implementation	Responsible bodies/person for implementation	Ministry of Agriculture of the Republic of Lithuania Tauragė district municipality
	Action scale & addressed entities	Farmers
	Involved stakeholders	Ministry of Agriculture of the Republic of Lithuania Tauragė district municipality Farmers Tauragė district farmers union
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2027
Impact & cost	Generated renewable energy (if applicable)	-

	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	2 707,8 t CO_2e (evaluated together with the measure *Promotion of organic farming (implementation of the national measure*)
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 9 856,6 thousand 3 662,3 Eur / t CO_2e (evaluated together with the measure *Promotion of organic farming (implementation of the national measure*)
Action outline	Action name	**Development of precision fertilisation technologies (implementation of a national measure)**
	Action type	Reducing the use of fertilizers
	Action description	The measure is intended to support the acquisition of precision technologies that will save fuel, reduce the amount of plant protection products and fertilization used, and improve the condition of the soil.
Reference to impact pathway	Field of action	AFOLU
	Systemic lever	Technology and infrastructure
	Outcome (according to module B-1.1)	Early changes (1-2 years): implementation of new technologies Late changes (3-4 years): reduction in fertiliser use
Implementation	Responsible bodies/person for implementation	Ministry of Agriculture of the Republic of Lithuania
	Action scale & addressed entities	Farmers
	Involved stakeholders	Ministry of Agriculture of the Republic of Lithuania Tauragė district municipality Tauragė district farmers union Farmers Business enterprises
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	833,1 t CO_2e
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 145,8 thousand 175,1 Eur / t CO_2e
Action outline	Action name	**Development of protein crops (implementation of a national measure)**

	Action type	Reducing the use of fertilizers
	Action description	Replacing bell grasses with leguminous grasses. Leguminous grasses, which have formed symbiotic relationships with nitrogen-fixing bacteria, in the presence of sufficient soil air permeability and the number of mineral substances, do not additionally require additional nitrogen fertilizers, in contrast to bell grasses. Coupled income support is provided to protein crop producers.
Reference to impact pathway	Field of action	AFOLU
	Systemic lever	Technology and infrastructure
	Outcome (according to module B-1.1)	Early changes (1-2 years): implementation of new technologies Late changes (3-4 years): reduction in fertiliser use
Implementation	Responsible bodies/person for implementation	Ministry of Agriculture of the Republic of Lithuania
	Action scale & addressed entities	Farmers
	Involved stakeholders	Ministry of Agriculture of the Republic of Lithuania Tauragė district municipality Tauragė district farmers union Farmers
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	3 511,80 t CO_2e
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 1 238,2 thousand 352,6 Eur / t CO_2e
Action outline	Action name	**Information and advice on the application of sustainable farming methods (implementation of a national measure)**
	Action type	Reducing the use of fertilizers
	Action description	The aim of the measure is to publicize the good practices of sustainable and sustainable farming in order to reduce the negative impact on soil, water, air and climate. The aim is to acquaint farmers with the implementation of ecological systems in accordance with the direct support measures of the CAP strategic plan 2023-2027 and using other policy instruments. It is planned to hold field days, information campaigns about soil-saving technologies, practices promoting more efficient use of fertilizers and plant protection products, and other climate-friendly agricultural activities. The tool also aims to improve the knowledge of farmers and fish

		business representatives by providing consulting services on how to apply these advanced technologies and operational solutions in order to reduce GHG emissions. Encourage farmers to farm more sustainably, use the latest technologies, and implement good practices.
Reference to impact pathway	Field of action	AFOLU
	Systemic lever	Training and capacity
	Outcome (according to module B-1.1)	Early changes (1-2 years): education, awareness-raising programmes and campaigns implemented Late changes (3-4 years): reduction in fertiliser use
Implementation	Responsible bodies/person for implementation	Ministry of Agriculture of the Republic of Lithuania
	Action scale & addressed entities	Farmers
	Involved stakeholders	Ministry of Agriculture of the Republic of Lithuania Tauragė district municipality Tauragė district farmers union Farmers NVO
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	0 t CO2e (no direct effect identified)
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 266,9 thousand Cost per CO2e: not assessed
Action outline	Action name	**Sustainable horticulture and gardening (implementation of a national measure)**
	Action type	Reducing the use of fertilizers
	Action description	The measure aims to encourage fruit, berry and vegetable growers to implement more environmentally friendly production technologies, thereby contributing to the preservation and improvement of soil quality and the reduction of surface and groundwater pollution
Reference to impact pathway	Field of action	AFOLU
	Systemic lever	Technology and infrastructure
	Outcome (according to module B-1.1)	Early changes (1-2 years): implementation of new technologies Late changes (3-4 years): reduction in fertiliser use
Implementation	Responsible bodies/person for implementation	Ministry of Agriculture of the Republic of Lithuania
	Action scale & addressed entities	Farmers

	Involved stakeholders	Ministry of Agriculture of the Republic of Lithuania Tauragė district municipality Tauragė district farmers union Farmers
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	77,8 t CO_2e
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 106,8 thousand 1 371,7 Eur / t CO_2e
Action outline	Action name	**Development of near-field technologies, in particular direct ploughing (implementation of a national measure)**
	Action type	Increasing carbon absorption
	Action description	The measure aims to promote no-till farming, with a special focus on promoting direct seeding. No-till farming, and especially direct seeding, improves soil properties, increases its fertility and carbon storage.
Reference to impact pathway	Field of action	AFOLU
	Systemic lever	Technology and infrastructure
	Outcome (according to module B-1.1)	Early changes (1-2 years): implementation of new technologies Late changes (3-4 years): GHG reductions due to change of cultivation method (ploughing)
Implementation	Responsible bodies/person for implementation	Ministry of Agriculture of the Republic of Lithuania
	Action scale & addressed entities	Farmers
	Involved stakeholders	Ministry of Agriculture of the Republic of Lithuania Tauragė district municipality Tauragė district farmers union Farmers
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	2 083,3 t CO_2e

	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 1 294,7 thousand 621,4 Eur / t CO_2e
Action outline	Action name	**Inventorying the area of existing peatlands**
	Action type	Reducing GHG emissions in wetlands
	Action description	Inventory of exploited peatlands, specifying land use (damaged and used area, intact area, recultivated area, etc.)
Reference to impact pathway	Field of action	AFOLU
	Systemic lever	Training and capacity
	Outcome (according to module B-1.1)	Early changes (1-2 years): data collection, processing, analysis and drawing conclusions Late changes (3-4 years): reduction of GHG emissions from exploited wetland land
Implementation	Responsible bodies/person for implementation	UAB Klasmann-Deilmann Laukesa
	Action scale & addressed entities	UAB Klasmann-Deilmann Laukesa
	Involved stakeholders	UAB Klasmann-Deilmann Laukesa Tauragė district municipality
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2024–2025
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	0 t CO_2e (no direct effect identified)
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 2,1 thousand Cost per CO_2e is not assessed
Action outline	Action name	**Decommissioning of undisturbed areas**
	Action type	Reducing GHG emissions in wetlands
	Action description	Decision not to operate damaged areas
Reference to impact pathway	Field of action	AFOLU
	Systemic lever	Governance and policy
	Outcome (according to module B-1.1)	Early changes (1-2 years): surviving area of natural wetlands Late changes (3-4 years): reduction of GHG emissions from exploited wetland land
Implementation	Responsible bodies/person for implementation	UAB Klasmann-Deilmann Laukesa
	Action scale & addressed entities	UAB Klasmann-Deilmann Laukesa
	Involved stakeholders	UAB Klasmann-Deilmann Laukesa Tauragė district municipality

	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2024
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	6 020,3 t CO_2e
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 10,2 thousand 1,7 Eur / t CO_2e
Action outline	Action name	**Rehabilitation of damaged wetland areas**
	Action type	Reducing GHG emissions in wetlands
	Action description	Recultivation of damaged and used wetland areas is planned.
Reference to impact pathway	Field of action	AFOLU
	Systemic lever	Technology and infrastructure
	Outcome (according to module B-1.1)	Early changes (1-2 years): restoration of damaged wetlands Late changes (3-4 years): reduction of GHG emissions from exploited wetland land
Implementation	Responsible bodies/person for implementation	UAB Klasmann-Deilmann Laukesa
	Action scale & addressed entities	UAB Klasmann-Deilmann Laukesa
	Involved stakeholders	UAB Klasmann-Deilmann Laukesa Tauragė district municipality
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	3 040,6 t CO_2e
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 460,0 thousand 151,3 Eur / t CO_2e
Action outline	Action name	**Provision of information on climate neutrality**
	Action type	Climate neutrality awareness/education
	Action description	Provision of information via electronic means (email, information posted on social networks) about climate neutrality, actions aimed at reducing environmental

		pollution. Relevant information is distributed once every six months.
Reference to impact pathway	Field of action	AFOLU
	Systemic lever	Training and capacity
	Outcome (according to module B-1.1)	Early changes (1-2 years): education, awareness-raising programmes and campaigns implemented Late changes (3-4 years): increased implementation of new technologies
Implementation	Responsible bodies/person for implementation	Tauragė district municipality Farmers
	Action scale & addressed entities	Farmers Business enterprises Residents
	Involved stakeholders	Tauragė district municipality Tauragė district farmers union Farmers Residents Business enterprises NVO
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	0 t CO_2e (no direct effect identified)
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 3 thousand Cost per CO_2e is not assessed
Action outline	Action name	**On-site best practice workshops**
	Action type	Climate neutrality awareness/education
	Action description	Specifically, going to individual farms that are already implementing some of the recommended practices, so that farmers can share and discuss aspects of the practices directly and see the practical benefits of these practices. We organise at least one workshop each year.
Reference to impact pathway	Field of action	AFOLU
	Systemic lever	Training and capacity
	Outcome (according to module B-1.1)	Early changes (1-2 years): education, awareness-raising programmes and campaigns implemented Late changes (3-4 years): increased implementation of new technologies
Implementation	Responsible bodies/person for implementation	Tauragė district farmers union
	Action scale & addressed entities	Farmers
	Involved stakeholders	Tauragė district farmers union

		Farmers
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2024–2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	0 t CO_2e (no direct effect identified)
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	EUR 6 thousand Cost per CO_2e is not assessed
Action outline	Action name	**Implementation of activities on local farms to achieve climate neutrality**
	Action type	Climate neutrality awareness/education
	Action description	Local farms are funded to provide exemplary activities to help achieve climate neutrality, which would serve as an example to the public and to hard-working farmers of how certain activities are implemented in practice. Up to 10 flagship activities to be funded in total. 50 % of the costs incurred, up to a maximum of EUR 5 000 per applicant.
Reference to impact pathway	Field of action	AFOLU
	Systemic lever	Training and capacity
	Outcome (according to module B-1.1)	Early changes (1-2 years): education, awareness-raising programmes and campaigns implemented Late changes (3-4 years): increased implementation of new technologies
Implementation	Responsible bodies/person for implementation	Tauragė district municipality Farmers
	Action scale & addressed entities	Farmers
	Involved stakeholders	Tauragė district municipality Farmers
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	0 t CO_2e (no direct effect identified)
	GHG emissions compensated (natural or technological sinks)	-

	Total costs and costs by CO_2e unit	EUR 100 thousand Cost per CO_2e is not assessed
Action outline	Action name	**Public education campaigns on healthy and environmentally friendly diets (implementation of national measure)**
	Action type	Climate neutrality awareness/education
	Action description	The measure provides for various communication and education campaigns to inform people about the negative impacts of unsustainable agricultural production (crop and livestock farming) on the environment and human health
Reference to impact pathway	Field of action	AFOLU
	Systemic lever	Training and capacity
	Outcome (according to module B-1.1)	Early changes (1-2 years): education, awareness-raising programmes and campaigns implemented Late changes (3-4 years): increased consumption of produce from organic farms
Implementation	Responsible bodies/person for implementation	Ministry of Health of the Republic of Lithuania
	Action scale & addressed entities	Residents Educational institutions
	Involved stakeholders	Ministry of Health of the Republic of Lithuania Tauragė district municipality Residents Educational institutions Farmers NGOs
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2027
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	289,5 t CO_2e
	GHG emissions compensated (natural or technological sinks)	-
	Total costs and costs by CO_2e unit	-
Action outline	Action name	**Improving forest quality (implementation of a national measure)**
	Action type	Increasing carbon absorption (Residual emissions strategy, does not contribute to emission reduction strategies)
	Action description	Improving forest quality
Reference to impact pathway	Field of action	Carbon absorption
	Systemic lever	Technology and infrastructure
	Outcome (according to module B-1.1)	Early change (1-2 years): implementation of new technologies on a wide range of land used for economic activities

		Late changes (3-4 years): increased GHG absoprtion
Implementation	Responsible bodies/person for implementation	Ministry of Agriculture of the Republic of Lithuania Tauragė district municiality
	Action scale & addressed entities	Residents Farmers Landowners
	Involved stakeholders	Ministry of Agriculture of the Republic of Lithuania Tauragė district municipality Residents Farmers Landowners
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period : 2025-2030
Impact & cost	Generated renewable energy (if applicable)	–
	Removed/substituted energy, volume, or fuel type	–
	GHG emissions reduction estimate (total) per emission source sector	1 732,6 t CO2e
	GHG emissions compensated (natural or technological sinks)	–
	Total costs and costs by CO_2e unit	EUR 54,4 thousand 31,4 Eur/ t CO2e
Action outline	Action name	**Reimbursement of the cost of forest seedlings to encourage afforestation**
	Action type	Increasing carbon absorption (Residual emissions strategy, does not contribute to emission reduction strategies)
	Action description	The municipality proposes to reimburse the cost of forest seedlings to encourage reforestation. This measure is aimed at farmers and landowners wishing to plant new forests or replant damaged forest areas. The reimbursement will cover part or all of the cost of the seedlings, thus reducing the financial burden and encouraging more reforestation. This measure is expected to contribute to an increase in GHG absorption.
Reference to impact pathway	Field of action	Green infrastructure and nature-based solutions
	Systemic lever	Finance and funding
	Outcome (according to module B-1.1)	Early changes (1-2 years): increased forest cover Late changes (3-4 years): increased GHG absorption
Implementation	Responsible bodies/person for implementation	Tauragė district municipality
	Action scale & addressed entities	50 ha Farmers Landowners
	Involved stakeholders	Tauragė district municipality Farmers

		Landowners Tauragė district farmers union
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025-2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	-
	GHG emissions compensated (natural or technological sinks)	- 1 503,1 t CO_2e
	Total costs and costs by CO_2e unit	EUR 67,5 thousand 44,9 Eur / t CO_2e
Action outline	Action name	**Developing green infrastructure in urbanised environments**
	Action type	Increasing carbon absorption (Residual emissions strategy, does not contribute to emission reduction strategies)
	Action description	Implementation of green infrastructure solutions (rooftop greening, planting, etc.) in accordance with the Greening Plan.
Reference to impact pathway	Field of action	Carbon absorption
	Systemic lever	Governance and policy
	Outcome (according to module B-1.1)	Early changes (1-2 years): Greening plan developed Late changes (3-4 years): increased level of greening
Implementation	Responsible bodies/person for implementation	Tauragė district municipality
	Action scale & addressed entities	Residents Tourists
	Involved stakeholders	Tauragė district municipality Residents Business enterprises
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	-
	GHG emissions compensated (natural or technological sinks)	0 t CO_2e (no direct effect identified)
	Total costs and costs by CO_2e unit	EUR 1 700 thousand Cost per CO_2e is not assessed

Action outline	Action name	**Afforestation of state land**
	Action type	Increasing carbon absorption (Residual emissions strategy, does not contribute to emission reduction strategies)
	Action description	Afforestation of state land
Reference to impact pathway	Field of action	Carbon absorption
	Systemic lever	Technology and infrastructure
	Outcome (according to module B-1.1)	Early changes (1-2 years): increased forest cover Late changes (3-4 years): increased GHG absorption
Implementation	Responsible bodies/person for implementation	State Forest Enterprise Tauragės regional division
	Action scale & addressed entities	50 ha Residents
	Involved stakeholders	State Forest Enterprise Tauragės regional division Tauragė district municipality Residents
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	-
	GHG emissions compensated (natural or technological sinks)	-1503,1 t CO_2e
	Total costs and costs by CO_2e unit	EUR 67,5 thousand 44,9 Eur / t CO_2e
Action outline	Action name	**Afforestation of private land (implementation of a national measure)**
	Action type	Increase carbon absorption (Residual emissions strategy, does not contribute to emission reduction strategies)
	Action description	Encourage afforestation of private land
Reference to impact pathway	Field of action	Carbon absorption
	Systemic lever	Technology and infrastructure
	Outcome (according to module B-1.1)	Early change (1-2 years): implementation of new technologies on a wide range of land uses where economic activities take place Late changes (3-4 years): increased GHG absorption
Implementation	Responsible bodies/person for implementation	Ministry of Agriculture of the Republic of Lithuania
	Action scale & addressed entities	Residents Landowners Farmers
	Involved stakeholders	Ministry of Agriculture of the Republic of Lithuania Residents

		Landowners Farmers
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025-2027
Impact & cost	Generated renewable energy (if applicable)	–
	Removed/substituted energy, volume, or fuel type	–
	GHG emissions reduction estimate (total) per emission source sector	–
	GHG emissions compensated (natural or technological sinks)	-1 957,8 t CO2e
	Total costs and costs by CO_2e unit	EUR 174,5 thousand 89,1 Eur/ t CO2e
Action outline	Action name	**Developing young forests (implementation of national measure)**
	Action type	Increasing carbon absorption (Residual emissions strategy, does not contribute to emission reduction strategies)
	Action description	The measure aims to strengthen the resilience of forest ecosystems to adverse environmental factors, to establish target stands, and to increase the productivity and absorption potential of stands. The implementation of the measure is financed by the European Agricultural Fund for Rural Development under the Strategic Plan for the period 2023-2027.
Reference to impact pathway	Field of action	Carbon absorption
	Systemic lever	Technology and infrastructure
	Outcome (according to module B-1.1)	Early changes (1-2 years): implementation of new technologies on land used for a wide range of purposes (grassland, wetlands, forests, etc.) where farming activities take place Late changes (3-4 years): increased GHG absorption
Implementation	Responsible bodies/person for implementation	Ministry of Agriculture of the Republic of Lithuania
	Action scale & addressed entities	State Forest Enterprise Tauragės regional division Forest owners
	Involved stakeholders	Ministry of Agriculture of the Republic of Lithuania Forest owners Farmers State Forest Enterprise Tauragės regional division
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2027
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-

	GHG emissions reduction estimate (total) per emission source sector	-
	GHG emissions compensated (natural or technological sinks)	-1 406,4 t CO_2e
	Total costs and costs by CO_2e unit	EUR 600,0 thousand 426,6 Eur/t CO_2e
Action outline	Action name	**Conservation of self-producing forests and inclusion in the forest land inventory (implementation of a national measure)**
	Action type	Increasing carbon absorption (Residual emissions strategy, does not contribute to emission reduction strategies)
	Action description	The measure is designed to support the conservation of self-sustaining trees (by compensating for part of the loss of agricultural income and the cost of forest land registration), with the aim of increasing the area of newly planted forests by 2030. The beneficiaries of the measure are individuals.
Reference to impact pathway	Field of action	Carbon absorption
	Systemic lever	Technology and infrastructure
	Outcome (according to module B-1.1)	Early changes (1-2 years): implementation of new technologies on land used for a wide range of purposes (grassland, wetlands, forests, etc.) where farming activities take place Late changes (3-4 years): increased GHG absorption
Implementation	Responsible bodies/person for implementation	Ministry of Agriculture of the Republic of Lithuania
	Action scale & addressed entities	State Forest Enterprise Tauragės regional division Forest owners
	Involved stakeholders	Ministry of Agriculture of the Republic of Lithuania Tauragė district municipality Tauragė district farmers union Residents Landowners Business enterprises
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	-
	GHG emissions compensated (natural or technological sinks)	-9 882,9 t CO_2e
	Total costs and costs by CO_2e unit	EUR 231,6 thousand 23,4 Eur/t CO_2e

Action outline	Action name	**Conversion of forests for hydrological restoration (national measure)**
	Action type	Increasing carbon absorption (Residual emissions strategy, does not contribute to emission reduction strategies)
	Action description	Natura 2000 habitats 9080 and 91D0 are currently assessed as having an unfavourable status (U1). This status is due to climate change and the re-introduction of old drainage systems that used to exist in these habitats. In order to avoid emissions from these swamp forests, the hydrological regime needs to be maintained or restored. The Priority Action Plan (PAP) foresees a potential restoration of 4000 ha of such damaged forests in Lithuania.
Reference to impact pathway	Field of action	Carbon absorption
	Systemic lever	Technology and infrastructure
	Outcome (according to module B-1.1)	Early changes (1-2 years): implementation of new technologies on land used for a wide range of purposes (grassland, wetlands, forests, etc.) where farming activities take place Late changes (3-4 years): increased GHG absorption
Implementation	Responsible bodies/person for implementation	Ministry of Agriculture of the Republic of Lithuania
	Action scale & addressed entities	Landowners State Forest Enterprise Tauragė Regional Unit
	Involved stakeholders	Ministry of Agriculture of the Republic of Lithuania Landowners Residents Tauragė district municipality State Forest Enterprise Tauragė Regional Unit
	Comments on implementation – consider mentioning resources, timelines, milestones	Implementation period: 2025–2030
Impact & cost	Generated renewable energy (if applicable)	-
	Removed/substituted energy, volume, or fuel type	-
	GHG emissions reduction estimate (total) per emission source sector	-
	GHG emissions compensated (natural or technological sinks)	-500,0 t CO_2e
	Total costs and costs by CO_2e unit	EUR 62,5 thousand 125,0 Eur/ t CO_2e

B-2.3: Summary strategy for residual emissions

The impact assessment of the GHG emission reduction measures shows that residual emissions are around 15%. The impact pathways and measures have been developed in the context of actions already underway, with additional measures developed through sectoral discussions and meetings with citizens and various other stakeholders. The design of the measures aims at selecting actions that are feasible to implement and setting the scale of implementation at a level that reflects the realistic prospects of achieving it.

Residual issuance is spread unevenly across sectors. In the energy sector (including buildings), residual emissions account for 24% of the total. This sector is confronted with a large number of individual homes, so that decisions to reduce emissions have to be taken by many individuals. In Tauragė District Municipality, biofuels are already used to a large extent for heat production both in the district heating system and in individual houses, and a large part of electricity in Lithuania is produced using renewable energy sources and imported, so that the cumulative reductions in this sector are not large. However, the need for energy efficiency measures in heating systems and buildings is high, as it not only provides GHG emission reductions but also economic benefits for businesses and individuals. Residual emissions from the transport sector account for around 45% of the GHG emissions.

In this sector, a strong focus must be placed on individual vehicle owners. Given the situation of the population and their limited possibilities to both switch to electric vehicles and to use non-motorised vehicles (long distances, only part of the year with suitable weather conditions), the impact measures are based on the national targets set. On the other hand, the transformation of the sector is based on a strong focus on information and education aimed at changing the strong habits of the population. In the waste sector, residual emissions account for around 24% of total emissions. In this sector, many changes are already underway in terms of infrastructure improvements, and this plan focuses on improving the sorting habits and skills of the population. GHG emissions from the IPPU sector are mainly due to emissions from air-conditioning systems in vehicles. National emission factors are used to estimate these emissions, so even if there are changes in this sector (e.g. the use of other gases), these changes will not be reflected in the GHG emission dyad.

Tauragė district municipality is actively farmed, but on the other hand, about 38% of its territory is covered by forests, and this share has remained almost unchanged for at least 10 years. The stable forest cover guarantees stable carbon sinks. The Tauragė district municipality also has protected areas that include both forests and wetlands, which ensures carbon sequestration and long-term locking. Given that the municipality's carbon sinks are currently very high and the total GHG emissions of the AFOLU sector are low compared to other sectors, the residual GHG emissions are -3038%. In the case of GHG emissions from the AFOLU sector alone, the actions foreseen reduce GHG emissions by 15% and residual emissions by 85%. This situation is due to the current situation and the measures foreseen for the agricultural sector. The agricultural sector has a number of measures at national level aimed at contributing to climate change mitigation. Many of these measures provide for direct payments to farmers applying so-called eco-schemes. Given the high availability of financial incentives for the implementation of eco-schemes, these measures have been included in this Action Plan (the scale of their implementation is based on the scale of agricultural activity in the Tauragė district compared to the country as a whole).

To offset residual emissions, the plan includes measures that involve long-term solutions: expanding forest areas (private and public) and improving the maintenance and quality of forests (see Table B-2.2 for details). The following actions are foreseen to offset residual emissions:

Actions to offset residual emissions

Title	Implementation period	Responsible subject	Carbon sequestration (t CO2e)
Reimbursement of the cost of forest seedlings to encourage afforestation	2025-2030	Tauragė district municipality	-1 503,1
Developing green infrastructure in urbanised environments	2025-2030	Tauragė district municipality	It is not possible to determine the direct impact at this stage, as specific measures are being developed

Afforestation of state land	2025-2030	State Forest Enterprise Tauragės regional division	-1 503,1
Afforestation of private land (implementation of a national measure)	2025-2027	Ministry of agriculture (as funding provider) Private forest owners	-1 957,8
Developing young forests (implementation of national measure)	2025-2027	Ministry of agriculture (as funding provider) State Forest Enterprise Tauragės regional division	-1 406,4
Conservation of self-producing forests and inclusion in the forest land inventory (implementation of a national measure)	2024-2025	Ministry of agriculture (as funding provider) State Forest Enterprise Tauragės regional division	-9 882,9
Conversion of forests for hydrological restoration (national measure)	2025-2030	Ministry of agriculture (as funding provider) State Forest Enterprise Tauragės regional division	-500,0

Given that the forest cover remains stable, these measures are considered sustainable. Greening is also planned in the municipality, but its impact is not assessed in this plan as it is currently difficult to determine the type and extent of greening (a greening plan is being prepared for this purpose).

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

This module contains the indicators for monitoring and evaluating progress in the envisaged impact pathways and action areas, as well as the monitoring and evaluation plan, i.e. the metadata for each selected indicator.

B-3.1: Impact Pathways

Outcomes/ impacts addressed	Action/ project	**Indicator No.**	Indicator name		Target values		
					2025	2027	2030
Reduced GHG emissions in the energy sector	All activities in the energy sector, except those relating to electricity	E-1	GHG emissions from the energy sector (excluding grid electricity)		Reduction compared to 2018	Reduction compared to 2025	-77% compared to 2018
	All actions related to networks supplying electricity	E-2	GHG emissions from grid-supplied electricity		Reduction compared to 2018	Reduction compared to 2025	-41% compared to 2018
Fossil fuel phase-out for heat and hot water production	Installation of thermal collectors for hot water and solar collectors Complete phase-out of fossil fuels in district heating Decarbonisation of heat production in the industrial sector	E-3	Use of RES for district heating		96%	98%	100%

Increase in production capacity and scale of RES	Develop municipal RECs and CECs Developing solar power plants for non-profit legal entities (producing consumers) Development of solar power plants by non-profit legal entities (non-producing consumers), where the energy produced is used for their own consumption and for the farm Development of solar parks for non-profit making legal entities Encourage people to install solar power plants to meet their own needs Encourage residents to purchase remote solar power plants from solar parks Encourage residents and businesses to install electricity storage facilities Development of solar parks for legal entities (producing consumers) Development of rooftop solar farms for legal entities Development of RECs and CECs (non-municipal) Development of solar power plants for legal entities (producing consumers) Development of solar power plants in UAB Tauragės vandenys Development of wind power plants	E-4	Additional installed RES capacity for electricity generation (over 2025-2030)		-	-	At least 21,57 MW
Eliminating the use of polluting electricity	Green energy consumption in municipal institutions/enterprises	E-5	Share of green energy in the total electricity consumption of the municipality and its institutions and enterprises		100%	100%	100%
Reduced GHG emissions in the transport sector	All measures	T-1	GHG emissions from the transport sector		Reduction compared to 2018	Reduction compared to 2025	-55% compared to 2018
Reduction in fossil fuel consumption	Acquisition of electric or other non-polluting	T-2	Share of electric passenger		Increase compared to the	Increase compared to 2025	20%

	vehicles by individuals and legal entities Installation of charging stations for electric vehicles in households and in the industrial and business sector		cars in the vehicle fleet (excluding passenger cars owned by the municipality and the companies and institutions it manages)		last available year		
		T-3	Part of the alternative-fuel articulated vehicles and buses		Increased compared to the last available year	Increased compared to 2025	16%
		T-4	Number of charging stations installed		Increased compared to the last available year	Increased compared to 2025	At least 101 units
	Study on the optimisation of light transport for municipalities and their institutions Replacement of polluting vehicles owned by the municipality and the companies it manages with new non-polluting vehicles	T-5	Share of electric light-duty vehicles in the municipality and its institutions		Increased compared to the last available year	Increased compared to 2025	100%
	Replacing polluting buses owned by the municipality and its owned companies with vehicles powered by cleaner fuels Replacement of polluting heavy goods vehicles owned by the municipality and its owned companies with vehicles powered by cleaner fuels	T-6	Share of electric buses for the municipality and its institutions		Increased compared to the last available year	Increased compared to 2025	100%
	Replacing polluting heavy vehicles owned by the municipality and its owned companies with vehicles running on cleaner fuels	T-7	Municipality and its agencies' share of heavy-duty electric vehicles		Increased compared to the last available year	Increased compared to 2025	16%
	Install cycle paths in remote settlements, near recreational areas, garden communities	T-8	Length of cycle paths installed (km)		Increased compared to the last available year	Increased compared to 2025	86 km
	Provision of bicycle storage in the bus station area	T-9	Number of bicycle storage		0	1 unit	1 unit

			facilities installed				
Reduced GHG emissions from the waste sector	All measures	A-1	GHG emissions from the waste sector		Reduction compared to 2018	Reduction compared to 2025	-76% compared to 2018
Increased waste sorting and recycling	Implementing control over the composition of municipal waste Developing the network of "Padėk" stations in the region Incineration of non-recyclable waste Developing a strategy to raise awareness, sensitisation and education on waste management, sorting and recycling Carrying out a survey of the population on their sorting habits	A-2	Proportion of municipal waste that is recovered and recycled		Reduction compared to the last available year	Reduction compared to 2025	60%
Reduced waste going to landfill		A-3	Proportion of waste going to landfill		Reduction compared to the last available year	Reduction compared to 2025	5%
Reduced energy consumption	Renovation of multi-family houses (3 or more apartments) connected to district heating Renovation of multi-apartment buildings (3 or more apartments) not connected to a district heating system	R-1	Number of renovated apartment buildings		Increase compared to the last available year	Increase compared to 2025	At least 159 units
	Renovation of public buildings (additional)	R-2	Number of public buildings renovated		Increase compared to the last available year	Increase compared to 2025	At least 21 units
	Renovation/modernisation of one- or two-apartment dwellings of individuals. Encouraging the renovation of individual houses (1-2 flats) Feasibility study on the improvement of energy inefficient individual (1-2 flat) houses	R-3	Number of homes benefiting from support (from 2025)		50 units	150 units	300 units
Reduced GHG emissions from the AFOLU sector	All measures	Z-1	GHG emissions from the AFOLU sector (excluding carbon sequestration)		Reduction compared to 2018	Reduction compared to 2025	-15% compared to 2018
Reduced GHG emissions from the	All measures for the livestock sector	Z-2	Proportion of organic farms in the total farm structure		Increase compared to the last	Increase compared to 2025	16%

livestock sector					available year		
Reduction in fertiliser use	All measures for the livestock sector						
Reduced GHG emissions from the IPPU sector	No measures foreseen	I-1	GHG emissions from the IPPU sector		Reduction compared to 2018	Reduction compared to 2025	Reduction compared to 2027
Increased GHG absorption	Reimbursement of the cost of forest seedlings to encourage afforestation Developing green infrastructure in urbanised environments Afforestation of state land Establishment of young trees in broadleaved forests (implementation of a national measure) Improving the quality of forests (implementation of a national measure) Conversion of forests to restore hydrological regimes (implementation of national measure)	M-1	Newly planted forest area		Increase compared to the last available year	Increase compared to 2025	100 ha
Increase in people's engagement in climate neutrality	All measures	K-1	Proportion of the population who think they can make a strong or small contribution to reducing climate change		At least 75.3 %	Not less than in 2025	Not less than in 2027

B-3.2: Indicator Metadata	
Indicator Name	**GHG emissions from the energy sector (excluding grid electricity) (E-1)**
Indicator Unit	percent
Definition	Determine the reduction in GHG emissions compared to the base year (2018)
Calculation	GHG emissions in the analysis year multiplied by 100 per cent and divided by GHG emissions in 2018.
Indicator Context	
Does the indicator measure direct impacts (reduction in greenhouse gas emissions?)	yes
If yes, which emission source sectors does it measure?	energy sector (excluding grid electricity)
Does the indicator measure indirect impacts (i.e., co- benefits)?	no
If yes, which co-benefit does it measure?	–
Is the indicator useful for monitoring the output/impact of action(s)?	yes

If yes, which action and impact pathway is it relevant for?	all actions in the energy sector, including renovation
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	GHG accounting
Is the data source local or regional/national?	local
Expected availability	High accessibility
Suggested collection interval	2025, 2027, 2030
References	
Deliverables describing the indicator	–
Other indicator systems using this indicator	–
Indicator Name	**GHG emissions from grid-supplied electricity (E-2)**
Indicator Unit	Percent (%)
Definition	Determine the reduction in GHG emissions compared to the base year (2018)
Calculation	GHG emissions in the year of analysis multiplied by 100 percent and divided by GHG emissions in 2018
Indicator Context	
Does the indicator measure direct impacts (reduction in greenhouse gas emissions?)	yes
If yes, which emission source sectors does it measure?	in the energy sector: grid electricity
Does the indicator measure indirect impacts (i.e., co- benefits)?	no
If yes, which co-benefit does it measure?	–
Is the indicator useful for monitoring the output/impact of action(s)?	yes
If yes, which action and impact pathway is it relevant for?	all activities related to the production and consumption of electricity
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	GHG accounting
Is the data source local or regional/national?	local
Expected availability	High accessibility
Suggested collection interval	2025, 2027, 2030
References	
Deliverables describing the indicator	-
Other indicator systems using this indicator	-
Indicator Name	**Use of RES for district heating (E-3)**
Indicator Unit	Percent (%)
Definition	Determine the share of fuels used for district heating from biofuels or other renewable energy sources
Calculation	The number of biofuels or other renewable energy sources divided by the total amount of fuel used
Indicator Context	
Does the indicator measure direct impacts (reduction in greenhouse gas emissions?)	no
If yes, which emission source sectors does it measure?	-

Does the indicator measure indirect impacts (i.e., co- benefits)?	no
If yes, which co-benefit does it measure?	-
Is the indicator useful for monitoring the output/impact of action(s)?	yes
If yes, which action and impact pathway is it relevant for?	Fossil fuel phase-out for heat and hot water production
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	UAB Tauragė šilumos tinklai
Is the data source local or regional/national?	local
Expected availability	High accessibility
Suggested collection interval	2025, 2027, 2030
References	
Deliverables describing the indicator	-
Other indicator systems using this indicator	-
Indicator Name	**Additional installed RES capacity for electricity generation (over 2025-2030) (E-4)**
Indicator Unit	MW
Definition	Determine the installed capacity of the municipality's solar and wind development over the period 2025-2030.
Calculation	Adding up the capacity of individual solar and wind power plants
Indicator Context	
Does the indicator measure direct impacts (reduction in greenhouse gas emissions?)	no
If yes, which emission source sectors does it measure?	-
Does the indicator measure indirect impacts (i.e., co- benefits)?	no
If yes, which co-benefit does it measure?	-
Is the indicator useful for monitoring the output/impact of action(s)?	yes
If yes, which action and impact pathway is it relevant for?	Increase in production capacity and scale of RES
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	AB Litgrid, AB ESO
Is the data source local or regional/national?	National (operators of high-voltage and lower-voltage electricity distribution networks)
Expected availability	Requests are required, data is provided
Suggested collection interval	2030
References	
Deliverables describing the indicator	-
Other indicator systems using this indicator	-
Indicator Name	**Share of green energy in the total electricity consumption of the municipality and its institutions and enterprises (E-5)**
Indicator Unit	Percent (%)

Definition	Determine the share of electricity purchased as green energy
Calculation	The amount of green energy purchased is divided by the total amount of electricity consumed
Indicator Context	
Does the indicator measure direct impacts (reduction in greenhouse gas emissions?)	no
If yes, which emission source sectors does it measure?	-
Does the indicator measure indirect impacts (i.e., co- benefits)?	no
If yes, which co-benefit does it measure?	-
Is the indicator useful for monitoring the output/impact of action(s)?	yes
If yes, which action and impact pathway is it relevant for?	Eliminating the use of polluting electricity
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	Tauragė district municipality
Is the data source local or regional/national?	local
Expected availability	High accessibility
Suggested collection interval	2025, 2027, 2030
References	
Deliverables describing the indicator	-
Other indicator systems using this indicator	-
Indicator Name	**GHG emissions from the transport sector (T-1)**
Indicator Unit	Percent (%)
Definition	Determine the reduction in GHG emissions compared to the base year (2018)
Calculation	GHG emissions in the analysis year multiplied by 100 per cent and divided by GHG emissions in 2018.
Indicator Context	
Does the indicator measure direct impacts (reduction in greenhouse gas emissions?)	yes
If yes, which emission source sectors does it measure?	transport sector
Does the indicator measure indirect impacts (i.e., co- benefits)?	no
If yes, which co-benefit does it measure?	–
Is the indicator useful for monitoring the output/impact of action(s)?	yes
If yes, which action and impact pathway is it relevant for?	actions in the transport sector
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	GHG accounting
Is the data source local or regional/national?	local
Expected availability	High accessibility
Suggested collection interval	2025, 2027, 2030
References	
Deliverables describing the indicator	–
Other indicator systems using this indicator	–

Indicator Name	**Share of electric light-duty vehicles in the vehicle fleet (excluding light-duty vehicles owned by the municipality and its enterprises and bodies) (T-2)**
Indicator Unit	Percent (%)
Definition	Determine the share of passenger cars that are electric passenger cars (passenger cars of the municipality, its agencies and companies are excluded)
Calculation	Number of electric cars divided by the total number of passenger cars
Indicator Context	
Does the indicator measure direct impacts (reduction in greenhouse gas emissions?)	no
If yes, which emission source sectors does it measure?	-
Does the indicator measure indirect impacts (i.e., co- benefits)?	no
If yes, which co-benefit does it measure?	-
Is the indicator useful for monitoring the output/impact of action(s)?	yes
If yes, which action and impact pathway is it relevant for?	Reduction in fossil fuel consumption
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	Regitra
Is the data source local or regional/national?	national
Expected availability	publicly available data
Suggested collection interval	2025, 2027, 2030
References	
Deliverables describing the indicator	-
Other indicator systems using this indicator	-
Indicator Name	**Alternative fuel heavy goods vehicles and buses (T-3)**
Indicator Unit	Percent (%)
Definition	Determine the share of heavy transport and buses powered by alternative fuels (heavy transport and buses of the municipality, its agencies and companies are excluded)
Calculation	The number of electric heavy goods vehicles and buses divided by the total number of heavy goods vehicles and buses
Indicator Context	
Does the indicator measure direct impacts (reduction in greenhouse gas emissions?)	no
If yes, which emission source sectors does it measure?	-
Does the indicator measure indirect impacts (i.e., co- benefits)?	no
If yes, which co-benefit does it measure?	-
Is the indicator useful for monitoring the output/impact of action(s)?	yes
If yes, which action and impact pathway is it relevant for?	Reduction in fossil fuel consumption

Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	Regitra
Is the data source local or regional/national?	national
Expected availability	publicly available data
Suggested collection interval	2025, 2027, 2030
References	
Deliverables describing the indicator	-
Other indicator systems using this indicator	-
Indicator Name	**Number of charging stations installed (T-4)**
Indicator Unit	units
Definition	Determine how many charging stations are installed
Calculation	Add the number of charging stations
Indicator Context	
Does the indicator measure direct impacts (reduction in greenhouse gas emissions?)	no
If yes, which emission source sectors does it measure?	-
Does the indicator measure indirect impacts (i.e., co- benefits)?	no
If yes, which co-benefit does it measure?	-
Is the indicator useful for monitoring the output/impact of action(s)?	yes
If yes, which action and impact pathway is it relevant for?	Reduction in fossil fuel consumption
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	Tauragė district municipality
Is the data source local or regional/national?	local
Expected availability	High accessibility
Suggested collection interval	Annually
References	
Deliverables describing the indicator	-
Other indicator systems using this indicator	-
Indicator Name	**Municipality and its entities' share of electric light-duty vehicles (T-5)**
Indicator Unit	Percent (%)
Definition	Determining the share of passenger cars made up of electric passenger cars
Calculation	Number of electric cars divided by the total number of passenger cars
Indicator Context	
Does the indicator measure direct impacts (reduction in greenhouse gas emissions?)	no
If yes, which emission source sectors does it measure?	-
Does the indicator measure indirect impacts (i.e., co- benefits)?	no
If yes, which co-benefit does it measure?	-
Is the indicator useful for monitoring the output/impact of action(s)?	yes

If yes, which action and impact pathway is it relevant for?	Reduction in fossil fuel consumption
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	Tauragė district municipality
Is the data source local or regional/national?	local
Expected availability	High accessibility
Suggested collection interval	2025, 2027, 2030
References	
Deliverables describing the indicator	-
Other indicator systems using this indicator	-
Indicator Name	**Municipality and its entities' share of electric buses (T-6)**
Indicator Unit	Percent (%)
Definition	Determining the share of buses powered by electricity
Calculation	Number of electric buses divided by total number of buses
Indicator Context	
Does the indicator measure direct impacts (reduction in greenhouse gas emissions?)	no
If yes, which emission source sectors does it measure?	-
Does the indicator measure indirect impacts (i.e., co- benefits)?	no
If yes, which co-benefit does it measure?	-
Is the indicator useful for monitoring the output/impact of action(s)?	yes
If yes, which action and impact pathway is it relevant for?	Reduction in fossil fuel consumption
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	Tauragė district municipality
Is the data source local or regional/national?	local
Expected availability	High accessibility
Suggested collection interval	2025, 2027, 2030
References	
Deliverables describing the indicator	-
Other indicator systems using this indicator	-
Indicator Name	**Municipality and its entities' share of heavy-duty electric vehicles (T-7)**
Indicator Unit	Percent (%)
Definition	Determine the share of heavy transport powered by alternative fuels
Calculation	Number of electric heavy goods vehicles divided by the total number of heavy goods vehicles
Indicator Context	
Does the indicator measure direct impacts (reduction in greenhouse gas emissions?)	no
If yes, which emission source sectors does it measure?	-

Does the indicator measure indirect impacts (i.e., co- benefits)?	no
If yes, which co-benefit does it measure?	-
Is the indicator useful for monitoring the output/impact of action(s)?	yes
If yes, which action and impact pathway is it relevant for?	Reduction in fossil fuel consumption
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	Tauragė district municipality
Is the data source local or regional/national?	local
Expected availability	High accessibility
Suggested collection interval	2025, 2027, 2030
References	
Deliverables describing the indicator	-
Other indicator systems using this indicator	-
Indicator Name	**Length of cycle paths installed (T-8)**
Indicator Unit	kilometres
Definition	Determining how many kilometres of cycle paths have been built
Calculation	Add the length of the cycle paths
Indicator Context	
Does the indicator measure direct impacts (reduction in greenhouse gas emissions?)	no
If yes, which emission source sectors does it measure?	-
Does the indicator measure indirect impacts (i.e., co- benefits)?	no
If yes, which co-benefit does it measure?	-
Is the indicator useful for monitoring the output/impact of action(s)?	yes
If yes, which action and impact pathway is it relevant for?	Reduction in fossil fuel consumption
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	Tauragė district municipality
Is the data source local or regional/national?	local
Expected availability	High accessibility
Suggested collection interval	Annually
References	
Deliverables describing the indicator	-
Other indicator systems using this indicator	-
Indicator Name	**Number of bicycle storage facilities installed (T-9)**
Indicator Unit	units
Definition	Determine the number of bicycle storage facilities
Calculation	Add up the number of bicycle storage facilities
Indicator Context	
Does the indicator measure direct impacts (reduction in greenhouse gas emissions?)	no
If yes, which emission source sectors does it measure?	-

Does the indicator measure indirect impacts (i.e., co- benefits)?	no
If yes, which co-benefit does it measure?	-
Is the indicator useful for monitoring the output/impact of action(s)?	yes
If yes, which action and impact pathway is it relevant for?	Reduction in fossil fuel consumption
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	Tauragė district municipality
Is the data source local or regional/national?	local
Expected availability	High accessibility
Suggested collection interval	Annually
References	
Deliverables describing the indicator	-
Other indicator systems using this indicator	-
Indicator Name	**GHG emissions from the waste sector (A-1)**
Indicator Unit	Percent (%)
Definition	Determine the reduction in GHG emissions compared to the base year (2018)
Calculation	GHG emissions in the analysis year multiplied by 100 percent and divided by GHG emissions in 2018.
Indicator Context	
Does the indicator measure direct impacts (reduction in greenhouse gas emissions?)	yes
If yes, which emission source sectors does it measure?	waste sector
Does the indicator measure indirect impacts (i.e., co- benefits)?	no
If yes, which co-benefit does it measure?	–
Is the indicator useful for monitoring the output/impact of action(s)?	yes
If yes, which action and impact pathway is it relevant for?	actions in waste sector
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	GHG accounting
Is the data source local or regional/national?	local
Expected availability	High accessibility
Suggested collection interval	2025, 2027, 2030
References	
Deliverables describing the indicator	–
Other indicator systems using this indicator	–
Indicator Name	**Proportion of municipal waste prepared for re-use and recycled (A-2)**
Indicator Unit	Percent (%)
Definition	Determine what proportion of waste is prepared for reuse and recycling
Calculation	The amount of waste prepared for reuse and recycling is divided by the total amount of waste
Indicator Context	

Does the indicator measure direct impacts (reduction in greenhouse gas emissions?)	no
If yes, which emission source sectors does it measure?	-
Does the indicator measure indirect impacts (i.e., co- benefits)?	no
If yes, which co-benefit does it measure?	-
Is the indicator useful for monitoring the output/impact of action(s)?	yes
If yes, which action and impact pathway is it relevant for?	Increased waste sorting and recycling
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	TRWMC
Is the data source local or regional/national?	local
Expected availability	High accessibility
Suggested collection interval	Annually
References	
Deliverables describing the indicator	-
Other indicator systems using this indicator	-
Indicator Name	**Proportion of waste going to landfill (A-3)**
Indicator Unit	Percent (%)
Definition	Determine the proportion of waste going to landfill
Calculation	The amount of waste going to landfill divided by the total amount of waste
Indicator Context	
Does the indicator measure direct impacts (reduction in greenhouse gas emissions?)	no
If yes, which emission source sectors does it measure?	-
Does the indicator measure indirect impacts (i.e., co- benefits)?	no
If yes, which co-benefit does it measure?	-
Is the indicator useful for monitoring the output/impact of action(s)?	yes
If yes, which action and impact pathway is it relevant for?	Reduced waste going to landfill
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	TRWMC
Is the data source local or regional/national?	local
Expected availability	High accessibility
Suggested collection interval	Annually
References	
Deliverables describing the indicator	-
Other indicator systems using this indicator	-
Indicator Name	**Number of renovated apartment blocks (R-1)**
Indicator Unit	Units
Definition	Determine how many buildings have been renovated
Calculation	Combined number of renovation projects to be implemented

Indicator Context	
Does the indicator measure direct impacts (reduction in greenhouse gas emissions?)	no
If yes, which emission source sectors does it measure?	-
Does the indicator measure indirect impacts (i.e., co- benefits)?	no
If yes, which co-benefit does it measure?	-
Is the indicator useful for monitoring the output/impact of action(s)?	yes
If yes, which action and impact pathway is it relevant for?	Reduced energy consumption
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	Renovation map (https://renomap.apva.lt/map)
Is the data source local or regional/national?	national
Expected availability	Publicly available data
Suggested collection interval	2025, 2027, 2030
References	
Deliverables describing the indicator	-
Other indicator systems using this indicator	-
Indicator Name	**Number of public buildings renovated (R-2)**
Indicator Unit	Units
Definition	Determine how many buildings have been renovated
Calculation	Number of completed renovation projects added
Indicator Context	
Does the indicator measure direct impacts (reduction in greenhouse gas emissions?)	no
If yes, which emission source sectors does it measure?	-
Does the indicator measure indirect impacts (i.e., co- benefits)?	no
If yes, which co-benefit does it measure?	-
Is the indicator useful for monitoring the output/impact of action(s)?	yes
If yes, which action and impact pathway is it relevant for?	Reduced energy consumption
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	Tauragė district municipality
Is the data source local or regional/national?	local
Expected availability	High accessibility
Suggested collection interval	2025, 2027, 2030
References	
Deliverables describing the indicator	-
Other indicator systems using this indicator	-
Indicator Name	**Number of homes benefiting from support (from 2025) (R-3)**
Indicator Unit	units
Definition	Determining how many households have received support for the renovation of individual houses

Calculation	Total number of applications receiving funding
Indicator Context	
Does the indicator measure direct impacts (reduction in greenhouse gas emissions?)	no
If yes, which emission source sectors does it measure?	-
Does the indicator measure indirect impacts (i.e., co- benefits)?	no
If yes, which co-benefit does it measure?	-
Is the indicator useful for monitoring the output/impact of action(s)?	yes
If yes, which action and impact pathway is it relevant for?	Reduced GHG emissions from the livestock sector Reduction in fertiliser use
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	Tauragė district municipality
Is the data source local or regional/national?	local
Expected availability	High accessibility
Suggested collection interval	Annually
References	
Deliverables describing the indicator	-
Other indicator systems using this indicator	-
Indicator Name	**GHG emissions from the AFOLU sector (Z-1)**
Indicator Unit	Percent (%)
Definition	Determine the reduction in GHG emissions compared to the base year (2018)
Calculation	GHG emissions in the analysis year multiplied by 100 per cent and divided by GHG emissions in 2018.
Indicator Context	
Does the indicator measure direct impacts (reduction in greenhouse gas emissions?)	yes
If yes, which emission source sectors does it measure?	AFOLU sector (emitting sub-sectors)
Does the indicator measure indirect impacts (i.e., co- benefits)?	no
If yes, which co-benefit does it measure?	-
Is the indicator useful for monitoring the output/impact of action(s)?	yes
If yes, which action and impact pathway is it relevant for?	Actions i AFOLU sector
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	GHG accounting
Is the data source local or regional/national?	local
Expected availability	High accessibility
Suggested collection interval	2025, 2027, 2030
References	
Deliverables describing the indicator	-
Other indicator systems using this indicator	-
Indicator Name	**Proportion of organic farms in the total farm structure (Z-2)**

Indicator Unit	Percent (%)
Definition	Determining what proportion of farms are organic farms
Calculation	The area of organic farms is divided by the total area of agricultural land
Indicator Context	
Does the indicator measure direct impacts (reduction in greenhouse gas emissions?)	no
If yes, which emission source sectors does it measure?	-
Does the indicator measure indirect impacts (i.e., co- benefits)?	no
If yes, which co-benefit does it measure?	–
Is the indicator useful for monitoring the output/impact of action(s)?	yes
If yes, which action and impact pathway is it relevant for?	Reduced GHG emissions from the livestock sector Reduction in fertiliser use
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	Tauragė district munnicipality
Is the data source local or regional/national?	local
Expected availability	High accessibility
Suggested collection interval	Annually
References	
Deliverables describing the indicator	-
Other indicator systems using this indicator	-
Indicator Name	**GHG emissions from the IPPU sector (I-1)**
Indicator Unit	Percent (%)
Definition	Determine the reduction in GHG emissions compared to the base year (2018)
Calculation	GHG emissions in the analysis year multiplied by 100 per cent and divided by GHG emissions in 2018.
Indicator Context	
Does the indicator measure direct impacts (reduction in greenhouse gas emissions?)	yes
If yes, which emission source sectors does it measure?	IPPU sector
Does the indicator measure indirect impacts (i.e., co- benefits)?	no
If yes, which co-benefit does it measure?	–
Is the indicator useful for monitoring the output/impact of action(s)?	yes
If yes, which action and impact pathway is it relevant for?	no action foreseen in the IPPU sector, but possible changes due to measures implemented in other sectors
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	GHG accounting
Is the data source local or regional/national?	local
Expected availability	High accessibility
Suggested collection interval	2025, 2027, 2030
References	

Deliverables describing the indicator	-
Other indicator systems using this indicator	-
Indicator Name	**Newly planted forest area (M-1)**
Indicator Unit	ha
Definition	Determine how much forest has been planted
Calculation	Calculate the difference between the forest area in different years
Indicator Context	
Does the indicator measure direct impacts (reduction in greenhouse gas emissions?)	no
If yes, which emission source sectors does it measure?	-
Does the indicator measure indirect impacts (i.e., co- benefits)?	no
If yes, which co-benefit does it measure?	-
Is the indicator useful for monitoring the output/impact of action(s)?	yes
If yes, which action and impact pathway is it relevant for?	Increased GHG absorption
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	National land service
Is the data source local or regional/national?	national
Expected availability	Publicly available data
Suggested collection interval	Annually
References	
Deliverables describing the indicator	-
Other indicator systems using this indicator	-
Indicator Name	**Proportion of the population who think they can make a strong or small contribution to reducing climate change (K-1)**
Indicator Unit	Percent (%)
Definition	Citizens give their assessment
Calculation	Calculated from the results of the survey: the number of respondents who selected the appropriate response options divided by the total number of respondents who answered that question
Indicator Context	
Does the indicator measure direct impacts (reduction in greenhouse gas emissions?)	no
If yes, which emission source sectors does it measure?	-
Does the indicator measure indirect impacts (i.e., co- benefits)?	yes
If yes, which co-benefit does it measure?	changing people's attitudes
Is the indicator useful for monitoring the output/impact of action(s)?	no
If yes, which action and impact pathway is it relevant for?	-
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	Survey carried out by Tauragė district municipality

Is the data source local or regional/national?	local
Expected availability	High accessibility
Suggested collection interval	2025, 2027, 2030
References	
Deliverables describing the indicator	–
Other indicator systems using this indicator	–

4 Part C – Enabling Climate Neutrality by 2030

Part C "Enabling Climate Neutrality by 2030" aims to outline any enabling interventions, i.e., regarding organizational setting or collaborative governance models or related to social innovations – designed to support the climate action portfolios (Module B-2) as well as aiming to achieve co-benefits outlined in the impact pathway (Module B-1). These interventions also address the identified opportunities, gaps and barriers identified Module A-2 and A-3.

4.1 Module C-1 Governance Innovation Interventions

This module details innovations in urban governance to achieve urban climate neutrality by 2030, including innovations in institutional design, leadership, collaboration and outreach processes. These innovations are implemented at the inter-organisational level, or within the key organisations responsible for achieving climate neutrality. It also describes the expected outcomes, such as how these governance innovations enable climate action and its co-benefits (identified in Modules B-1 and B-2) and how they address the opportunities, gaps and barriers identified in Modules A-2 and A-3.

C-1.1: Description or visualisation of the participatory governance model for climate neutrality
Currently, Tauragė district municipality does not have a coordinated governance structure directly responsible for the implementation and coordination of climate neutrality actions. Instead, climate change issues are dealt with by individual specialists and institutions that work on topics that fall within their remit, i.e. energy efficiency, waste management, etc. This division of labour, while allowing for the execution of tasks, is not sufficiently efficient when it comes to coordinating joint efforts and ensuring the systematic and consistent implementation and monitoring of climate neutrality objectives. This division of labour leads to gaps in the exchange of information and the coordination of strategies, which can lead to duplication of effort or, conversely, to important activities being missed. In addition, there is a lack of a unified vision and Action Plan covering all areas related to climate neutrality, thus underutilising synergies between different sectors and initiatives. These challenges can be overcome through the establishment of an effective governance framework. The process of developing the Action Plan involved a wide range of stakeholders, experts and representatives, which helped to form the basis for a new governance structure. This involvement and cooperation included not only the participation of the municipal administration and Council members, but also the community, the business sector, NGOs, the agricultural sector and others. This multifaceted involvement has led to the development of an integrated and collaborative approach and problem-solving that reflects the needs and expectations of the various sectors. Furthermore, this broad participation of representatives from different sectors has led to the development of a comprehensive and inclusive climate neutrality strategy. This process has highlighted the potential for a participatory governance model. The newly developed governance model (see figure below) is based on stakeholder cooperation and transparent decision-making. It provides for a clear division of responsibilities and cooperation mechanisms between different institutions and professionals, as well as regular consultation, discussion and reporting. The model has a two-tier governance model: the first tier consists of a decarbonisation coordination group and the second of working groups. The working groups will be responsible for specific areas such as the development of renewable energy sources, energy efficiency, urban green infrastructure, etc. This governance model ensures that the results achieved are systematically monitored and evaluated, and that the Action Plan is quickly adjusted if necessary. It should be stressed that the governance model developed will also promote continuous dialogue and cooperation between the different stakeholders, allowing the sharing of best practices and innovations. This will not only increase the efficiency of the implementation of climate neutrality objectives and measures, but also help to adapt to changing conditions and new challenges in the future. Such an integrated and collaborative approach, involving different stakeholders, will create the conditions for a sustainable and coherent development of the city of Tauragė, ensuring a successful trajectory towards climate neutrality.

Figure 4-1. Tauragė district municipality's Decarbonisation Governance Model

Coordination Group:
The Tauragė district municipality Coordination Group will be composed of the Coordinator of the Urban Mission and the curators of the 7 working groups: decarbonisation of transport, decarbonisation of energy, decarbonisation of waste, decarbonisation of land use, decarbonisation of business and investment, decarbonisation of social innovation, and the curators of the working groups of the future and innovation. The Coordination Group shall elect the Chairperson of the Board and other bodies necessary for its operation. This structure ensures that all decisions and actions are aligned and efficiently executed in order to achieve the climate neutrality targets. The Board has a number of key responsibilities that ensure the effective implementation of the climate neutrality strategy:

- **Regular meetings:** the Coordination Group meets regularly to discuss progress, challenges and possible solutions. During these meetings, each Working Group mentor presents a report on the activities of his/her Working Group, which includes the results achieved, ongoing and planned initiatives and emerging challenges. During these meetings, common issues are discussed, and decisions are taken to ensure the smooth implementation of the strategy.
- **Annual Progress Review and Reporting:** The Coordination Group prepares an annual Progress Review each year, which assesses the results achieved by all working groups, i.e. how climate action has been implemented and how monitoring indicators have been achieved. This review includes a detailed analysis, an assessment of the targets achieved and new recommendations. The report is a key document for adjusting the strategy and the Action Plan to achieve even more effective results.
- **Strategy adjustment:** Based on the results of the annual report, the Coordination Group adjusts the Climate Neutrality Action Plan and the Investment Plan. This adjustment may include setting new targets, modifying existing actions and measures, adding new initiatives and measures in the light of the latest data, recommendations and situation.
- **Organisation of an annual Climate Neutrality Conference:** the Coordination Group organises an annual conference to discuss achievements, share experiences and present planned next steps. The conference brings together members of the working groups, the municipal administration, experts and stakeholders to discuss the progress of the strategy, new initiatives and ideas, and challenges.

The Coordination Group will provide strategic leadership to ensure that all actions are planned and coordinated. This is an essential element to enable the coordination group to effectively coordinate and manage all aspects of the Climate Neutrality Strategy Action Plan. The strategic leadership function includes several key elements: alignment and coordination, risk management, resource allocation and monitoring and evaluation. The Coordination Group ensures that all working groups are aligned and coordinated to maximise synergies and efficiency. To achieve this, the Coordination group shall ensure that there is constant communication and information exchange between the Working Groups. This ensures that there are no gaps in information and knowledge and promotes interdisciplinary cooperation. The Coordination Group also reviews and aligns the Action Lists produced by the Working Groups to ensure that they are in line with the overall strategic objectives and the Action Plan.
In addition, the Coordination Group identifies potential risks associated with the implementation of the Climate Neutrality Strategy and identifies options for managing them. The meetings should discuss and decide on the management of potential risks and designate, as appropriate, those responsible for risk management.
The Coordination Group also carries out resource allocation. The Coordination Group identifies priority areas and ensures that the necessary financial resources are allocated efficiently.
Monitoring and evaluation of the implementation of the Action Plan is carried out to ensure operational efficiency. This is done through the preparation of annual reports on the implementation of the Action Plan, which include a description of progress in the implementation of the measures, the level of achievement of the established monitoring indicators, the challenges encountered and how they have been addressed, new opportunities, risk assessment, etc. Based on the results of the monitoring and evaluation, the Coordination Group adjusts the Action Plan and its actions as necessary, i.e. iterations of the Action Plan are made.
The work of the Coordination Group will ensure that all actions are coordinated and aligned with the objectives set, that decisions are based on objective information and data, that new initiatives and innovations are quickly incorporated into the strategy, and that risks are managed effectively, minimising potential negative impacts. The work of the Coordination Group will also help to foster a culture of cooperation between working groups and stakeholders, promoting efficient use of resources and sharing of knowledge and experience.

Working groups:
Working Groups are the main executive structures that coordinate the implementation of the Climate Neutrality Strategy, working with those responsible for implementing specific actions. They are made up of representatives of a wide range of stakeholders, including municipal administration, municipal companies, associations, NGOs and academic institutions. This diversity ensures that all sectors and interests are represented, and that the implementation of the strategy is as effective as possible. The working groups have the following main responsibilities:

- **Assignment of GHG reduction targets:** each working group is responsible for the implementation of its own area-specific GHG reduction targets set out in the OP.
- **Preparation of the Action List:** The Working Groups, based on the Climate Neutrality Strategy (Action Plan, Investment Plan and the Commitment Document), shall establish the Action Lists within the remit of the specific Working Group. In addition, they take responsibility for monitoring the monitoring indicators within their remit (collecting, summarising, collating, etc.).
- **Implementation of the Action List:** The Working Groups are responsible for coordinating the implementation of their Action List. This includes coordinating the implementation of specific actions, collecting, analysing and summarising information on their implementation, cooperating with other working groups and stakeholders, responding in a timely manner to obstacles encountered, and assisting the entities responsible for implementing the actions.
- **Monitoring of implementation:** The mentor of each working group is responsible for monitoring the implementation of the Action Plan. This includes regular monitoring of the progress of the Action Plan, evaluation of the results and submission of the foreseen reports to the Board.
- **Proposal generation:** The Working Groups are responsible for generating proposals in their own field that could contribute to the achievement of the climate neutrality objectives. This includes the development of new initiatives and project ideas and their presentation to the Board.

Members of the Working Groups meet regularly to discuss progress on the Action Plan, to address challenges and to coordinate with other Working Groups. These meetings are an essential element to ensure the smooth implementation of the strategy and effective communication between the different groups and their members. The working groups meet regularly to discuss ongoing work, progress and emerging challenges. During these meetings, the mentors report on the implementation of the Action Plan. The reports outline what actions have been carried out, what results have been achieved and what challenges have been faced. The meetings also discuss possible solutions and next steps. These regular meetings help to ensure that all members of the group are informed of progress and have the opportunity to contribute to the decision-making process. This allows for a rapid response to emerging challenges and the adaptation of action plans in the light of up-to-date data and the situation, i.e. contributing to the interation of the Action Plan.
Each Working Group shall prepare an annual progress review and report to the Coordination Group on the basis of the list of actions it has established. This report shall include an assessment of the results achieved, i.e. the measures implemented, with an assessment of the extent to which they have been implemented, the measures that have not been implemented, with an indication of the reason for non-implementation and the actions planned for the future, the use of funds for the implementation of the measures or plans for the future, etc. The Progress Review provides an assessment of how well the objectives have been achieved and which measures have been most effective. It also identifies the main challenges encountered and how they were addressed. The annual review also allows the identification of areas where additional resources or attention are needed to improve the effectiveness of future actions. It is an important instrument to ensure transparency and accountability in the implementation of the Climate Neutrality Strategy.
The Working Groups participate in the annual Climate Neutrality Conference organised by the Coordination Group. The conference discusses achievements, shares experience and plans the way forward. The conference provides a platform to present the year's achievements, hear success stories from other groups and gain valuable insights and guidance. It also fosters collaboration between working groups and stakeholders, allowing them to interact directly and exchange ideas.
Based on the analysed experiences, the report produced, the knowledge and information gained, the working groups propose, as appropriate, possible new actions and interventions that could contribute to the climate neutrality objective.

Governance interventions:
Table C.1.2 presents the management interventions that would address the systemic barriers identified in Module A-3. The main barriers include lack of a responsible entity for implementing climate actions, lack of specialist knowledge and capacity, and lack of coordination between actions. These problems are addressed through the establishment of the Tauragė district municipality Decarbonisation coordination group, working groups to coordinate the lists of specific actions developed under the Action Plan. In addition, the municipality is creating the post of a Cities Mission Coordinator to coordinate climate strategies and projects, promoting better cooperation between sectors. The development of a GHG accounting system will ensure more accurate data collection and analysis, while the standardisation of sustainability reporting for municipally owned companies will improve transparency and social responsibility. Finally, investments are being made in staff development and innovation, which will allow the municipality to adopt the latest technologies and methodologies, increasing the efficiency of strategy implementation and the integration of innovative solutions.

C.1.2: Sample Table: Relations between governance innovations, systems, and impact pathways

Intervention name	Description	Systemic barriers / opportunities addressed	Leadership and stakeholders involved	Enabling impact	Co-benefits
Establishment of the Tauragė district municipality Decarbonisatio	Establishment of a coordinated governance structure for the implementation, coordination	There is no entity in the municipality that is responsible for managing climate action	EU Cities Mission Coordinator, municipal administration specialists,	Active and strong political leadership in the municipality to achieve	Increased efficiency of action, fully integrated approach, targets

n Coordination Group	and monitoring of climate neutrality actions		working group coordinators	climate neutrality.	achieved, GHG reductions Effective coordination and monitoring of actions, unified vision
Establishment of working groups	Establishment of working groups in specific areas (transport, energy, waste, land use, business, social innovation, future and innovation)	There is no entity in the municipality that is responsible for managing climate action; Lack of knowledge and skills in climate change impact assessment and mitigation, and lack of experience in submitting proposals. Lack of specialists and experts in the field of climate change and sustainability, both in the public and private sector.	Professionals from various institutions, NGOs, academia, businesses, community members, etc.	Active and strong political leadership in the municipality to achieve climate neutrality.	Increased efficiency, specialised knowledge, timely resolution of challenges Targeted action planning and implementation, continuous monitoring and evaluation
Creation of a Climate Neutrality Coordinator position	Creation of a staff position responsible for the coordination of the urban climate strategy, project management and cooperation with working groups, sectoral representatives, other organisations or institutions	Shortage of climate change and sustainability specialists and experts in both the public and private sectors.	Municipality administration	Active and strong political leadership in the municipality to achieve climate neutrality.	Improved quality of project management, better communication and cooperation, more successful implementation of the EU Cities Mission, continuity of activities
Establishment of a Climate Neutrality Project Manager position	The measure will help to address the lack of human resources in the municipality. Climate neutrality requires specialised knowledge and skills that current municipal staff may lack. The creation of this post will fill the skills gap by	Shortage of climate change and sustainability specialists and experts in both the public and private sectors.	Municipality administration	Active and strong political leadership in the municipality to achieve climate neutrality.	Improved quality of project management, better communication and cooperation, more successful implementation of the EU Cities Mission, continuity of activities

	ensuring that the municipality has a specialist with the necessary skills to address climate change issues. This will allow for more efficient planning and implementation of climate neutrality projects, reduce the risk of staff burnout by sharing responsibility for this important area, and strengthen the municipality's ability to attract funding and cooperate with external partners.				
Improving GHG accounting (setting up a system) at municipal level	Develop and implement a system to systematically record and manage GHG accounting data at municipal level. It should be noted that the accounting will separately calculate GHG emissions from individual houses, transport and agriculture. Currently, emissions are deducted from the national inventory, which does not allow to see progress in the Tauragė district.	Lack of knowledge and skills in assessing and mitigating climate change impacts	Municipal administration, other interested parties supplying relevant data, IT specialists	Developing and improving the system would allow more accurate collection and analysis of emissions data at municipal level. This would provide a better understanding of the true magnitude and sources of emissions, which is essential for the development of effective strategies to reduce emissions.	Reduced GHG emissions, better, more accurate and objective reporting
Sustainability reporting for municipally owned companies	Adopt a decision on the obligation to prepare sustainability reports for municipally owned companies	Lack of organisational/ management framework - the municipality does not have an entity (working group, responsible staff, board,	Municipal administration, municipally owned companies	Alignment and interlinking of policies and measures from different documents in the preparation of the Action Plan. This allows to	Improved and standardised reporting, increased transparency in sustainability accounting, increased social responsibility

	Introduce and standardise the reporting process so that municipal enterprises can produce standardised sustainability reports	etc.) in charge of the management of the climate action, including the development of strategic objectives, the preparation of measures, monitoring and control, representation at national and international level, and any other necessary actions in this area.		identify optimal solutions, focus on the most beneficial solutions, and attract funding and organisational resources for them	
Staff training	Organisation of training, seminars and other capacity-building activities for members of working groups	Shortage of climate change and sustainability specialists and experts in both the public and private sectors.	Municipal administration professionals, members of working groups, training, academic institutions, businesses providing skills development services	Filling knowledge and skills gaps	Adoption of the latest technologies and methodologies, more effective and innovative strategy implementation
Organisation of the annual Climate Neutrality Conference	Organisation of an annual conference to discuss and present progress, share experiences and plan the way forward	Negative attitudes or experiences in some sectors regarding requirements, policies and measures to reduce climate impacts and protect the environment, e.g. agriculture, industry. The resulting hostility in this area and lack of support for related initiatives	Coordination Group, representatives of working groups, municipal administration, experts, representatives of government, ministries and other interested parties	Active and strong political leadership in the municipality to achieve climate neutrality.	Better communication, transparency, greater integration of innovation and good practice
Promoting innovation and new ideas	Organising workshops, idea-generation sessions and other activities to promote innovation	The deployment or use of new technologies often requires more investment than the deployment or use of "conventional" technologies, and is therefore less attractive, both from the	Scientific and academic institutions, business representatives, members of working groups, NGOs, agricultural representatives, etc.	Innovation and innovative solutions are on the rise; A large share of EU funds is focused on environmentally and climate-friendly solutions. These funds are targeted at	Increased efficiency in strategy implementation, integration of new and innovative solutions

		point of view of the population and in terms of its payback. For example, current recycling technologies are often more expensive than landfilling or incineration and the purchase of raw materials. There is high competition for measures at national level, resulting in limited access to funding for these measures. This barrier is particularly significant for individuals and the private sector.		public sector entities, including municipalities, the private sector and citizens. Funding for targeted measures also comes from other sources such as the Climate Change Programme.	
Promoting cooperation and joint projects with other EU Cities Mission cities	Encourage and develop joint projects with other EU Cities Mission cities, sharing best practices and experiences, resources and promoting not only local but also international cooperation between cities	Lack of knowledge and skills in assessing and mitigating climate change impacts	Municipalities, representatives of other EU Cities Mission cities, cooperation partners	Developing cooperation in the Tauragė region to achieve common goals of regional interest contributing to climate neutrality; exchange of information and experience.	Improved sharing and exchange of practices, increased efficiency and scale of project implementation
Joining an information hub on available compensation and energy saving options	The Hub is designed to provide information on available offsets and energy-efficient ways to save energy. The Hub aims to help residents and businesses reduce their energy costs and access financial support.	Treating the topic of climate change and related actions as an obligation imposed by the municipality or government. The perception that the topic is only relevant to the municipality and does not affect residents or businesses. Lack of proactivity and initiative from residents and businesses	Municipality administration, Coordination Group, cooperation partners, citizens	The interest, recognition and understanding of the importance of climate change increase the motivation to contribute to the implementation of mitigation actions	Improving knowledge and skills; Strengthening the skills and knowledge of municipal staff;

Involvement of Coordination Group representatives or Working group representatives in national climate change programmes, legislative process	The involvement of representatives of the Coordination Group or Working Groups in the legislative process of national climate change programmes ensures that local initiatives, decisions, etc. are in line with national and international legislation.	Local policies must not only be developed considering the diverse interests of local stakeholders, but also be compatible with policies at national and EU level in the context of climate neutrality.	Coordination group, working groups	Developing cooperation in the Tauragė region to achieve common objectives of regional importance (including those of relevance to the Tauragė municipality) that contribute to climate neutrality, such as improving the attractiveness of public transport, measures in the field of tourism etc.	Ensuring that local documents are in line with national legislation; Municipal representatives receive new information and can share experiences.
Create an information sharing platform for working groups (data, statistics, etc.)	The information sharing platform for working groups allows efficient collection and sharing of data, statistics and other relevant information. The platform facilitates cooperation between Working Groups and ensures information exchange.	Lack of knowledge and skills in assessing and mitigating climate change impacts.	Coordination group, working groups	All the information you need, including data and statistics, is available in one place, so staff can quickly access the resources they need without lengthy searches. The platform can enable real-time collaboration on documents, analytics, and other resources, allowing teams to collaborate more effectively and avoid misunderstandings.	Ensuring effective information exchange; Easy and clear access to all data
Integrating GHG calculations into municipal strategic documents	Assess the GHG impacts of the actions contained in the municipality's strategic documents as they are developed and updated.	Lack of knowledge and skills in assessing and mitigating climate change impacts.	Municipality's administration	Actions are designed to contribute to the reduction of GHG emissions and involve a wide range of sectors and activities.	Increased efficiency in strategy implementation, integration of new and innovative solutions
Integrating climate neutrality into existing	The measure aims to integrate climate neutrality	Local policies must not only be developed considering the diverse	Municipality's administration	Actions are designed to contribute to the reduction of GHG emissions	Increased efficiency in strategy implementation, integration of

municipal programmes	objectives into the existing programmes and strategies of Tauragė district municipality. This will include a review of all municipal plans, projects and activities and their alignment with climate change mitigation and sustainability principles.	interests of local stakeholders, but also be compatible with policies at national and EU level in the context of climate neutrality.		and involve a wide range of sectors and activities.	new and innovative solutions

4.2 Module C-2 Social Innovation Interventions

This module lists the actions that the municipality is taking to support and promote social innovation initiatives or non-technological innovation more broadly (e.g. in the areas of entrepreneurship, social economy, social awareness and mobilisation, social cohesion and solidarity, etc.), thereby addressing the systemic barriers and opportunities identified in Module A-3.

C.2.1 Sample Table: Relations between social innovations, systems, and impact pathways					
Intervention name	Description	Systemic barriers / opportunities addressed	Leadership and stakeholders involved	Enabling impact	Co-benefits
Measures for educational institutions					
Eco-Friendly School competition	The "Eco-Friendly School" competition is designed to encourage school communities to get actively involved in environmental activities and to raise awareness of climate change and sustainable lifestyles among students. The competition aims to encourage schools to implement a wide range of green initiatives and projects that contribute to environmental objectives.	Treating the topic of climate change and related actions as an obligation imposed by the municipality or government	Municipality administration, schools, pupils, parents	The interest, recognition and understanding of the importance of climate change increase the motivation to contribute to the implementation of mitigation actions	The competition was implemented with the involvement of as many educational institutions as possible; Increased knowledge and awareness of young people

Celebrating International Climate Day in educational institutions	International Climate Day is an initiative to raise awareness of the importance of climate change and to promote environmental awareness among students and teachers in educational institutions. The Day provides an opportunity for schools to integrate climate change into their curricula and to organise activities and events to promote a responsible attitude towards the environment.	Treating the topic of climate change and related actions as an obligation imposed by the municipality or government	Schools, students, parents, school staff	The interest, recognition and understanding of the importance of climate change increase the motivation to contribute to the implementation of mitigation actions	Education, awareness-raising programmes and campaigns implemented; Increased knowledge and awareness of young people
Integrating Sustainability and Climate Neutrality into the General Education Curriculum	The programme will be implemented in three phases: In Phase I, sustainability and climate neutrality themes will be identified and developed and integrated into the curriculum In Phase II, an entity responsible for the implementation of the programme (Tauragė Education Centre) will be appointed, complementing the educational content with local issues. Preparation of descriptions, tools and methodological material for educational	Treating the topic of climate change and related actions as an obligation imposed by the municipality or government. The perception that the topic is only relevant to the municipality and does not affect residents or businesses. Lack of proactivity and initiative from residents and businesses	Municipality, schools, students, Tauragė Education Centre	The interest, recognition and understanding of the importance of climate change increase the motivation to contribute to the implementation of mitigation actions	Education, awareness-raising programmes and campaigns implemented; Increased knowledge and awareness of young people

	activities and research works In Phase III, the planned activities will be implemented by educating both students and teachers				
Climate Neutrality Week	Climate Neutrality Week is an intensive and wide-ranging initiative to promote climate neutrality principles and actions in a wide range of community, business and educational settings. The week includes a wide range of events, seminars, workshops and actions to raise awareness of climate change issues and promote actions to reduce our carbon footprint.	Treating the topic of climate change and related actions as an obligation imposed by the municipality or government. The perception that the topic is only relevant to the municipality and does not affect residents or businesses. Lack of proactivity and initiative from residents and businesses	Municipality, community centre, local action group, schools, residents	The interest, recognition and understanding of the importance of climate change increase the motivation to contribute to the implementation of mitigation actions	Education, awareness-raising programmes and campaigns implemented; Increased knowledge and awareness of the population
Educational programme on sustainability, sorting and recycling for children (2-4 grade students)	Lecture and workshop. After a lecture on environmental pollution, sustainability and consumerism, we would encourage the exchange of objects and organise a workshop where children could make their own toys from recycled materials, unwanted items, etc. At least 6 educational activities.	Treating the topic of climate change and related actions as an obligation imposed by the municipality or government. The perception that the topic is only relevant to the municipality; Opportunity to fill knowledge and skills gaps	Municipality, Birutė Baltrušaitytė Public Library, students, educational institutions	The interest, recognition and understanding of the importance of climate change increase the motivation to contribute to the implementation of mitigation actions.	Teachers acquire the knowledge and skills to teach sorting; Pupils become more conscious consumers, reducing waste in schools; Knowledge transferred at home
Expansion of the STEAM Open Access Centre	To expand the Tauragė STEAM Open Access Centre's sustainable	Treating the topic of climate change and related actions as an obligation	Tauragė Education Centre, Municipal	The interest, recognition and understanding of the importance of	Education, awareness-raising programmes

	development, green and alternative energy laboratory. The centre is currently fully operational and by expanding the centre, its infrastructure and activities, and establishing outdoor classrooms, more students not only from Tauragė but also from all over Lithuania will have the opportunity to learn about green energy.	imposed by the municipality or government	Administration, students	climate change increase the motivation to contribute to the implementation of mitigation actions.	and campaigns implemented; Increased knowledge and awareness of young people More sustainable living habits are formed
Measures for business					
Organising seminars, information events on climate neutrality and sustainability for businesses and other institutions	Workshops and information events on GHG accounting, climate neutrality, sustainability and sustainable technologies are organised for businesses, institutions and other bodies to help them understand how they can contribute to the climate neutrality goals. These events will provide knowledge on GHG accounting methods, best practices, introduce new technologies and offer practical tips and tools to help institutions reduce their carbon footprint more effectively.	Treating the topic of climate change and related actions as an obligation imposed by the municipality or government. The perception that the topic is only relevant to the municipality and does not affect residents or businesses. Lack of proactivity and initiative from residents and businesses Lack of knowledge and skills in the field of climate change impact assessment and mitigation, lack of experience in submitting proposals	Municipality, NGOs, business representatives	The interest, recognition and understanding of the importance of climate change increase the motivation to contribute to the implementation of mitigation actions	Education, awareness-raising programmes and campaigns implemented; Increase in business knowledge and awareness
Measures for citizens (including different age groups, including seniors, vulnerable groups)					
Develop the activities of the Energy	The Energy Resource Advice Centre,	Treating the topic of climate change and	Municipality, library, NGOs, citizens	The interest, recognition and understanding	Education, awareness-raising

Resource Advice Centre at the Public Library	located in the Public Library, is designed to provide information, advice and support to the local community and businesses to manage energy resources more efficiently and reduce energy costs. The development of the centre's activities includes improving the quality of services, implementing new initiatives and educating the community on energy efficiency and saving.	related actions as an obligation imposed by the municipality or government. The perception that the topic is only relevant to the municipality and does not affect residents or businesses. Lack of proactivity and initiative from residents and businesses		of the importance of climate change increase the motivation to contribute to the implementation of mitigation actions	programmes and campaigns implemented; Increased knowledge and awareness of the population
Implementation of the "Passing the Torch" programme	The "Pass the Torch" initiative encourages communities to take part in planting trees, flowerbeds, etc. Each community that plants trees will pass on the symbolic baton to the next community, thus involving the entire Tauragė municipality in the development of green spaces.	Treating the topic of climate change and related actions as an obligation imposed by the municipality or government. The perception that the topic is only relevant to the municipality and does not affect residents or businesses. Lack of proactivity and initiative from residents and businesses	Municipality, public health office, NGOs, local action group, local community organisations Local communities, schools, municipalities	The interest, recognition and understanding of the importance of climate change increase the motivation to contribute to the implementation of mitigation actions	Increased number of green spaces in the municipality; Reduced GHG emissions; Improved air quality;
Organising interactive exhibitions and public art galleries for residents and visitors	Organise interactive educational exhibitions where visitors can learn about the impacts of climate change through sensory and interactive activities. The exhibitions are displayed in different locations	Treating the topic of climate change and related actions as an obligation imposed by the municipality or government. The perception that the topic is only relevant to the municipality and does not affect residents or businesses.	Cultural institutions, museums, municipality, community centres, schools, youth organisations All age groups, schools, community centres	The interest, recognition and understanding of the importance of climate change increase the motivation to contribute to the implementation of mitigation actions	Increase awareness and understanding of climate change among the population, stimulate debate on climate change and change people's habits

	around the city, including public spaces and exhibition centres and galleries. These exhibitions would be mobile and change periodically to encourage people to walk around the city, to learn about different environmental issues and to raise awareness.	Lack of proactivity and initiative from residents and businesses			
Organisation of the Sustainability Trips, Rides and Mobility Week in Tauragė district municipality	Organise hikes and other sporting events to promote active lifestyles and contribute to environmental objectives. For example, residents would be invited to take part in hikes, litter picks or other environmental activities. Or a walk to show how walking can benefit not only health but also the environment by giving up car travel	Travel habits of the population (most journeys are made by car), which are partly determined by socio-cultural attitudes towards owning a car - owning a car is associated with a successful life.	Municipality, public health centre, NGOs Population of all ages, families, health organisations, famous athletes	The interest, recognition and understanding of the importance of climate change increase the motivation to contribute to the implementation of mitigation actions	The physical health of the population will improve; Reduced litter; Strengthened community ties; More sustainable living habits are formed
Development and implementation of an information campaign	Develop and implement an ongoing information campaign on sustainability using QR code flyers, social networks (Facebook, Instagram, X), posters, events, information messages. The campaign will promote sorting, electro-mobility and sustainable mobility, energy savings and	Treating the topic of climate change and related actions as an obligation imposed by the municipality or government. The perception that the topic is only relevant to the municipality and does not affect residents or businesses. Lack of proactivity and initiative from residents and businesses	Municipality, NGOs, schools, businesses, etc. Residents, businesses, schools, kindergartens	Changing habits of the population	Residents will receive up-to-date information and advice on sustainability; Sustainable living habits will be formed; Reduced waste generation, increased sorting, reduced energy consumption and fewer car journeys Increased use of electric vehicles, reduced air pollution,

	other neutrality actions; Documentary evenings will also be organised; Measures are adapted to different age groups to reach each individual in a way that appeals to him/her, e.g. older people can be reached through information stands placed in squares, health facilities, churches, cemeteries etc. Information messages, advertisements, radio reports, newspaper articles, posters, events and other means will also be used to attract the interest of people of all ages.	Opportunity: The interest, recognition and understanding of the importance of climate change by the residents of Tauragė District Municipality increases their motivation to contribute to the implementation of mitigation actions. Publicising good practices in the municipality to show that it is possible to implement different solutions at local level, exposing local climate ambassadors through good practices and involving them in related actions, dissemination of information, etc.			increased environmental awareness Increased awareness of the importance and methods of energy saving; Reduction of overall energy consumption in the city, increase in energy efficiency and reduction of energy costs for the population
Sustainable Tauragė Tourism Initiative	The Sustainable Tauragė Initiative is a comprehensive programme to promote sustainable tourism, with the aim of making Tauragė a sustainable tourism hub in the region. The initiative would cover several key aspects: firstly, a sustainable travel planning platform (website) would be developed, allowing tourists to plan their trip according to sustainability criteria, suggesting	The perception that this topic is only relevant to the municipality and does not concern residents or businesses. Lack of proactivity and initiative from residents and businesses	Municipality, Tauragė Tourism Centre, businesses, cultural and artistic community, NGOs, Green region	Tauragė district municipality's strategic ambition to become the greenest municipality in Lithuania, i.e. a strong motivation at municipal level to achieve climate neutrality. Publicising good practices in the municipality to show that it is possible to implement different solutions at local level, exposing local climate ambassadors	Promoting sustainable tourism in the region; Increased number of tourists and increased economic benefits for the region; Environmental and cultural education of residents and tourists.

	green routes, recommending places to visit, tours of reserves, nature sites, energy sites, sustainable restaurants, accommodation and how to reach them by public or non-motorised transport, hiking trails. The website would include an interactive map showing charging stations for electric vehicles, bicycle or other non-motorised vehicle rental locations. The initiative would also include a publicity campaign and advertising on social networks, in promotional videos or in partnership with travel bloggers.			through good practices and involving them in related actions, dissemination of information, etc.	
Encouraging people to reduce consumerism	Organising and implementing campaigns for residents to exchange various items. Providing the necessary infrastructure for such campaigns	Treating the topic of climate change and related actions as an obligation imposed by the municipality or government. The perception that the topic is only relevant to the municipality and does not affect residents or businesses. Lack of proactivity and initiative from residents and businesses	Municipality, Birutė Baltrušaitytė Public Library, NGOs	The interest, recognition and understanding of the importance of climate change increase the motivation to contribute to the implementation of mitigation actions	Residents will receive up-to-date information and advice on sustainability; Sustainable living habits will be formed
Communication campaigns among young people	Organise communication campaigns on climate change and climate neutrality among young	Treating the topic of climate change and related actions as an obligation imposed by the municipality or	Tauragė Youth and Youth Organisations Union "The Round table", municipal administration	The interest, recognition and understanding of the importance of climate change increase the	Education, awareness-raising programmes and campaigns implemented;

	people in Tauragė. The campaigns will focus on disseminating information and activating young people on climate change issues, targeting the communication channels, messages and methods that best reach the youth group.	government. The perception that the topic is only relevant to the municipality and does not affect residents or businesses. Lack of proactivity and initiative from residents and businesses		motivation to contribute to the implementation of mitigation actions	Increased knowledge and awareness of young people More sustainable living habits are formed
Other measures					
Encourage the establishment of climate neutrality NGOs in Tauragė	Encourage the establishment of new environmental non-governmental organisations (NGOs) in Tauragė by providing information, financial and logistical support. The aim is to bring together local activists and provide them with the necessary resources and knowledge to enable them to operate effectively and contribute to environmental initiatives.	Lack of NGOs working in the field of climate and environment - there is no single NGO working in this field.	Municipality administration, Public Health Office Local community activists, environmental enthusiasts, youth organisations, schools.	The interest, recognition and understanding of the importance of climate change increase the motivation to contribute to the implementation of mitigation actions	The number of local activists and NGOs will increase and the capacity of the community to tackle environmental problems will be strengthened; Sustainable environmental solutions, increased community involvement and awareness of environmental issues
Establish an environmental ambassador programme and network	Create a Public Health, Environment and Climate Neutrality Ambassadors programme to train active citizens to spread the message of health and climate change, sustainability and environmental protection in their communities.	The interest, recognition and understanding of the importance of climate change increase the motivation to contribute to the implementation of mitigation actions	Municipality, public health office, NGOs Community members, volunteers, NGOs, residents, businesses	Promoting public awareness and involvement in environmental issues and climate change mitigation actions.	Increased citizen engagement; Increased awareness of environmental protection and the importance of people's habits; Dissemination of good practices; Promotion and strengthening of sustainability initiatives.

C-2.2: Description of social innovation interventions

Social innovations that address the systemic barriers identified in Module A-3 and exploit the opportunities for climate neutrality can make a significant contribution to climate neutrality by not only addressing existing systemic barriers, but also promoting sustainable development. Notably, these initiatives also promote community and business sector engagement, creating new opportunities and raising public awareness of climate change challenges and solutions. Increasing awareness and changing habits contribute to more sustainable consumption and environmental conservation. Social innovation is essential to engage more stakeholders and citizens in climate neutrality initiatives. These innovations help to reduce social and economic barriers, promote participation and build community links.

Various climate education programmes and initiatives are one of the key factors in raising public awareness and understanding of climate change problems and possible solutions. These programmes are aimed at school children, adults, professionals and the general public, and provide a wealth of knowledge and information to encourage responsible behaviour and innovative solutions to climate change. Educational programmes and initiatives have several main objectives: firstly, they aim to provide knowledge about climate change and its causes. This includes the scientific basis for explaining how human activities contribute to GHG emissions and the effects of climate change. Secondly, they aim to develop practical skills, encouraging changes in habits that will help people to reduce their carbon footprint in their daily activities. Thirdly, they promote participation and engagement in climate change mitigation initiatives at local, regional level. It should be stressed that the educational programmes will be tailored to the target groups, which will not only allow for more effective communication of information, but also encourage active participation, positive behavioural changes and increased community involvement in sustainability initiatives. This tailoring allows each group to have access to information and tools that meet their unique needs and conditions, making the education programmes more tailored and effective. Incorporating climate change topics into school curricula can create a new generation of responsible citizens. Schools would have integrated curricula that include practical as well as theoretical knowledge. For example, pupils could take part in energy-saving projects, carry out experiments with renewable energy sources or organise waste sorting campaigns in their school. Schools can also work with local communities and businesses to implement sustainability projects. This would not only give students real-world experience, but also promote community participation and awareness of climate change issues. For example, schools could take part in an Eco-friendly school competition, celebrate Climate Neutrality Week in educational institutions, and implement a range of educational and curriculum programmes on climate neutrality themes, such as sorting.

Climate education programmes should be accessible not only to schools but also to the general public. This can include a range of activities and initiatives such as seminars, workshops, information campaigns and public debates. Such programmes can be delivered through local community centres, libraries, universities and other public facilities. One of the main objectives of these programmes is to raise awareness of the role of each individual in climate change. Everyone can contribute to reducing climate change by taking responsible action in their daily lives. For example, people can be encouraged to switch to energy-efficient lighting and heating systems, to reduce the use of single-use plastic products, or to choose sustainable means of transport such as bicycles or public transport. In addition, such programmes can encourage civic participation in climate change initiatives. This can include volunteering with local green organisations, taking part in community actions or programmes, participating in climate protests or signing petitions for environmental policy changes. This strengthens community ties and increases public involvement in climate change solutions.

Community projects are also an important tool for achieving climate neutrality, as they not only encourage active participation at local level, but also raise awareness and increase resource efficiency. Such projects create a vision for a sustainable future, empowering citizens to act and share responsibility for environmental and climate protection. By their very nature, community-based projects can be diverse and raise awareness on a wide range of topics related to climate neutrality. Community projects have many benefits that contribute to a sustainable and responsible community life. Firstly, they encourage the participation of residents and give them the opportunity to contribute directly to mitigating the effects of climate change. When residents are actively involved in project activities and see that their actions have a direct impact on the quality of the environment, they become more motivated to continue these actions and to share their experiences with others. Second, community projects strengthen social ties and community spirit. By working together towards a common goal, people build a stronger community base and increase trust in each other. This helps

to overcome social challenges and promote cooperation between different groups. Thirdly, such projects provide practical knowledge and skills that are useful not only in the short term but also in the long term. For example, taking part in waste sorting projects or trying out sustainable mobility measures helps people to better understand how they can effectively reduce their carbon footprint and make more sustainable choices in their daily lives.
Events and social advertising are also powerful tools to promote engagement and awareness of climate change. These tools not only inform and educate the public, but also create opportunities for direct participation, cooperation and engagement in achieving climate neutrality goals. Cultural and community events such as art exhibitions, film screenings, debates or festivals help to bring more attention to the climate change debate. Such events focus on raising public awareness through creative expression and cultural engagement. For example, an art exhibition on environmental themes or a documentary film festival on climate change can attract a wide audience and stimulate debate and action on climate issues. Communities can also organise various campaigns and challenges, such as 'Sustainable Mobility Week' or 'Passing the torch', in which residents can take part in order to achieve specific climate and environmental goals. For example, challenges can be organised in which people compete to reduce energy consumption or waste, or to encourage greenery. These actions not only encourage personal involvement, but also create a sense of community and meet sustainability goals. In addition, events aimed at strengthening partnerships and cooperation between different sectors can also be very useful. For example, forums or meetings with business, academia and NGOs can be organised to discuss and develop joint solutions on climate neutrality. These events can stimulate the development of innovative solutions and an integrated approach to climate action.
Social campaigns and advertising can also be an effective way to educate the public about climate change and how they can contribute to mitigation. It should be noted that it is important that these advertisements are informative, attractive and persuasive in order to attract and engage a wide audience and to be understandable and clear to people of all ages. Social networking platforms such as Facebook, Instagram, X (Twitter) and TikTok are good and modern tools for disseminating information and engaging a wide audience. Short informative posts and competitions can be created by interacting with influencers or public figures. Such campaigns can also include video reports, podcasts or other formats that convey information about climate neutrality and how individuals can contribute to its achievement through their actions. It should be noted that an information campaign on social networks would not only be limited to the municipality but would also cover the whole country. This means that not only the inhabitants of the municipality would be educated and informed about the initiatives that are being carried out and implemented in Tauragė. Moreover, it is worth noting that social networks are mostly used by the younger generation, so it is necessary to use other means of information to reach out to those who do not use the social networks. This can be done through television advertisements, newspaper articles and radio announcements. In addition, leaflets, brochures, publications, websites or advertisements can provide people with information on climate change issues and solutions. These can be distributed in public libraries, schools, community centres and other public spaces.

5 Outlook and next steps

Plans for next Strategy and Action Plan iteration

In order to successfully implement the Strategy, the first step will be to implement the Tauragė district municipality Decarbonisation Governance Model, which will ensure the necessary follow-up actions. The implementation of this model will require the procedures for the establishment of the coordination group and the working groups, which are required under the existing legislation and procedures. Once established, the Coordination group and the Working Groups will start to carry out their assigned functions. The exercise of these functions will enable the AP to be updated in a timely and appropriate manner and, if necessary, supplemented or amended.
The next important step is to prioritise the actions to be taken, so that they can be implemented in a timely and appropriate manner. The prioritisation of actions depends on the timeframes foreseen for their implementation and, in the case of long timeframes, on other factors such as the availability of funding, the preparation needed for the actions, etc. The anticipation of actions will allow their implementation to be planned in advance and to be included in the strategic plans of the municipality, as well as to be considered in the planning of the municipality's resources or those of the other

responsible entities. The timeframe for the implementation of some measures is dependent on the plan foreseen by the subsidies/grants, so this aspect must be considered when planning measures for which such a source of funding is foreseen.
The Action Plan has focused on stakeholder involvement to ensure a just transition. Stakeholders involved in the process included a range of vulnerable or under-represented groups, such as organisations representing people with mobility disabilities, older people. However, these groups were under-represented as they were not actively involved in the process. It is therefore planned to pay more attention to these groups in the future, by discussing measures with them separately. The needs of vulnerable people should also be considered in the planning of the implementation of the actions envisaged, e.g. in the design of pedestrian/cycling infrastructure, in the planning of public transport services, in the adaptation of outreach measures, etc. In the formation of working groups, it is planned to include municipal representatives responsible for the interests of vulnerable groups, who could represent these interests at public sector level, and to continue to work with relevant organisations representing the interests of vulnerable groups, by organising individual meetings, inviting them to joint activities and events, and by inviting them to act as experts if necessary.
The iterations of the Action Plan will be carried out in the context of the envisaged decarbonisation governance model. This model foresees regular supervision of the implementation of the Action Plan and monitoring of the results achieved according to defined indicators, which will allow to identify the need for changes. At that time, the satisfaction of this need can be discussed in working groups and in the Coordination group, with a view to finding options for their implementation.
A very important step is the communication activities, which are foreseen in various forms in both Module B and Module C of this Plan. These activities will allow to attract and convince those stakeholders who have not yet been reached and who have not been involved in the preparation of this Action Plan (for more details on stakeholder involvement see Module A).

NET ZERO CITIES

EU MISSION PLATFORM | CLIMATE NEUTRAL AND SMART CITIES

Climate Neutrality Strategy for Tauragė district municipality 2030

Tauragė District Municipality Climate Neutrality Commitments 2030

Tauragė

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Table of contents

1 Introduction

In order to become one of the European leaders in climate change mitigation, has joined the European Commission's Mission for 100 Climate Neutral and Smart Cities by 2030 (the Cities Mission), an ambitious initiative to make 100 European Union cities climate neutral by 2030. The Climate Cities Mission is part of Europe's Green Deal, which focuses on promoting clean energy, sustainable mobility, circular economy and innovation in cities and regions. As part of this mission, Tauragė district municipality is committed to actively implementing climate neutrality actions, while ensuring sustainable growth of the local economy and improving the quality of life of its citizens.

The vision of Tauragė district municipality is to become a green, vibrant and open district, a municipality worth watching. Tauragė district municipality decided to participate in the Urban Mission not only to reduce its environmental impact, but also to become an example for other municipalities in Lithuania and Europe, as envisaged in its vision. This decision was made considering several important factors. First of all, Tauragė district municipality has a long-standing focus on sustainable development and environmental protection – the goal of becoming the greenest municipality in Lithuania is enshrined as a strategic objective, and participation in the Cities Mission provides an opportunity to achieve these goals more effectively. Secondly, Tauragė district municipality aims to benefit from financial and technical support from the European Union to expand its green policy initiatives and invest in innovative solutions. Thirdly, Tauragė district municipality is aware that the challenges of climate change require global solutions that can only be implemented in cooperation with other European and global communities.

The municipality has already done a lot of important work to reduce climate change. One of the most important steps has been the creation and implementation of the Strategic Development Plan 2021-2030, which sets out the municipality's vision of becoming a green and exemplary municipality. A strong focus is placed on the development of sustainable energy, the use of renewable resources and the implementation of circular economy principles. Tauragė has also developed and is implementing a Renewable Energy Action Plan, which includes increasing energy production from solar, wind and biomass. The aim of this plan is not only to reduce greenhouse gas emissions, but also to ensure energy security and independence. In addition, Tauragė is actively involved in sustainable mobility initiatives. The Tauragė Sustainable Mobility Plan includes measures to reduce pollution in the city, promote the use of public transport, expand the cycle path network and increase the number of pedestrian zones. These solutions not only contribute to reducing climate change, but also improve the quality of life for the city's inhabitants, reducing traffic congestion and air pollution.

Tauragė district municipality is also involved in various national and international initiatives to share good practice and experience in climate change mitigation. The municipality contributes to the implementation of the measures outlined in the National Energy and Climate Action Plan 2021-2030 (NECAP), which emphasises the role of municipalities in reducing greenhouse gas (GHG) emissions. The NECAP provides municipalities with financial and technical incentives to implement green policies more effectively. Tauragė is also involved in international initiatives, such as the European Union's Horizon 2020 programme, which promotes innovation and technological development in various fields, including climate and energy.

Participation in the Climate Cities Mission opens up a wide range of opportunities for Tauragė district municipality. First of all, the municipality can benefit from European Union financial instruments and technical assistance to promote green development and innovation. This will allow the development of renewable energy projects, modernisation of public transport and other sustainable initiatives. Secondly, the Cities Mission provides an opportunity for Tauragė to become part of a wider European climate network, to share good practices with other cities and to learn from their experiences. Thirdly, participation in the Mission will increase the attractiveness of the municipality to investors looking for opportunities to contribute to sustainable projects. Fourthly, the citizens of Tauragė will have the

opportunity to be directly involved in these processes, contributing to building and improving the future of their community.

The Cities Mission will not only help Tauragė district municipality to achieve its climate neutrality goals, but also ensure that these goals are implemented in a sustainable way, involving local communities and delivering long-term environmental and economic benefits. Tauragė district municipality aims to become a leader in sustainable development and climate change mitigation not only in Lithuania but also in Europe, and participation in the Cities Mission is an important step towards this goal.

2 Goal: Climate neutrality by 2030

According to the Cities Mission Expression of Interest, Tauragė district municipality is aiming for net-zero GHG emissions, while the expected residual emissions up to 2030 have not been determined (to be elaborated in the next phase of the Mission). The residual emissions in 2030 have been identified in the preparation of the Climate Neutrality Strategy 2030 for the municipality of Tauragė district (hereinafter referred to as the "Strategy"). The climate neutrality target for the municipality of Tauragė district is in line with the elements of the definition of climate neutrality in the Cities Mission, including the residual emissions allowed. The actions set out in the Climate Neutrality Strategy should lead to an 85% reduction in GHG emissions by 2030 compared to 2018, and residual emissions should not account for more than 15% of GHG emissions compared to 2018.

The climate neutrality target has four impact pathways: climate-neutral households, climate-neutral public sector, climate-neutral production and consumption, and climate-neutral community. These impact pathways cover all sectors and each of them manifests itself differently in different sectors. The climate-neutral households impact pathway includes actions focused on clean heat, self-generated green electricity, reduced car travel, electro-mobility, responsible consumption, and more energy-efficient housing. The climate-neutral public sector impact pathway includes actions focusing on green electricity, decarbonised vehicle fleet, green environment, energy efficient buildings, effective climate neutrality management, improved capacity and capability. The climate-neutral production and consumption pathway includes actions focusing on decarbonised heat production, green electricity generation, businesses that decarbonise the transport fleet, decarbonised waste management, climate-friendly agriculture and other land uses, and responsible and learning businesses. The climate-neutral community impact pathway includes actions targeting climate-conscious and knowledgeable young people and a climate-conscious and knowledgeable population.

Tauragė district municipality was established in 1995 and is the average size municipality in Lithuania. It belongs to Tauragė region. There are two towns – Tauragė and Skaudvilė, 4 villages – Batakiai, Gaurė, Pagramantis and Žygaičiai, and 320 hamlets. The territory of the district is divided into 8 sub-districts: Tauragė town, Batakiai, Gaurė, Lauksargiai, Mažoni, Skaudvilė, Tauragė, Žygaičiai. In implementing its strategic vision and Climate Neutrality Action Plan for Tauragė district municipality 2030 (Action Plan), the municipality has committed itself to the ambitious goal of climate neutrality by 2030. The 2030 climate neutrality target of Tauragė district municipality is consistent with the administrative territory (boundaries) of the municipality, and no exclusion zones, sectors, gases, etc. are identified. The Tauragė district municipality has a number of ETS installations operated by UAB “Tauragės šilumos tinklai”. These installations are included in the climate neutrality objective as they are operated by a municipally owned company and the municipality may have a significant influence on their operations.

The goal of climate neutrality by 2030 is expected to bring many additional benefits to the municipality of Tauragė, increasing the region's sustainability, resilience and quality of life. These additional benefits are not just a by-product, but are integral to the region's holistic approach to climate change action:

- **Economic resilience.** Moving away from fossil fuels and investing in renewable energy sources will boost the local economy by creating new jobs in the green energy sector. This transition will also reduce the vulnerability of the district to fluctuations in global energy markets, which will

promote long-term economic stability. The focus on sustainable agricultural practices will help to secure the livelihoods of smallholder farmers as they will be able to continue to operate profitably while reducing their environmental impact.

- **Health and well-being of citizens.** Reducing GHG emissions from the transport and energy sectors will improve air quality, reduce respiratory and cardiovascular diseases, and reduce noise levels. Greener urban spaces through increased tree planting and green infrastructure will contribute to mental health and well-being, provide recreational opportunities and increase the aesthetic value of urban areas. This means that the quality of life and the living environment of citizens will improve.

- **Energy security.** By investing in renewable energy infrastructure, such as wind, solar and biomass energy, Tauragė district municipality will reduce its dependence on imported fossil fuels, increase energy security and promote local energy independence. This development will also protect the region from the economic impact of energy price fluctuations.

- **Environmental protection.** Protecting and restoring wetlands and expanding forests will not only contribute to carbon sequestration, but also maintain biodiversity, improve water quality and enhance ecosystem services. These actions will help to mitigate the effects of climate change, such as flooding and soil erosion, as well as creating habitats for wildlife and carbon sequestration, thus further contributing to the climate change objectives.

- **Community participation and social cohesion.** The Climate Change Action Plan will involve and empower local communities, promoting a sense of shared responsibility and collective action. Public participation in climate initiatives, such as community-based renewable energy projects or local conservation efforts, will strengthen social bonds and raise awareness of environmental issues.

3 Strategic priorities

In order to achieve climate neutrality by 2030, Tauragė district municipality has the following systemic strategic priorities:

- **Reducing the use of fossil fuels.** This strategic priority covers a wide range of activities: energy systems, including district and individual heat generation and the use of polluting electricity; transport, with a focus on phasing out polluting vehicles while developing sustainable mobility options; buildings, reducing energy use.

- **Increasing the use of renewable energy sources.** This strategic priority covers the use of solar, wind, hydro, biogas and other renewable energy sources to generate energy for clean energy self-sufficiency and energy independence.

- **Developing a circular economy.** This strategic priority includes waste prevention, preparation for reuse and recycling, and reuse to minimise waste to landfill.

- **Climate-friendly land use.** This strategic priority includes the promotion of the use of advanced farming methods and technologies in livestock and crop production; restoration of disused peatlands.

- **Engagement and awareness-raising on climate neutrality.** This strategic priority involves informing, educating, involving and engaging various population groups, businesses, various institutions and other stakeholders in initiating and implementing actions to achieve climate neutrality.

The next 2-3 years cover half of the timeframe for achieving climate neutrality. Therefore, this phase should focus on the development and implementation of a governance model for the implementation of climate neutrality actions, preparatory actions for the implementation of major projects (e.g. preparation of technical designs, preparation of funding applications, spatial planning, etc.) and engagement and awareness-raising activities. Where preparatory work is already underway, planned projects can be launched.

Objectives to focus on in the next 2-3 years	Time period
Developing a participatory model for managing climate neutrality	1 year
Incorporate climate neutrality actions into budgets/expenditure planning (municipality, municipal enterprises, businesses, households, other stakeholders)	1-3 years
Develop detailed plans (e.g. a campaign) for engagement and awareness-raising activities	1-2 years
Implement the preparatory actions necessary for major projects	1-3 years
Implement the actions foreseen in the Action Plan within the next 1-3 years	1-3 years

Residents are key to accelerated change, as they are targeted for actions that will make a significant contribution to reducing GHG emissions. Each individual citizen may contribute a small part to the climate neutrality goal, but the population as a whole is making a significant difference in a wide range of areas - energy systems, transport, circular economy. Residents also lead to community contributions, dissemination of information, demonstration of good practices and therefore have a significant influence in the context of engagement and awareness raising. Timely decisions and involvement of citizens in the implementation of actions lead to the possibility of accelerating the achievement of objectives. Given that a large part of the actions is co-financed by EU funds and the national budget, as well as the barriers identified at national level, the achievement of climate neutrality can be accelerated by the national authorities by taking the necessary decisions in a timely manner, considering the local needs, and responding quickly to the difficulties encountered. The third crucial group is business, as its decisions not only make a difference in the business field (green technologies, fossil fuel reduction, waste reduction, etc.), but also contribute to employee and customer engagement and awareness-raising. The Action Plan includes a number of targeted measures to engage these stakeholders.

4 Process and principles

Tauragė district municipality will use a systemic participatory governance model to achieve its climate neutrality targets by 2030. The newly developed governance model for climate neutrality is based on stakeholder cooperation and transparent decision-making. It provides for a clear division of responsibilities and cooperation mechanisms between different institutions and professionals, as well as regular consultation, discussion and reporting. The model has a two-tier governance model: the first tier consists of the Decarbonisation Coordination Group and the second tier consists of working groups.

The Tauragė district municipality Coordination Group will be composed of the EU Urban Mission Coordinator and the curators of 7 working groups: decarbonisation of transport, decarbonisation of energy, decarbonisation of waste, decarbonisation of land use, decarbonisation of business and investment, decarbonisation of social innovation, and the Future and Innovation Working Group. The work of the Coordination Group will ensure that all actions are coordinated and aligned with the objectives set, decisions are based on objective information and data, new initiatives and innovations are quickly integrated into the strategy, and risks are managed effectively, minimising potential negative impacts. The work of the Coordination Group will also help to foster a culture of cooperation between working groups and stakeholders, promoting efficient use of resources and sharing of knowledge and experience.

Working Groups are the main executive structures that coordinate the implementation of the Climate Neutrality Strategy, working with those responsible for implementing specific actions. They are made up of representatives of a wide range of stakeholders, including municipal administration, municipal companies, associations, NGOs and academic institutions. This diversity ensures that all sectors and interests are represented, and that the implementation of the strategy is as effective as possible.

The governance model provides for regular activities of the established working groups and the coordination group. The climate neutrality objective is launched with the establishment of a Coordination Group and Working Groups that will coordinate the implementation of actions in their assigned sectors. The Coordination Group and the Working Groups are expected to meet regularly to discuss progress and challenges (at least four meetings per year).

Each year, a review of progress will be carried out and a report produced. Each working group will provide a progress report on the actions planned and implemented under its responsibility. The monitoring indicators in the Action Plan will also be used to monitor progress. A Climate Neutrality Conference is planned to be organised each year, inviting not only members of the Coordination Group and the Working Groups, but also other interested parties. The conference will be open to all those interested and concerned about the topic of climate neutrality and progress towards the climate neutrality target.

The Action Plan and the Investment Plan will be adjusted each year on the basis of the results of the annual activities, the proposals of the working groups and the suggestions of stakeholders. These adjustments will aim at achieving the climate neutrality objective as quickly as possible, considering the current situation and responding in a timely manner to the circumstances.

The format of the Coordination Group and the Working Groups and the planned monitoring system, including annual conferences, allow for continuous learning, sharing of knowledge and experience, and continuous involvement of the members of the groups and other stakeholders in the process of improving the Strategy. The envisaged system also allows for the involvement of a wide range of stakeholders who are directly responsible for the implementation of the measures and who have an interest in climate neutrality, and who can contribute indirectly to the achievement of climate neutrality.

Guiding principles for the implementation of the Strategy:

- **Transparency:** the aim is to ensure that all information related to the implementation of the Strategy is accessible to all interested parties.
- **Accountability:** to ensure that all parties involved are held accountable for the implementation of the commitments made, and that timely and adequate information is provided on the progress of implementation of the actions and on the funds used.
- **Co-creation:** the aim is to involve as many stakeholders as possible in the implementation and updating of the Strategy, so that climate neutrality becomes a common goal for all those who live and work in the Tauragė district municipality.
- **Integrity:** The aim is to ensure that climate neutrality is integrated into planning, implementation, financing and other areas at different levels, across different sectors and areas of life.
- **Continuous learning:** The Strategy aims to continuously improve the knowledge and skills of citizens, businesses, municipal authorities and other stakeholders in the field of climate neutrality, and to ensure the sharing of good practices.

5 Signatories

The table below enlists the signatories[1] who are committing to this CCC, and thereby to help the city achieve its goal to reach climate neutrality by 2030. Specific agreements that articulate the details of the climate action(s) between the municipality and signatories are added to the individual contracts in Appendix 1.

Name of the signatory (organisation)	Sector / Domain / Level of operation[2]	Legal form	Name of the responsible person	Position of the responsible person
1.Taurage district municipality administration	Municipal	Municipality administration	Dovydas Kaminskas	Mayor
2.Ministry of Environment of the Republic of Lithuania	National government	Ministry	Simonas Gentvilas	Minister
3.Ministry of Energy of the Republic of Lithuania	National government	Ministry	Dainius Kreivys	Minister
4.Ministry of Transport and Communications of the Republic of Lithuania	National government	Ministry	Agnė Vaiciukevičiūtė	Vice-minister
5.UAB Šilumos tinklai	Local central heating	Municipal company	Audrius Arcišauskas	Director
6.UAB Tauragės vandenys	Regional wastewater management	Municipal company	Tadas Pauparis	Director
7.UAB Tauragės autobusai	Local public transport	Municipal company	Rimantas Martinavičius	Director
8.UAB Tauragės atliekų tvarkymo centras	Regional waste management	Municipal company	Donvina Arlauskienė	Director
9.UAB Dunokai	Local waste collection	Municipal company	Edikas Aleksa	Director
10.VšĮ Žaliasis regionas	Regional public transport and regional tourism	Regional institution	Gaiva Mačiulaitienė	Director
11.Tauragės ūkininkų sąjunga	Local agriculture	Association	Petras Kulikauskas	President

[1] Climate City Contract signatories may be individuals or organisations. They ideally include national and/or regional governments, for example concrete agreements/ commitments made through the multi-level governance engagement processes supported by NetZeroCities, CapaCities, and other emerging national level initiatives.
[2] Please mention if the organisation is active at local, regional, national, or international level.

12.UAB Klasmann-Deilmann Laukesa	Local peat production	Company	Valerija Daukantienė	Internal training, QM, environment lead
13.Tauragės apskrities verslininkų asociacija	Regional business	Association	Marius Jucikas	President
14.GBY	Transport	Company	Nerijus Vitkauskas	Director
15.Tauragės švietimo centras	Local education centre	Centre	Rita Katauskienė	Director
16.Tauragės jaunimo ir jaunimo organizacijų sąjunga "TAURAGĖS APSKRITASIS STALAS"	Local youth	Association	Toma Mockuvienė	Deputy chairman
17.Tauragės B. Baltrušaitytės viešoji biblioteka	Culture	Public institution	Žaneta Maziliauskienė	Interim director
18.Tauragės krašto muziejus "Santaka"	Culture	Public institution	Eglė Červinskaitė	Director