



Borgarráð

Reykjavík, 10. september 2024
MSS21120238

Loftslagsborgarsamningur

Lagt er til að borgarráð samþykki meðfylgjandi drög að samningi og veiti borgarstjóra heimild til að skrifa undir meðfylgjandi loftslagsborgarsamning sem felur í sér yfirlýsingu um að Reykjavík stefni að kolefnishlutleysi 2030 og hvetji aðra til að taka þátt í því verkefni. Málið er enn í vinnslu á vettvangi Evrópusambandsins og síðustu forvöð til að skila undirrituðum samningi er 16. september nk. en Reykjavíkurborg hefur frest til 19. október nk. til að safna undirskriftum samstarfsaðila. Trúnaður ríkir því um málið fram að 19. október nk.

Greinargerð:

Reykjavíkurborg hlotnaðist árið 2022 sá heiður að vera valin til þátttöku í verkefninu 112 loftslagsborgir Evrópu, *Evrópusamstarf um kolefnishlutlausar og snjallar borgir 2030*. Verkefnið er hluti þeirra aðgerða sem miða að því að Evrópa geti orðið kolefnishlutlaus fyrir 2050. Stýrihópur um Evrópusamstarf og kolefnishlutlausar og snjallar borgir árið 2030 þar sem oddvitar allra flokka í borgarstjórn eiga sæti, hefur unnið að undirbúningi samningsins ásamt starfshópi sérfræðinga þvert á svið borgarinnar.

Samkvæmt loftslagsstefnu Reykjavíkurborgar er stefnt að kolefnishlutleysi fyrir árið 2040 og ítarleg aðgerðaáætlun hefur verið sett til að ná því markmiði. Þátttaka í þessu verkefni felur í sér að herða þarf á loftslagsstefnu borgarinnar og flýta kolefnishlutleysi hennar um áratug eða til ársins 2030. Hér er því lagt til að borgarráð samþykki að borgarstjóra verði heimilað að skrifa undir loftslagsborgarsamning sem felur í sér yfirlýsingu um að Reykjavíkurborg muni vinna að því að verða kolefnishlutlaus og snjöll árið 2030.

Til þess að það markmið geti náðst þarf að leita til samstarfsaðila og er sú vinna þegar hafin. Þeim aðilum sem vilja taka þátt í verkefninu býðst þá að leggja til aðgerðir sem miða að kolefnishlutleysi og taka þannig þátt í þessum fyrsta loftslagsborgarsamningi. Þeir aðilar sem skrifa undir loftslagsborgarsamninginn munu lýsa yfir:

Við undirrituð skuldbindum okkur til að taka þátt í að:

- móta aðgerðir sem draga mælanlega úr losun gróðurhúsalofttegunda og styðja við loftslagsmarkmið Reykjavíkurborgar um að verða kolefnishlutlaus 2030
- taka þátt í árlegum samráðsfundum fram til ársins 2030 hið minnsta

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Hjálagt:

Aðgerðaáætlun fyrir kolefnishlutleysi, (e. 2030 Climate Neutrality Action Plan of Reykjavík City).

Skuldbindingar fyrir kolefnishlutleysi, (e. Climate Neutrality Commitments of the City of Reykjavík).

Fjárfestingaáætlun fyrir kolefnishlutleysi, (e. 2030 Climate Neutrality Investment Plan of the City of Reykjavík).

Climate City Contract

2030 Climate Neutrality Action Plan

2030 Climate Neutrality Action Plan of Reykjavík City



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1 Introduction

- Reykjavík is the capital and largest city of Iceland. It is located in southwestern Iceland with the latitude of 64°08' N. The city is the world's northernmost capital of a sovereign state. Reykjavík's population is 135,000 and the Reykjavík Capital Area which includes 6 other municipalities, has a population of nearly 244,000. The total population in Iceland is 385.000 so the Reykjavík Capital Area holds the largest share of the population in Iceland. Despite the northern latitude of Reykjavík, it enjoys a temperate climate as the North Atlantic Current, an extension of the Gulf stream shapes a relatively mild winter and cool summer. Summers temperatures range between 10 and 15°C and temperatures in winter average 0°C. Reykjavík is one of 7 dedicated municipalities of the Association of Municipalities in the Capital Area, Samtök sveitarfélaga á höfuðborgarsvæðinu (SSH). Reykjavík is also part of the association of all municipalities in Iceland, Samband íslenskra sveitarfélaga.
- Reykjavík has a domestic airport inside the city, just south of the city centre. The international airport, Keflavik International Airport is located around 40km southwest of the city. Reykjavík is surrounded by sea and has two seaports, the older harbour near the city centre servicing fishing vessels, and Sundahöfn, the largest cargo port in Iceland, which also serves larger cruise ships.

1.1 Citizen Engagement

- As a relatively small city, engaging with our citizens has been a top priority for the City of Reykjavík since 2011 and is enshrined within our Democracy Policy¹ which was published in 2021. Reykjavík is a world-leader when it comes to citizen engagement and democracy². We have a participatory democracy portal³ in place, which gives an overview of different ways for citizens to engage directly with the city.

These pathways can be used to discuss specific issues related to carbon neutrality and will allow us to actively engage our citizens effectively. For example, we have a suggestion portal where residents can send us general suggestions for what could be improved in the city. This has traditionally been used for feedback regarding what needs to be fixed, or in order to increase safety within the city. We could use the same technology and way of working to receive suggestions related to our carbon neutrality journey directly from our residents. We also have resident's councils that are active in all neighbourhoods and have meetings every month. They allow residents to communicate with city officials regularly. We can ask these councils to discuss specific challenges such as transportation within their neighbourhoods. There is already in place a way of working within the city whereby we ask residents, businesses and any parties interested in doing so, to communicate with us through the suggestion portal ⁴(samráðsgátt)^[OBJ]. We would of course use that for proposals related to our climate neutrality journey. We consult on issues that directly affect citizens, large and small. This includes our services, new policies, and also when we have specific issues that we would simply like to request new ideas or solutions for. A recent example is the open-ended request for ideas that could increase air quality in the city.

¹ Reykjavík. Downloaded: [Democracy Policy | Reykjavík](#)

² Reykjavík. Downloaded: [Ibualydræði f.vef_0.pdf \(Reykjavík.is\)](#)

³ Reykjavík. Downloaded: [Samráðsgátt | Öll mál \(samradsvefur.is\)](#)

1.2 Renewable energy

- The city transitioned to renewable energy for both power production and house heating needs half a century ago. A geothermal district heating system was built along with the city itself as it grew. At the time, this was done as a matter of energy security, during the oil crisis in the seventies, the price of oil for house heating fluctuated greatly and it was considered better to rely on domestic resources. This decision has had incredible accumulative climate benefits with very low emissions related to electricity and buildings. There have also been substantial savings related to this decision, as documented by the National Energy Authority, Orkustofnun.⁵ While these numbers refer to the whole of Iceland, they are relevant to Reykjavík as a third of the population lives in the city itself and two-thirds in the Capital Area, and most businesses are registered in the city.

1.3 Transportation

- Thanks to this historical switch to renewable energy for both electricity production and house heating, Reykjavík City has a unique emissions profile where most of the emissions come from transportation. The city of Reykjavík is a spread-out city where most of its urban area consist of low-density suburbs. Car dependency in Reykjavík is high, or 707 vehicles per 1.000 inhabitants, which is much higher than the EU average of 516⁶. It is clear that our efforts to become carbon neutral should focus on the transportation sector. The main focus will be to decrease the population's car-dependency. Doing so will require substantial engagement with different stakeholders, the public as well as the government and businesses, with a special focus on the tourism sector. For the vehicles that will still be required, an energy transition will be necessary, it is likely that this will be done with a mix of electrification, methane and hydrogen.
- The main emission sector of the city is due to transport, as electricity and heating is generated by geothermal and hydropower. The city puts emphasis on increasing services for a car-free lifestyle, planning for a more dense city, planning 15 minute districts, increasing infrastructure for walking, bicycling, public transport and micro mobility, while at the same time parking space is limited and charging for parking is increased. The emissions due to transportation are 70% of Scope 1 and Scope 2 emissions within the city. The largest part of transportation emissions is due to the private car (mostly in individual ownership) and goods vehicles (mostly in private ownership). Very few companies within Reykjavík report on emissions and when they do the emphasis is on Scope 1 and 2 of their own operations. The emissions of the private, individual cars of households are in the Scope 3 sector of private companies where the individuals work. When greenhouse gases of operations are calculated, the emissions from employers are rarely calculated, as Scope 3 emissions are optional.⁷ Those same emissions are included in Scope 1 of the City, so input from individuals and the largest workplaces are extremely important to accelerate the climate neutral goal to 2030.

⁵ Orkustofnun. 2019. Geothermal energy, district heating, space heating, oil, oil heating, avoided cost. [OS-2019-T010-01.xlsx \(live.com\)](#)

⁶ Jukka Heinonen et al. 2021 Drivers of Car Ownership in a Car-Oriented City: A Mixed-Method study. <https://doi.org/10.3390/su13020619>

⁷ GHG Protocol Corporate Standard [Corporate Standard | GHG Protocol](#)

- Emissions due to transport are divided into categories according to the type of traffic.
 - **Passenger vehicles:** Extensive work on the development of transport infrastructure and its financing has been carried out under the umbrella of the Transport Treaty of the Capital Area, where one of the four goals of the agreement is a carbon-neutral society⁸. The central government and the surrounding regional 7 municipalities (SSH) agree to develop the infrastructure and operate the public transport system in the Capital Area. In addition to the Transport Treaty, the central government is a stakeholder due to financial incentives and the enactment of laws and regulations to encourage the use of electric cars and electric bicycles. Stakeholders for infrastructure within the City of Reykjavík are the Planning Officer, the Office of Transport and Urban Design and the Office of Construction and Maintenance for Urban Density, Infrastructure Planning for Eco-Friendly Travel Design and Implementation of Infrastructure for Eco-Friendly Travel.

Due to changing travel habits: In addition to the aforementioned parties that work on infrastructure that supports changing travel habits, there are a number of parties that influence changing travel habits. Large workplaces and schools within Reykjavík can encourage their staff to reduce the use of private cars with incentives such as transport agreements and sticks such as parking fees. How residents use the infrastructure is then crucial. It is important that the City ensures a just transition in the planning and development of infrastructure.

- **Strætó and privately owned bus companies** have a great influence on how fast things will progress with regard to energy transition in that fleet, but also carrots and sticks from the government. The same can be said about trucks, with actions from transport companies, wholesalers, tourism companies and companies that handle home deliveries.
- **Ship traffic** accounts for a large part of transport emissions. Faxaflóhafnir, as the owner of a port, is instrumental in how emissions will be reduced due to the arrival of ships, including cruise ships, to Reykjavík.
- **Air traffic:** When evaluating GHG emissions from aviation, flight figures from ISAVIA are used. This first version of the CCC does not include actions that will address these emissions.

1.4 Waste

- The second-largest emissions factor within the scope of the mission, is waste. GAJA, the gas and composting station and a recently implemented common waste collection system, has already made a significant impact. We would still aim to include waste as a focus area, taking measures to implement a circular economy within the city and its surrounding area.
- Extensive work, due to the implementation of recycling laws and changed waste management, has been carried out in the last year in the 7 municipalities operating in the Capital Area.⁹ Stakeholders within Reykjavík City: Planning Officer, Office of Environmental Quality, City Land Office. Sorpa. Private waste management companies, all companies (including the operation of Reykjavík City itself) and residents.

⁸ Sáttmáli um samgöngur á höfuðborgarsvæðinu: [Stjórnarráðið | Sáttmáli um samgöngur á höfuðborgarsvæðinu \(stjomarradid.is\)](#)

⁹ Samræmt sorphirðukerfi á höfuðborgarsvæðinu. [Samræmt sorphirðukerfi á höfuðborgarsvæðinu | Samtök sveitarfélaga á höfuðborgarsvæðinu \(ssh.is\)](#)

1.5 Growth & the Building Sector

- The third focus area for our climate contract would be the building sector, which mainly falls under Scope 3 emissions and out of scope of the mission but will be included in this CCC. Reykjavík is a fast-growing city and has the goal of building 1,000-1,500 new apartments per year until 2030 in dense, mixed-use development with neighbourhood sustainability as a guiding principle. There are also large infrastructure projects that will be built within city boundaries in the near future, aimed at better connecting the city.
- Building sector - materials: Extensive work on green structures has been carried out in a broad consultation under the umbrella of a collaborative project between the government and building sector stakeholders on green structures called "Building a Greener Future", and the City of Reykjavík is participating in that project.¹⁰ A number of stakeholders participated in that work and the follow-up of the actions that were put forward there are important to achieve carbon neutrality.

1.6 Other Scope 3 Emissions

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

1.7 Tourism

- Reykjavík is a popular tourist destination, with 90% of visitors to Iceland visiting Reykjavík City during their trip, the number of tourists that visit Iceland per year has grown from 969,000 in 2014 to 2,224,000 in 2024. In 2023, around 200,000 hotel nights were sold in Reykjavík each month.
- Visitors come to Reykjavík to experience nature. The city is located by the sea and surrounded by mountains. It is easy to do day trips to visit popular tourist destinations such as black sand beaches, waterfalls and hot springs, and in winter there is also a chance of viewing the northern lights. The city also has a bustling cultural scene and boasts of its own opera and symphony despite its small population size.
- The most popular transportation choice for tourists is a rental car, the huge increase in tourist numbers therefore represents an additional challenge for our carbon neutrality goal. The current projections for the sector are for 3,000,000 tourists to visit Iceland in 2030. They must have access to sustainable transportation if we are to reach our climate goals. This will require better connections to Keflavik Airport by bus or train, as well as a higher proportion of car rental cars being electric. Working towards a more

¹⁰ Vegvísir að vistvænni mannvirkjagerð 2030 [Vegvísir að vistvænni mannvirkjagerð 2030 - Byggjum Grænni Framtíð \(byggjumgraenniframtid.is\)](https://byggjumgraenniframtid.is)

sustainable tourism sector is in line with the government's Tourism Policy until 2030 (published in 2024), *Leading in Sustainability: Icelandic Tourism Until 2030*¹¹.

- Reykjavík City's Tourism Policy (Ferðamálastefna Reykjavíkur 2020-2025¹²) has a weak emphasis on sustainability but will need to be replaced in 2025 and we can incorporate a stronger emphasis on sustainability in the next version. The marketing of Reykjavík City as a destination for tourists has been outsourced to Markaðsstofa höfuðborgarsvæðisins which now runs the website Visit Reykjavík to attract tourists on behalf of the Capital Area. They will also publish a Destination Plan (Áfangastaðaáætlun¹³) which includes the future-vision for the area, the next one will be ready by 2026 and have a strong focus on sustainability. Through Markaðsstofa höfuðborgarsvæðisins we can work together with the tourism sector and the other municipalities in the Capital Area.

1.8 2030 Climate Neutrality Target

- The goal stated in the EOI was the goal Reykjavík set in 2016 to become carbon neutral by the year 2040, and that the adaptation to climate change will take place in an environmentally sound and human friendly manner. Reykjavík City supports the goal of the Paris Agreement to maintain global warming within 1.5°C. Actions will be revised in 2025 and then every 5 years after that. The milestone towards 2030 in the current Climate Action Plan was to reduce GHG emissions by 300.000 tonnes CO₂eq, or 57%, based on the baseline year of 2019 according to the current Climate Action Plan 2021-2025. The target needs to be accelerated to reach the minimum of 80% reduction by 2030 and this CCC is an approach on how this will be done.
- The 2040 target on carbon neutrality included emissions within BASIC+ (Scope 1, 2 and 3 in the waste sector) but the new 2030 climate neutrality target will be expanded and include Scope 3 emissions as well, as there are considerable emissions from building materials for new construction within city boundaries. The target is to meet the requirements of the mission and reduce the emissions by 80% of the greenhouse gases emitted in 2019. As Scope 3 emissions are being added at the same time as carbon neutrality is accelerated, it is clear that there is a need for collaboration with a number of parties, and how this will be done will be outlined later in this document. The target will cover the entire administrative territory of the city as it has done since the first Climate Action Plan was made in 2016.

1.9 Formal Procedures and Planning Frameworks

The Master Plan of Reykjavík¹⁴ (Aðalskipulag Reykjavíkur) is the statutory framework for the city's future planning and the CCC Action Plan must be in accordance with the Master Plan, for example regarding changes in the big picture regarding infrastructure development, such as where the transport axes will be and the city's growth limits. Also, the Regional Plan of SSH¹⁵, where the growth limits of the area are specified. In the Land-Use Plan there is a more detailed description of the development of the infrastructure according to planning laws. All actions that require the expenditure of funds must go through the formal process of the Finance and Risk Management Division. Actions that require political approval must go before the relevant professional council and/or City Council.

¹¹ Menningar- og viðskiptaráðuneytið. 2024. [Stjórnarráðið | Leiðandi í sjálfbærri þróun – Íslensk ferðabjónusta til 2030 \(stjornarradid.is\)](#)

¹² Höfuðborgarstofa [FERDAMALASTEFNA covid uppfaersla.indd \(reykjavik.is\)](#)

¹³ Samband sveitarfélaga á höfuðborgarsvæðinu. [ssh_skyrsla_lok_m_vidauka_lr.pdf \(ferdamalastofa.is\)](#)

¹⁴ Aðalskipulag Reykjavíkur [Aðalskipulag Reykjavíkur | Reykjavík](#)

¹⁵ Svæðisskipulag SSH [Svæðisskipulag | Samtök sveitarfélaga á höfuðborgarsvæðinu \(ssh.is\)](#)

- The actions will be in accordance with the current Climate Action Plan. There, the main focus has been on transport issues, and transport will remain the main challenge, but more actions will be added. The CCC Action Plan will add actions that are already in place or will be developed with external parties, municipally-owned companies, the government, SSH, the private sector and the public. Additional actions are intended to accelerate carbon neutrality to 2030.

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

- The CCC will include the current Climate Action Plan 2021-2025 which replaced the Climate Action Plan 2016-2020, which replaced the SECAP in 2015. This first CCC will bring together existing efforts in the current Climate Action Plan and the actions that will be taken with the participants in the Climate City Agreement that are listed in the commitments.
- The first CCC Action Plan covers actions needed to accelerate the transition to the climate neutrality goal from 2040 to 2030. This can not be done only by the City of Reykjavík. Reykjavík has a detailed Climate Action Plan until 2025 where the biggest challenges are addressed. The actions that are not completed in that Action Plan will be continued. In addition, actions from external stakeholders will be added. These are actions that have already been put on paper in a broad consultation with a number of parties, such as actions by city- and government owned companies, but also the formulation of actions with these companies, the government, private parties and the formulation of actions on how resident consultation in Reykjavík will be linked to the climate debate.
- BAU will not be used to calculate the emissions gap. The emissions gap is the difference between what Reykjavík's current Climate Action Plan delivers in terms of reduction in emissions and the standard that is the requirement in the CCC, i.e. that the estimated emissions in 2030 do not exceed 20% of the emissions in 2019.
- As in previous climate action plans, there will be actions in all emission categories, but it is important to highlight two things.
- Reducing emissions from road traffic will be a major challenge. Population growth is expected in the city. Further reducing CO₂ eq emissions in the transport sector will not be achieved solely by transitioning to electricity. It requires reducing road traffic, i.e. changing travel behaviours. Information is needed on why the car culture is so strong in Reykjavík and how it is possible to accelerate the needed change in travel modes to reach carbon neutrality by 2030. This information will be created and sourced as part of the *Pilot Cohort 3 – Piercing Through the Gridlocks*.
- The increase in the population of Reykjavík also affects the amount of waste, energy consumption and the use of construction materials used in the construction of housing. Overall, it will be a challenge to reach the 20% mark without further tightening the actions listed in this first CCC.
- It will also be a big challenge to assess which actions are most suitable if it becomes necessary to buy carbon credits. The carbon offsetting market in Iceland is currently extremely immature.¹⁶ The sale of certified credits began a short time ago, but until then the sale of carbon credits has been opaque and uncertified, both nature-based and technical. A detailed analysis of the carbon offset market in Iceland and a political

¹⁶ Loftlagsráð 2020: Innviðir kolefnisjöfnunar [Innviðir kolefnisjöfnunar - Loftslagsráð \(loftslagsrad.is\)](https://loftslagsrad.is)

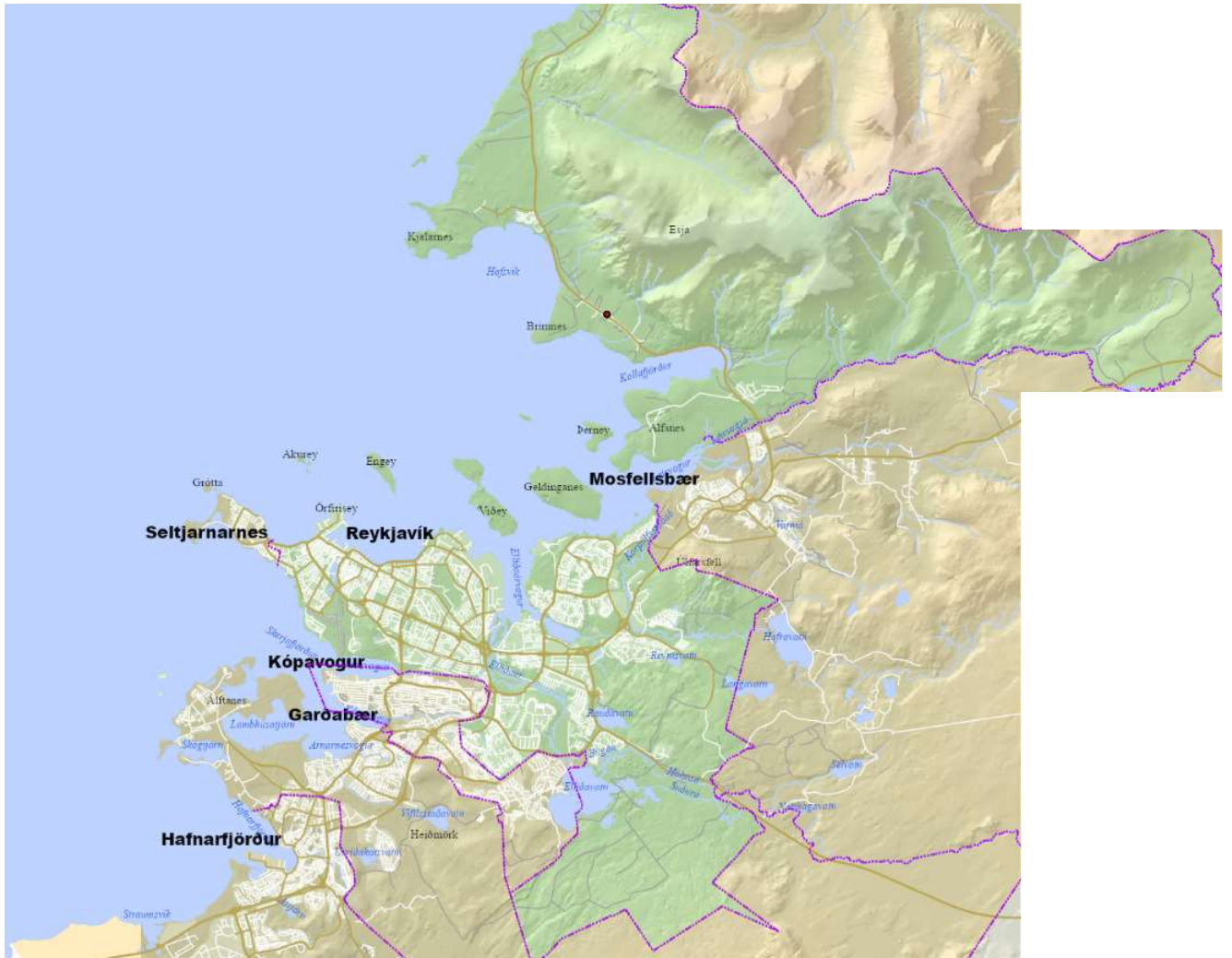


discussion within the City of Reykjavik is needed before a decision is made on how to buy carbon credits to bridge the remaining gap to achieve carbon neutrality by 2030. One of the actions in the government section is that a working group will be established to decide the next steps to tighten mitigation actions and how carbon sequestration will be handled before the CCC is renewed next time.

Table I-1.1: Climate Neutrality Target by 2030			
Sectors	Scope 1	Scope 2	Scope 3
Stationary energy	Included	Included	Included
	No exclusions	No exclusions	No exclusions
Transport	Included	Not applicable	Not applicable
	No exclusions		
Waste/wastewater	Included	Not applicable	Included
	No exclusions		No exclusions
IPPU	Included	Not applicable	Included
	No exclusions		
AFOLU	Included	Not applicable	Not applicable
	No exclusions	Not applicable	Not applicable
Other			
Geographical boundary	Same as city administrative boundary	Smaller than city administrative boundary	Larger than city administrative boundary
(Tick correct option)	x		
Specify excluded/additional areas	None		



Map



2 Part A – Current State of Climate Action

2.1. Module A-1 Greenhouse Gas Emissions Baseline Inventory

Reykjavik has been a member of the Global Covenant of Mayors for Climate and Energy (GCoM) and its predecessors since 2012. Part of this covenant is the publication of the climate inventory of the member municipalities, and the City of Reykjavik has published the climate inventory in the CDP web portal since 2015. In recent years, the accounting has been done by an external consultant, in previous years by EFLA consulting. The following is a summary of the last memorandum regarding Reykjavik's 2022 climate settlement: ¹⁷

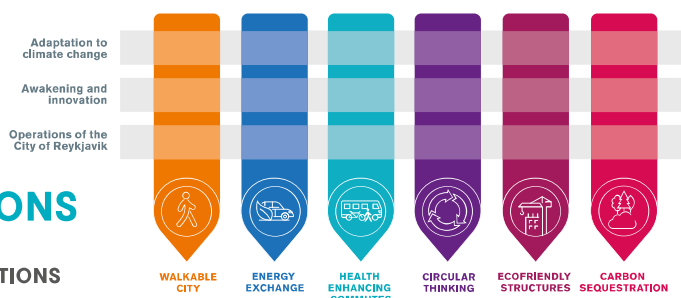
The methodology used for the assessment for Reykjavik is called the City Inventory Community-Scale Greenhouse Gas Emission Inventories (GPC), which is published by the GHG Protocol. A similar methodology has been used to estimate GHG emissions from Reykjavik every other year between 2007 and 2019, and every year thereafter. With each publication, both the information gathering and the data collected have improved, and therefore it is not appropriate to compare the total figures obtained in those submissions, but rather what is calculated based on the current data and emission factors, especially within each category. The climate inventory comes with a dashboard that can be used to compare all the available categories. In climate inventory, emissions of carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O) are taken into account and converted into CO₂ equivalents. Factors are based on AR5, the IPCC Fifth Assessment Report of the United Nations Intergovernmental Panel on Climate Change and are 28 kg/kg for methane and 265 kg/kg for nitrogen oxide. In the AR6 report, the nitrogen oxide factor changes to 273 kg/kg.

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

Emissions accounting has been compiled every year since 2019, and climate inventory for the year 2023 is being prepared so that it can be submitted to the CDP web portal by the end of September 2024.

The result of the climate inventory has had a significant impact on the strategic planning that has taken place in the Master Plan, the Climate Policy and the Green Plan, as transport is by far the largest part of the emissions when looking at BASIC +. The focus of these policies is to reduce the need for travel through the densification of settlements and the development of 15 minute districts that reduce GHG emissions in the long term. The Climate Plan and the Green Plan also emphasise the promotion of public transport, active modes of travel and especially the Cycling Plan, the energy transition of vehicles, including public transport in the Climate Policy and the Green Plan. The main actions in the current Action Plan are highlighted in the figure below, and the estimated reduction of those actions until the year 2030 is stated:

¹⁷ EFLA 2023. Minnisblað um Loftslagsbókhald Reykjavíkurborgar 2022 [minnisblad.pdf \(reykjavik.is\)](https://minnisblad.pdf(reykjavik.is))



Climate action plan 2021–2025

15 ACTIONS

PRINCIPAL ACTIONS

REDUCTION TARGETS FOR 2030

 WALKABLE CITY	<p>1 15 minute district Through the process of district planning, renewal of urban centres and investments in infrastructure, the City's districts will become more pedestrian-friendly and the access to green areas, outdoors-activities and services will be ensured within a radius of fifteen minutes' walk or on bicycle.</p>	
 ENERGY EXCHANGE	<p>2 Green city development The city's future development will all be within it's defined urban growth limit line and 80% of housing development will be located within convenient distance from the new BusRapid Transport system, Borgarlínan.</p>	
 HEALTH ENHANCING COMMUTES	<p>3 Energy exchange everywhere A comprehensive plan to be drawn up and carried out for energy exchange infrastructure for private cars with charging stations in the city districts, for commercial cars, trucks, for public transport systems, in the ports and at sea.</p>	In total approx. 170,000 tonnes
 CIRCULAR THINKING	<p>4 World class cycling city A revised cycling plan is to set goals with the aim that Reykjavik becomes a world class cycling city.</p>	
 ECOFRIENDLY STRUCTURES	<p>5 Borgarlína (Cityline) and improved public transportation Improved as well as efficient public transportation and the compaction of the city are to play a key role in attaining the goals for changes in travel behaviour. Further climate goals will be defined for the transportation agreement between the state and the association of metropolitan area communities (SSH).</p>	
 CARBON SEQUESTRATION	<p>6 Zero waste A comprehensive action plan to be developed for recirculation and recycling in order to support a more sustainable treatment of waste.</p>	54,000 tonnes
 CARBON SEQUESTRATION	<p>7 Green food policy The City's food policy to be implemented and cooperation to be organised involving green agriculture in Kjalarnes.</p>	
 CARBON SEQUESTRATION	<p>8 Green construction industry Cooperation to be organised with businesses and industry for a greener construction industry.</p>	Construction industry having attained carbon neutrality
 CARBON SEQUESTRATION	<p>9 Turn CO₂ into stone Know-how and solutions by OR and Carbfix are to be developed for the sequestration of carbon dioxide, and as the case may be of other greenhouse gases in partnership with universities and enterprises that are heavy emitters.</p>	22,000 for carbon neutral energy production
 CARBON SEQUESTRATION	<p>10 Reclamation of wetlands to be increased according to a special plan.</p>	45.00 tonnes because of land use
<p>SUPPORT-ACTIONS that have mutual points of contact in new city districts and when renovating the older systems.</p>	<p>11 Reykjavik climate forests Climate forests to be promoted in collaboration with the Reykjavik Forestry society (Skógræktarfélag Reykjavíkur), and a forestry plan be presented.</p> <p>12 Operations of the City of Reykjavik Fossil fuel free by 2025 Cars and equipment powered by fossil fuels will not be procured by the city as of 2021 and the cars and equipment that is already possessed will be replaced before the year 2025. (~800 tonnes)</p> <p>13 Adaptation to climate change Blue-green surface water solutions New thinking in the application of utility systems with improved utilization of water and Blue-green surface water solutions to become the rule in new city districts and when renovating the older systems.</p> <p>14 Flood control installations to become recreational areas and parks Undertakings to be initiated for the reinforcement of flood control structures along the coastline where needed, aiming at nature based solutions, developing recreational areas, beach parks and facilities for ocean bathing at selected locations.</p> <p>Awakening and innovation</p> <p>15 Collaboration with business and industry Continue to cooperate with Festa, centre for social responsibility and businesses under the banner of the City of Reykjavik & Festa Climate climate declaration towards further results in all sections of the economy.</p>	



The emissions inventory for the City is

- **Energy transition:** Emissions are divided into 3 categories; electricity, heating, and fuel consumption at construction sites. Emissions due to electricity and heating fall under Scope 2 due to connections to the distribution and transmission system that is managed by Reykjavik Energy, which plans on carbon-neutral energy production in 2030, which coincides with the City's Climate Plan. The City's role is to control and support those actions, but it is not directly involved.

However, the City has not put forward any actions to reduce local fuel consumption at construction sites except those that have been mapped by Grænni byggð, and set out in Ecological Construction, which the City takes part in.

- **Transportation:**
 - **Passenger vehicles:** Extensive work on the development of transport infrastructure and its financing has been carried out under the umbrella of the Transport Treaty of the Capital Area, where one of the four goals of the agreement is a carbon-neutral society^[1]. The central government and the surrounding regional 7 municipalities (SSH) agree to that agreement for the development of infrastructure and the operation of the public transport system in the Capital Area.
 - **Due to changing travel habits:** A change in priorities regarding the densification of settlements and an added emphasis on changing travel habits appeared in the 2040 Master Plan, which was published in 2014 and was followed up in the Climate Plan and the Green Plan. These priorities have been followed up on during the development of neighbourhoods and infrastructure, as well as raising awareness through participation in a variety of incentive projects, such as Cycling to work, Transport Week, the Car-Free Day, and Green Steps in the City's activities.
 - *The main challenge remains to change travel modes and electrify the fleet.*
- **Waste:** Great success has been achieved with the changed waste collection system, which includes the development of infrastructure (GAJA) and changed behaviour, increased sorting of city residents. In the resolution on waste management in Reykjavik, it is stated that private companies are to sort waste like individuals. The sorting of individuals is strictly enforced by Reykjavik's waste collection staff. It is not known how the resolution is being enforced by private waste management companies that provide collection for private companies.
- **Agriculture, Forestry and Other Land Use (AFOLU):** The biggest opportunities here are carbon sequestration through forestry and wetland reclamation, which is part of the current Climate Plan and is also pursued in the City's Green Plan. Agriculture is an insignificant part of emissions that will not be addressed in this first CCC.
- **Industrial processes and product use (IPPU):** The City has no control over emissions due to F gases, but in the recently published Climate Action Plan of the government, a significant reduction is expected due to restrictions on the import of F gases and it can therefore be assumed that the reduction will be relatively the same within the city limits.
- **Building sector - materials:** Until now, Scope 3 emissions have not been addressed. However, Reykjavik is a growing city with ambitious plans to increase the number of apartments and residents until 2030. It is therefore important to monitor these



emissions so that the growth is as little as possible at the expense of the climate and the environment. Actions to reduce those emissions are therefore added in this CCC.

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

See details in the figure below on how the emissions are divided into sub-categories:

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

A-1.3: GHG emissions by source sectors^{24, 25}					
Base year 2019					
Unit CO ₂ equivalents					
		Scope 1	Scope 2	Scope 3	Total
Buildings / energy		7.684	22.666	224	30.574
Transport		350.963			350.963
Waste		48.929		2.735	51.664
Industrial Process and Product Use (IPPU)		41.685		55.972	97.657
Agricultural, Forestry and Land Use (AFOLU)	Sources (positive emissions)	56.009 (land use) 1.710 (agriculture)			57.719
	Sinks (negative emissions)	-10.587			-10.587
Total		496.393	22.666	58.931	577.990



A-1.4: Activity by Source Sector (from economic model data inputs)			
Base Year		2019	
	Scope 1	Scope 2	Scope 3
Transport			
Transport need - passenger cars + motorcycles (M km/year)	630		
Transport need - buses (M km/year)	5		
Transport need - trains/metro (M km/year)	0		
Transport need - light duty trucks (<3.5 t) (M tkm/year)	215		
Transport need - heavy duty trucks (>3.5 t) (M tkm/year)	142		
Buildings & Heating			
Heating demand (space heating + domestic hot water)(GWh/year)	3996		
Electricity			
Electricity demand within city boundaries (GWh/year)		824	
Waste			
Collected waste within city boundaries (tonnes)			167273
Other (incl. IPPU & AFOLU)			

2.2. Module A-2 Current Policies and Strategies Assessment

Description and assessment of policies

ICELAND: The government participates in European co-operation on climate issues, based on the EEA agreement and joint enforcement (EU, Iceland, Norway) of obligations to the Paris Agreement. The EEA provides Iceland with access to EU's internal Trading System (ETS) for emission allowances, enabling the economic instruments to create incentives. The joint Iceland-EU enforcement of the 2030 emission goals of the Paris Agreement, further states that Iceland should achieve a 29% reduction by 2030 in GHG emissions outside the ETS. The government itself states the aim of 55% total reduction of GHG emissions by 2030 in its Climate Action Plan, ETS and LULUCF not included (<https://tinyurl.com/yeypmac4>).

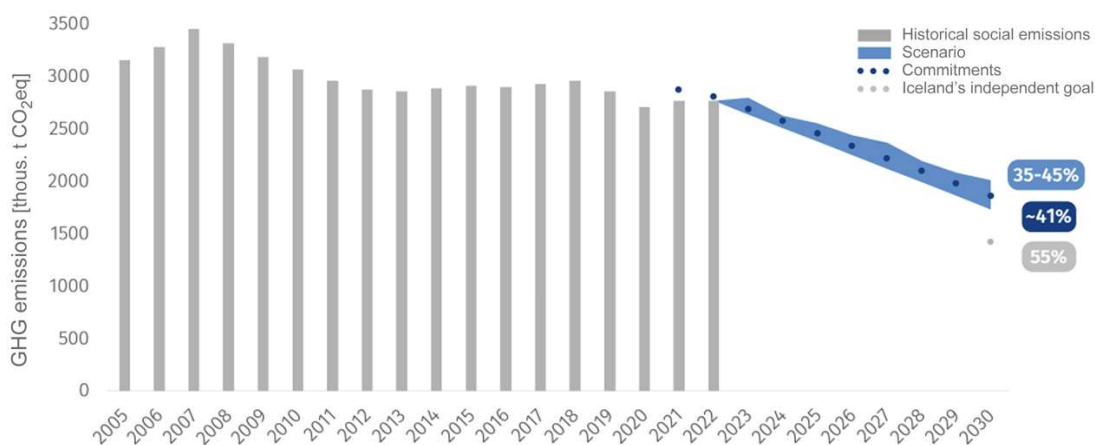


Figure 3 The estimated reduction in action in the updated climate action plan is 35% from 2005 to 2030 if assessed direct climate action is considered

Picture from the Icelandic climate action plan page 16¹⁸

The Icelandic Ministry of Environment, Energy and Climate enforces the country's obligations toward the Paris Agreement, in accordance with the Icelandic Climate Act (70/2012). The law defines the bases for governing climate issues and the information gathering provision regarding GHG release and sequestration, for sharing with international organisations (<https://tinyurl.com/4heasvme>).

Different aspects of the fight against climate change are dealt with in different ministries, with four being especially important. The ministry of the Environment, Energy and Climate, The Ministry of Infrastructure, The Ministry of Finance and Economic Affairs and The Prime Minister's Office. The government sets its climate goals in the Climate Action Plan which is regularly revised and published on co2.is

The long-term goal is carbon neutrality by 2040, and road transport is by far the largest contributor of GHG emissions, but also where governing bodies seek direct influence. Iceland's Climate Action Plan estimates 35-45% reduction by 2030 from the figures reported in 2005. Waste management is another significant GHG contributor and an area of direct government intervention, with a 66% reduction expected by 2030 from the figure reported in 2005 — the size of the estimate largely due to a ban on organic waste landfills and changes in pastoral care. The EU Waste Framework Directive (2008/98) requires that municipal waste prepared for reuse or recycling should be 55% of all waste by 2025, 60% by 2030 and 65% by 2035. Furthermore, no more than 10% of all municipal waste should be landfilled in 2035 (<https://tinyurl.com/4heasvme>).

¹⁸Umhverfis- orku- og loftslagsráðuneytið. 2024. Formáli, uppfærsla aðgerðaáætlunar í loftslagsmálum.

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

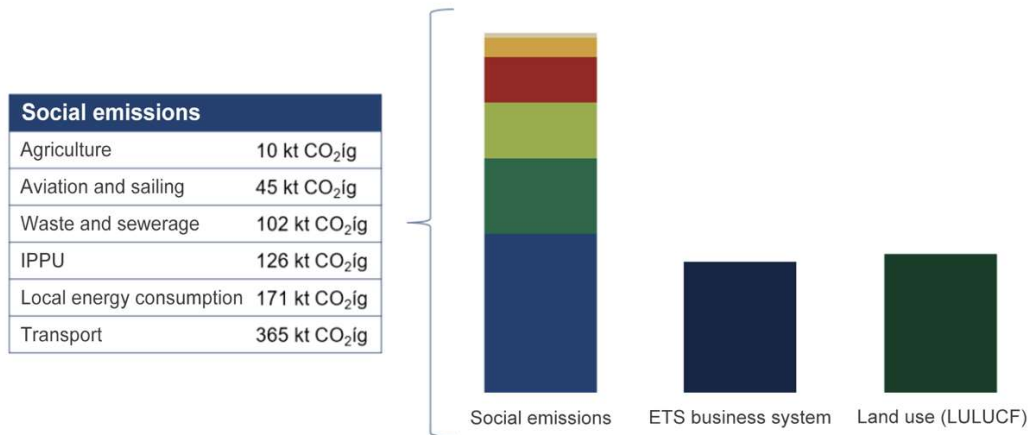
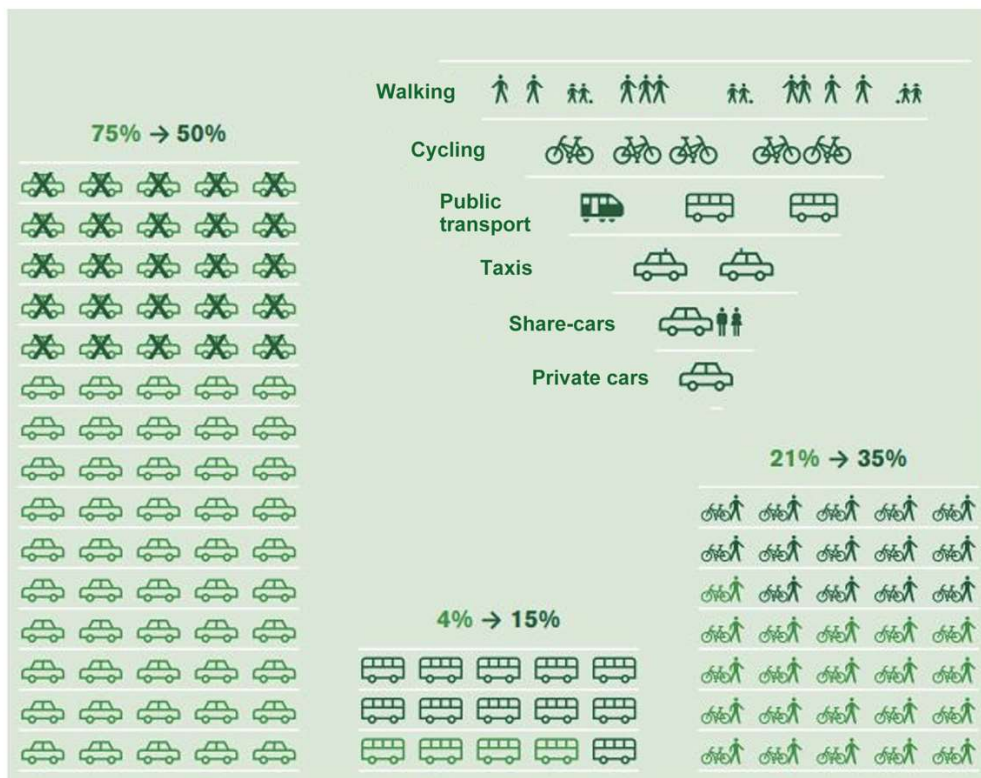


Figure 2 Industrial companies have their own plans and are innovating to reduce these emissions

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





2.3. Module A-2 Current Policies and Strategies Assessment

- The government evaluates its Action Plan based on emissions in 2005 and has an independent goal of a 55% reduction by 2030 compared to emissions in 2005.¹⁹ The projected reduction in emissions due to actions related to road transport (vehicles and infrastructure) is a total of 199,000 tonnes of CO₂eq. Relatively comparable reduction can be expected in Reykjavík, since the priorities are the same in the government's Action Plan as in Reykjavík, i.e. to promote infrastructure for active transport, public transport and energy transition. A relatively similar reduction in IPPU could also be expected. The government's Action Plan includes specific actions that are expected to reduce emissions due to IPPU by 117,000 tonnes of CO₂.
- In SSH's Climate Plan, it is assumed that emissions will be reduced and the percentage of reduction or increase in all emission categories is calculated until the year 2035 compared to 2022, but no total number is mentioned.
- Reykjavík City's emissions are expected to decrease by 300,000 tonnes until 2030.
- No figures are mentioned in the Master Plan or the Green Plan, but they both generally discuss carbon neutrality in 2040.

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

¹⁹ Umhverfis- orku- og loftslagsráðuneyti 2024 [Aðgerðaáætlun í loftslagsmálum \(co2.is\)](#)



Type	Level	Name & Title	Description	Relevance	Need for action
Policy	Regional	Regional Master Plan	Regional plan for the Capital Area, which is a joint policy of the municipalities of Garðabær, Hafnarfjörður, Kjósarhreppur, Kópavogur, Mosfellsbær, Reykjavík and Seltjarnarnes on close co-operation, planning issues and economic growth of the area over the next 25 years.	The backbone of the policy is a new high-quality public transport system that connects the core of the municipalities and transports passengers quickly and safely around the Capital Area.	Discussion on follow-up and how to connect with CCC.
Policy / Action Plan	Regional	Reykjavík Capital Area Climate Policy	Joint Climate Policy and Action Plan for the 7 municipalities named here above	An overview of actions that are likely to be effective in the fight against climate change. The actions concern, amongst other things, road transport, shipping, local energy consumption, industry, chemical use, waste management and land use.	Continue with discussion on implementation of the actions mentioned in the Action Plan.
Action Plan	Regional	Capital Area Transport Treaty			Discussion on including actions of the Transport Treaty into the CCC
Policy / Action Plan	Local	Reykjavík Green Deal	The Green Deal is the City of Reykjavík's overall strategy outlining the City's vision for the future up to 2030 and it connects the City's key policies and plans to that vision.	With an emphasis on environment, economy and society, the Green Deal includes fifteen key priorities that serve as a shared guide across all Reykjavík City departments.	Discussion with the Green deal team to include actions of the CCC as a part of the actions of the Green Deal.



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



A-2-2											
	(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	
	Baseline emissions (2019)	The emissions reduction target for 2030 ideally achieves a minimum 80%		Emissions reductions that would be achieved through current Climate action plan of Reykjavik City until 2030		(4) = (2) – (3)		The quantified emission reduction associated with the action portfolios outlined in module B-2.		(6) = (1) – (2) 20% of the emission gap	
	(absolute) t	(absolute) t	(%)	(absolute) t	(%)	(absolute) t	(%)	(absolute) t	(%)	(absolute) t	(%)
Buildings / Energy	30,574	24,459	80	14.622		9.837		5,379		6,115	20
Transport	350,963	280,770	80	163.905		116.866		98.032		70,193	20
Waste	51,664	41,331	80	20.872		20.460		0		10,333	20
Industrial Process and Product Use (IPPU)	97,657	78,126	80	0		78.126		63,828		19,531	20
Agricultural, Forestry and Land Use (AFOLU)	47,132	37,706	80	34,522		3,184		0		9,426	20
Total	577,990	462,392		233.921		228.471		167.239		115,598	

All numbers are tonnes CO₂ equivalents. Emission reduction which will still be missing is 61.232 to close the gap of 80% reduction (228.471-167.239)



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

2.4.1. Description of urban systems, systemic barriers, and opportunities

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

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

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

Emission figures from traffic match travel habits in Reykjavík, whereby the largest part is the use of private cars to and from work. The largest workplaces in Iceland are located in central Reykjavík, in the Vatnsmýri area such as the universities and Landspítali Hospital.

It is known that one way to promote public transport to and from work is to charge for parking at workplaces. Employees then prefer to travel by public transport, and the parking spaces are used by visitors and customers of the workplace as short-term parking during the visit. It has been shown that increased charging for parking increases the share of passengers using public transport by 16%. Some of the largest workplaces in Iceland have worked to prepare for parking fees. This is Landspítali, the University of Iceland and the University of Reykjavík. Parking fees also increase the likelihood that tourists will use other means of transportation than rental cars within the city limits. 90% of tourists visit Iceland, they were 2.2 million in 2023. Of these, 3/5 rent a car, 1/5 travel by private bus, 3% by public transport and 14% by other means.

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

Waste

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

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

The GAJA biogas and composting facility began operations in the latter half of 2020 and the percentage of organic matter in landfills has decreased accordingly. Since waste emissions are calculated based on estimated total waste in landfills, the numbers reduce in correlation with the

amount of organic matter sent to GAJA. Banning organic waste in landfills is certain to reduce emissions overall, albeit, the increase in composting produces some level of CO₂ eq in return. Detailed data exists on the collection of household waste and proportions of recyclables, published on the website of the Environment Agency (<https://tinyurl.com/3jfa55h4>). However, there is a lack of information on how well or poorly businesses are sorting and recycling.

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

Regional:

In connection with the Action Plan for the Capital Area, the area’s carbon footprint for the year 2022 has been compiled. It shows that the part that the 7 municipalities can have the most influence on with the lowest possible cost are road transport and related infrastructure and services, local energy consumption and waste issues. See figure below:

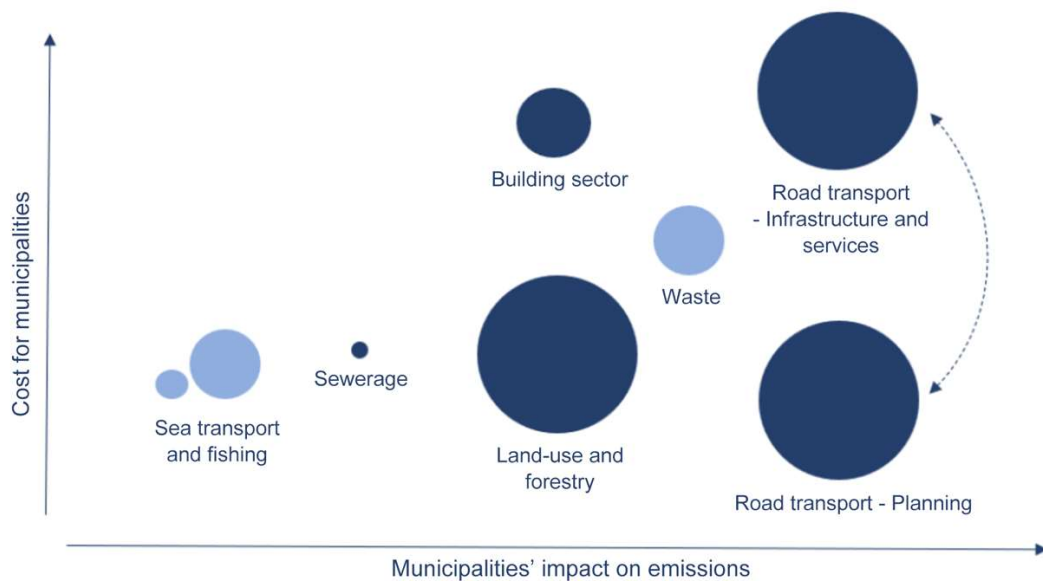


Figure 4 The interaction between the influence of municipalities on emissions and the costs of actions in selected emission categories. Farthest to the right are the emission categories that municipalities can influence the most, i.e. waste issues and transport. The larger circles indicate higher emissions in the emission category. A light blue colour indicates emission categories where

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

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

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

A-3.2: Systems & Stakeholder Mapping			
System	Stakeholders	Influence on the City's climate neutrality ambition	Interest in the City's climate neutrality ambition
Infrastructural	Icelandic government SSH Betri samgöngur Strætó Faxaflóahafnir Sorpa ISAVIA Vegagerðin Orkuveita Reykjavíkur Malbikunarstöðin		
Behavioural	Large workplaces, public and private Reykjavík City employers Icelandic government Climate council of Iceland Sorpa NGOs of cycling NGO of car-free lifestyle NGO Festa, sustainable business Young environmentalists Landvernd University of Iceland University of Reykjavík Markaðsstofa höfuðborgarsvæðisins Samgönguhópur Vatnsmýri Íslandsstofa Orkuskiptahópur Græn skref í starfsemi Reykjavíkur Umhverfisstofnun Hringrásarhópur Græna orkan		



2.4.2. Critical Stakeholders

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

- **The national government**

Iceland has a goal of carbon neutrality by 2040, our goal of carbon neutrality by 2030 will greatly increase the likelihood of that goal being met. We have common challenges, especially in regards to transportation. Many of the largest projects related to climate that the national and municipal governments work on together are laid out and funded in the Transport Treaty (Samgöngusáttmáli ríkis og sveitarfélaga á höfuðborgarsvæðinu). The national government also has a Transportation Plan (Samgönguáætlun²⁰) which lists the infrastructure priorities at each time at the national level. The government's Climate Action Plan includes actions that have a major impact on Reykjavík's emissions accounting, but are also factors that municipalities, including Reykjavík, do not have a direct influence on, i.e. the introduction of regulations, the ban on the import of fossil-fuel vehicles and equipment, tax incentives for energy transition and restrictions on the import of other materials that have a high climate impact.

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

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

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

The municipally owned companies will be important stakeholders as they are responsible for energy production, public transportation, the port, sewerage and waste collection. Reykjavík City can engage these companies individually through their governing boards. When we need to work with many of them at the same time, we do so through working groups. We have two such working groups in place in 2024 that are directly relevant to the CCC, one focusing on the circular economy and another focusing on a speedy energy transition.

- **Reykjavík Energy**

- Reykjavík Energy (Orkuveitan) manages all core utilities for Reykjavík City, including energy and water distribution, wastewater collection and treatment and an optical fibre network. Additionally, Reykjavík Energy produces electricity and hot water for the city through geothermal combined heat and power plants. Reykjavík Energy is in the process of setting science-based targets through the Science Based Targets initiative (SBTi) where the goal is to attain net zero scope 1 emissions by 2030 and net zero scope 3 emissions by 2040. Scope 1 emissions stem mainly from its two geothermal power plants (geothermal gas). The company is currently capturing 25% of CO₂ in one of its powerplants, Hellisheidi geothermal powerplant, which by 2025 will be scaled up to a capture capacity of 95%. This technology will then be implemented for the other power plant (Nesjavellir) by 2030. The captured gas can then be sequestered permanently using the Carbfix method or utilised.

²⁰ [Stjórnarráðið | Samgönguáætlun \(stjornarradid.is\)](https://stjornarradiid.is/Samgönguáætlun)



- **SORPA**
Sorpa collects and manages the waste in the Capital Area, they are instrumental when it comes to waste collection, and implementing further sorting of waste within the area. They produce compost and methane which can have additional benefits, the methane can also be used as part of our energy transition. They will also be a key player when it comes to implementing a stronger circular economy in Reykjavík.
- **Strætó**
The public bus company that services the Capital Area, Reykjavík included. Increasing the use of public transportation will be very important for us to realise our goals of carbon neutrality. The electrification of their fleet will also have an immediate impact on our emissions portfolio. The necessity of offering more frequent bus rides and better service is something that we have already received feedback regarding in conversations with businesses and the public.
- **Faxaflóahafnir**
Faxaflóahafnir, the Associated Icelandic Ports, are responsible for harbour activities in Gamla höfnin í Reykjavík (the Old Reykjavík Harbour), Sundahöfn, Grundartangi and in Akranes, as well as facilities for smaller boats in Borgarnes. Faxaflóahafnir bases its operations on a 100-year history of port management and it is a key player in the development, improvement and operation of important infrastructure in the transport network and the economy of Iceland.
- **Reykjavík Science City / Vísindapörpið í Vatnsmýrinni**
Reykjavík City has a working group which consists of the largest players in the area of Vatnsmýri. It consists of academia and the largest hospital in the country. The members are the University of Iceland (HÍ), the University of Iceland's Science Park (Vísindagarðar), Reykjavík University (HR) and the National University Hospital (Landspítali). This group meets 2-4 times per year to discuss infrastructure and transportation in the area. These institutions are geographically located in Vatnsmýri, and are amongst the largest workplaces in the city. They are also the leading academic institutions in Iceland and working with them towards a sustainable future is necessary in order to be sure that we are on the right path.
- **University of Iceland / Háskóli Íslands**
The University is a state university, situated in Vatnsmýrin the heart of Reykjavík. It is a progressive educational and scientific institution, renowned in the global scientific community for its research. Additionally, The University holds a leading role in sustainable energy and environmental research. The main role of The Sustainability Institute at the University of Iceland (Sjálfbærnistofnun Háskóla Íslands) is to catalyse, facilitate and coordinate research to promote sustainable development, both within and outside of the University. The Institute also serves as a collaborative hub, partnering with parties outside the University, such as the government, municipalities, institutions, companies, non-profit organizations and individuals.. There are 1,700 staff members and 14,000 students at the University.
- **Reykjavík Science Park / Vísindagarðar Háskóla Íslands**
The Science Park is a flourishing community where universities, companies and research institutions work together to find creative solutions to today's most pressing challenges.
- **University of Reykjavík / Háskólinn í Reykjavík.**
Reykjavík University is a large workplace with many students, it has a strong connection to the Iceland Chamber of Commerce, as well as the Federation of Icelandic Industries. The



- University has a strong focus on sustainability, for example with its Sustainability Institute and Forum (SIF) which is a research institute that engages all departments in matters relating to sustainable development. Reykjavik University has notable sustainability research projects in the areas of geothermal and ocean studies in partnership with Cornell University.
- **Landspítali University Hospital**
Landspítali is the leading hospital in Iceland and the largest workplace for employees in health care. It is funded by the Ministry of Welfare, supervised by the Directorate of Health and provides specialised and general care and has the capacity of approx. 700 beds.
 - **Festa – Centre for Sustainability**
In 2015, Festa and Reykjavik's climate declaration was signed by 104 businesses in Reykjavik pledging to reduce emissions of greenhouse gases, reduce the waste they produce, and measure the impact of these measures. Today, 182 members have signed the declaration and they have 40 events per year that aim to make companies and institutions more sustainable. They will be a key partner for our outreach efforts towards the businesses in the city as they are already actively engaged with many of them, and notably the largest businesses in the city. With a long history of climate declarations and the Icelandic carbon neutrality by 2040 target already well known, the key to engaging these businesses again will be to have concrete and measurable actions for them to take part in. We will develop these in collaboration with Festa and their partners.
 - **The Housing and Construction Authority / HMS**
The role of the Housing and Construction Authority is to protect public life quality, assets and the environment by ensuring professional preparation for construction and active monitoring of quality and safety, thus contributing to a better supply of affordable housing, both for rent and for lease. We aim to assess future needs and estimate the supply of housing to contribute to greater stability in the housing market.
 - **Visit Reykjavik / Markaðsstofa höfuðborgarsvæðisins**
Visit Reykjavik is the official tourism organization for the Reykjavik Capital Area. It was established in 2023 by six municipalities and the tourism industry. Visit Reykjavik promotes and develops the destination in a sustainable way, with a focus on increasing economic activity. Through collaboration with partners in the tourism, transportation, and cultural sectors, Visit Reykjavik enhances the visitor experience and showcases all that Reykjavik has to offer.



2.4.3. Crucial External Stakeholders:

Stakeholder	Emission type / Focus	Relationship	Relevant target	Website
National government	All emissions	National and city	Iceland's goal of carbon neutrality by 2040	https://www.co2.is/
SSH - Association of Municipalities in the Capital Area	All emissions	One of seven municipalities that together form this association	Carbon neutrality, waste collection and transportation soknaraaetlun_hofudborgarsvaedisins_2020-2024.pdf (ssh.is)	Sóknaráætlun Samtök sveitarfélaga á höfuðborgarsvæðinu (ssh.is) Loftslagsstefna fyrir höfuðborgarsvæðið Samtök sveitarfélaga á höfuðborgarsvæðinu (ssh.is)
Municipally owned companies	Energy, Transportation, Waste	The city is the largest owner	Reykjavík has set an Owner's Policy of carbon neutrality by 2040	
Reykjavík Energy	Energy	Co-owner	Reykjavík Energy has a very ambitious target of climate neutrality by 2030 and a plan in place to reach it	Orkuveita Reykjavíkur verði kolefnishlutlaus árið 2030 (orkuveitan.is)
Strætó	Transportation	Co-owner	Strætó has sustainability targets which directly impact our carbon neutrality journey.	Samfélagið – Strætó (straeto.is)
SORPA	Waste	Co-owner	Sorpa measures its environmental and societal impact and aims for sustainable waste collection.	Sjálfbærni (sorpa.is)
Landspítali	Transportation, Building	Large workplace and main hospital	The hospital has an ambitious plan to reduce its environmental impact.	Umhverfismál - Landspítali (landspitali.is)
HR	Transportation	Reykjavík University	Reykjavík University is a signatory of Festa's climate declaration and has plans related to transportation.	Umhverfismál Háskólinn í Reykjavík (ru.is)
HÍ	Transportation	University of Iceland	The University of Iceland is aiming for carbon neutrality and publishes an extensive sustainability report with a focus on the SDGs.	uis_sustainability_report_2022.pdf (hi.is)
Markaðsstofa höfuðborgarsvæðisins	Transportation	Visit Reykjavík	Visit Reykjavík aims to offer a sustainable destination and increase responsible tourist behaviour within the area.	About us Visit Reykjavík (visitReykjavik.is)



2 Part B – Pathways Towards Climate Neutrality by 2030

2.5. Module B-1 Climate Neutrality Scenarios and Impact Pathways

Reykjavík has a policy of carbon neutrality for the year 2040 and a detailed Action Plan to achieve that goal. With this Climate City Contract, that policy is being honed further and carbon neutrality is being accelerated by a decade, or until the year 2030. It is estimated that actions from the current Climate Action Plan will result in a reduction of nearly 50% in 2030 compared to 2019 as the baseline year²¹. The minimum goal of an 80% reduction in emissions by 2030 can only be achieved with the participation of more parties.

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

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

²¹ Quiver. 2022. Loftslagsáætlun Reykjavíkurborgar. Mat á áhrifum aðgerða til 2040.



B-1.1: Impact Pathways							
Sector	Subsector	Systemic Levers	Estimated reductions from current Climate action plan kt CO2e year 2030	Estimated reductions from CCC actions kt CO2e year 2030	Total reductions from portfolio of current Climate Action plan and additional actions in CCC kt CO2e year 2030	Direct Impacts (Year 2030 Emission Reductions - kt CO2e) estimated from economic model	Indirect Impacts (Co-benefits)
Transport	Reduced motorized passenger transportation need	Infrastructure & Behavioural change	136	72	208	24	Air quality / health
	Shift to public & non-motorized transport	Financial, business models			0	18	Air quality / health
	Increased car pooling	Financial			0	10	Air quality / health
	Electrification of cars + motorcycles	Financial			0	23	Air quality
	Electrification of buses	Financial		3	3	2	Air quality
	Optimized logistics	Financial			0	99	Air quality
	Electrification of trucks	Financial			0	53	Air quality
	Electrification of port	Financial, technical	28	23	51	not estimated	Air quality
Buildings & Heating	Building renovations (envelope)				0	1	
	New energy-efficient buildings				0	0	
	Efficient lighting & appliances				0	0	
	Decarbonizing heating generation	Technical	14		14	14	
	Building materials, scope 3	Financial, regulations		22	22	not estimated	
Electricity	Fossil fuel free construction sites	Technical		5	5	not estimated	
	Decarbonizing electricity generation				0	0	
Waste	Increased waste recycling	Infrastructure & Behavioural change	20		20	3	Land use
AFOLU	Forestry and reclamation of wetland	Spatial planning	35		35	not estimated	Biodiversity
IPPU	Use of F gases, scope 3	Regulations		42	42	not estimated	
TOTAL			233	167	400	246	



Description of impact pathways

The impact pathways chosen are those which have the most effect on accelerating the transition to climate neutrality to 2030 and reduce GHG emissions in the fastest way. The pathways relate to the current state (GHG inventory) and the actions needed to close the gap. Please note, we use our own estimations of reduction from the current Climate Action plan and additional actions outlined in the portfolio of actions listed later in this chapter. In table B-1.1. we included the estimated reductions from the economic model to show comparisons and include where possible a benchmark for further work on the next CCC.

Reykjavik has a policy of carbon neutrality for the year 2040 and a detailed Climate Action Plan to achieve that goal. By participating in the Climate Mission, that policy is being honed and carbon neutrality is being accelerated by a decade, and the goal is to be carbon neutral by 2030. That goal can only be achieved with the participation of more parties in all sectors. Participants who sign Climate Neutrality Commitments undertake to submit one or more actions, which are being worked on, to reduce the effects of climate change.

The largest percentage of emissions in Reykjavik is due to transportation, and therefore most of the actions are under that heading. The estimation from the action plan of the government is used to estimate the effects of increased use of public transport, regulations and electrification of the fleet

Energy. All heating and electricity use in Reykjavik comes from renewable sources, a mix of hydropower and geothermal energy. Nevertheless, Reykjavik Energy has an ambitious goal of making its energy production carbon neutral by 2030. By requesting their participation in the CCC, Reykjavik is emphasising that their actions matter, and that this goal supports the company. Carbon-neutral energy production benefits all users, not only the City of Reykjavik as such, but all companies and residents.

Transportation: Changes in transportation are first addressed through planning, how the city is planned to reduce the need for travel. Updating the planning, implementing the 15-minute districts and focusing on green urban development therefore remain important projects, and one of the actions of the CCC.

Extensive work on the development of transport infrastructure and its financing has been carried out under the umbrella of the Transport Treaty of the Capital Area. The effects of these changes will be felt later than 2030, but are an important contribution to encouraging active modes of travel and the use of public transport by those who work in the city, live in the city and tourists who visit the city. The risk here is that the infrastructure will not be used, and therefore co-operation on changing travel habits with the largest workplaces and schools within the city is part of the actions in the CCC. The City of Reykjavik itself is one of the largest workplaces in Iceland, with around 10,000 employees, so it is very important which actions the City itself puts in place to reduce the need for employees to travel to and from work as well as for work.

It is expected that the number of trips will decrease as is the norm when the settlement becomes denser. It is also assumed that trips by car will remain stable and the percentage of active modes of travel will therefore increase. At the same time, it must be ensured that the fleet of cars that will be on the city's streets, whether they are private cars, goods transport vehicles, buses, vans and public buses run on green energy sources, where electricity is the main choice. Technological development in that sector has been rapid, but investment in such equipment is expensive. The fleet is changing, but it has progressed slowly, so one of the actions is to continue with the work of the working group on "energy transition everywhere", which refers to energy transition in the City's car fleet, and also how energy transition can be encouraged, for example through procurement.



The continued emphasis on active means of transport is due to the co-benefits of more people on the streets, better air quality and increased likelihood of exercise becoming part of the daily life of the city's residents and visitors.

Waste: Great results have been achieved with the altered waste collection system, which includes the development of infrastructure (GAJA) and the behavioural change of increased sorting by citizens. With the introduction of GAJA, an opportunity has also been created to use the methane that is created as a source of energy for waste-collection vehicles and buses. Waste prevention is always the most important action to reduce emissions within that sector.

Reykjavik only manages waste collection for households and follows-up on sorting in such a way that if waste is not correctly sorted into the appropriate bins, the bins are left behind with an appropriate message. The recycling rate and how sorting from households is going is closely monitored.

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

Agriculture, Forestry and Other Land Use (AFOLU): The biggest opportunities here are carbon sequestration through forestry and wetland reclamation, which is part of the current Climate Plan and is also pursued in the City's Green Plan. Agriculture is an insignificant part of emissions that will not be addressed in this first CCC. It is necessary to plan and prepare well which areas will be used for forestry and which areas will be used for the reclamation of wetlands, so that they are also useful for citizens and support biodiversity. How carbon credits of sequestration for land use are calculated has not been decided. Actions to assess sequestration due to land use therefore need to be carried out simultaneously with an assessment of the carbon market in Iceland in general. That market is immature and it is unclear where it would be best to go in order to compensate for possible residual emissions.

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

Scope 3:

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

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

2.6. Module B-2 Climate Neutrality Portfolio Design

A summary of the actions and impact planned to address residual emissions (B-2.3).

Table A-2-2

The actions that are then itemised under Section B-2-2

B-2.1a: Climate actions in current Action Plan of Reykjavik²² (referring to Table A-2-2 column (3))			
Fields of action	Portfolio description		
	List of actions	Descriptions	Next steps
Energy systems	9) Turn CO2 into stone.	Know-how and solutions by Reykjavik Energy and Carbfix are to be developed for the sequestration of carbon dioxide, and as the case may be of other greenhouse gases, in partnership with universities and businesses that are heavy emitters.	Combined with the action Climate neutral energy production by 2030
Mobility & transport	1) 15 minute districts	Through the process of district planning, renewal of urban centres and investments in infrastructure, the City's districts will become more pedestrian-friendly and the access to green areas, outdoors-activities and services will be ensured within a radius of fifteen minutes' walk or on bicycle.	Included in portfolio as an action
	2) Green City development	The city's future development will all be within it's defined urban growth limit line and 80% of housing development will be located within convenient distance from the new BusRapid Transport system, Borgarlínan (Cityline)	Combined with the action Transport Treaty
	3) Energy transition everywhere	A comprehensive plan to be drawn up and carried out for energy transition infrastructure for private cars with charging stations in the city districts, for commercial cars, trucks, for public transport systems, in the ports and at sea.	The plan is being finalised but has yet to be submitted to the City Council for approval. Actions that will belong in the CCC will be added in the next version of the Treaty.
	4) World-class cycling city	A revised cycling plan is to set goals with the aim that Reykjavik becomes a world-class cycling city	The plan has been made. Combined with the action Transport Treaty
	5) Borgarlína (Cityline) and improved public transportation	Improved as well as efficient public transportation and the compaction of the city are to play a key role in attaining the goals for changes in travel behaviour. Further climate goals will be defined for the transportation agreement between the state and the Association of Municipalities in the Capital Area (SSH).	Combined with the action Transport Treaty

²² Reykjavik. 2021. City of Reykjavik Climate Action Plan for 2021-2025 Weblink: [Reykjavikclimateactionplan2021-2025.pdf](https://www.reykjavik.is/eng/umhverfi/2021-2025-climate-action-plan)



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

**B-2.1b: Description of action portfolios - textual or visual.
Referring to Table A-2-2 column (3) and (5)**

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



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



B-2.2: Individual action outlines

Reykjavik Energy 2030 target from 2016 baseline

	Action name	Climate neutral energy production by 2030
	Action type	Implementation of Reykjavik Energy climate goals 2025 and 2030 ²³
	Action description	<p>Reykjavik Energy (RE), is an energy- and utility company in majority ownership of the City of Reykjavik. RE operates two geothermal power stations; Hellisheiði power plant and Nesjavellir power plant. In those power plants, geothermal steam is utilised for power- and heat production. The steam consists partially of two greenhouse gasses, carbon dioxide CO₂ and methane CH₄. Typically these GHGs are released from the geothermal steam and emitted into the atmosphere. However, RE has developed the Carbfix method, a Carbon Capture and Storage (CCS) technology which permanently mineralises CO₂. A cornerstone of RE's emission reduction strategy is the implementation of the Carbfix method for the geothermal facilities. Since 2016 the geothermal power plants have accounted for 65-75% of RE's total GHG emissions. At Hellisheiði power plant, the current capture capacity is in the range of 25%. However, RE plans to fully scale up the capture capacity at Hellisheiði by 2025, allowing a capture rate of 95% of CO₂ emissions from the power plant by 2025. Pilot injections started at the Nesjavellir power plant in early 2023 and RE aims for full scale injection at the power plant by 2030.</p> <p>RE aims for reduction of greenhouse gas emissions by 90% in Scopes 1 and 2, and by 40% in Scope 3 by the year 2030, compared to the emission levels of the baseline year 2016. The climate goal is confirmed by the Science Based Targets initiative (SBTi) and meets the requirements of climate science to keep the temperature increase below 1.5°C.</p> <p>Furthermore, RE aims to reduce emissions in its supply chain, Scope 3, by 90% by the year 2040.</p>
Reference to impact pathway	Field of action	Energy
	Systemic lever	Technical
	Outcome (according to module B-1.1)	Included in estimated reduction in current Climate Action plan. Estimated reduction for the part of Reykjavik is 14.622 tCO ₂ eq

²³ Reykjavik Energy. Climate account 2023. [RE Climate Account 2023.pdf \(overcastcdn.com\)](https://overcastcdn.com/RE_Climate_Account_2023.pdf)



Implement- ation	Responsible bodies/person for implementation	Reykjavík Energy (Orkuveita Reykjavíkur)
	Action scale & addressed entities	Regional scale
	Involved stakeholders	Reykjavík Energy and subsidiaries, University of Iceland, CNRS in Toulouse, and the Earth Institute at Columbia University participated in the development of Carbfix.
	Comments on implementation – consider mentioning resources, timelines, milestones	To achieve its climate targets, RE has outlined significant steps in its reduction strategy. These include the complete implementation of the Carbfix injection method at the Hellisheiði geothermal power plant by 2025 and achieving full-scale injection at the Nesjavellir geothermal power plant by 2030.
Impact & cost	Generated renewable energy (if applicable)	9200 GWh, there of: <ul style="list-style-type: none"> - 3500 GWh electricity from geothermal power plants and a small hydropower plant - 3100 GWh hot water from geothermal power plants - 2600 GWh hot water from low-temperature geothermal wells
	Removed/substituted energy, volume, or fuel type	N/A
	GHG emissions reduction estimate (total) per emission source sector	<p>All geothermal heat in Reykjavík is supplied by Reykjavík Energy. Reduction in emissions from the RE therefore affects Reykjavík directly. Through carbon capture and sequestration (CCS) at RE's geothermal power plants, we project an emission reduction of 51.000 tCO₂eq in 2030 compared to the baseline year 2016. This can be disaggregated to emissions reduction of 27.000 tCO₂ related to electricity production and 24.000 tCO₂ related to heat production.</p> <p>Also, goals on lower emission factor from electricity will also have effect, the factor was 9,9 g CO₂ eq/kWh in 2016 and is projected to reach 0,6 gCO₂ eq/kWh in 2030 with a CO₂ capture capacity of 95%.</p> <p>If energy consumption in Reykjavík stays the same the emissions will lower in line with the emission factor.</p>
	GHG emissions compensated (natural or technological sinks)	After reaching 90% emissions reduction, RE will compensate for the residual emissions using certified carbon credits. Currently, RE is purchasing credits through UN's Clean Development Mechanism (CDM).
	Total costs and costs by CO ₂ eq unit	Total costs for realising fully scaled capture plants and sequestration infrastructure have not been projected for both of RE's geothermal power plants. A cost assessment of the Carbfix method was projected as \$25 per tonne in 2018. See reference here: https://www.sciencedirect.com/science/article/pii/S1750583617309593



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



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



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



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



Co- operation with Festa, Centre for Sustainability		
	Action name	Reykjavik Business Declaration on Mobility
	Action type	Awareness
	Action description	Develop declaration on mobility for businesses in Reykjavik to sign, engage with Festa members and encourage them to take part. Hold a member-meeting to raise awareness and invite members to sign the declaration.
Reference to impact pathway	Field of action	Transport
	Systemic lever	Business models
	Outcome (according to module B-1.1)	Reduced GHG emissions from transport from the business sector.
Implementation	Responsible bodies/person for implementation	Office of the Mayor and CEO of Reykjavik City and the CEO of Festa
	Action scale & addressed entities	Currently 167 members have signed the Climate Declaration of Festa and the City of Reykjavik, these members will be presented the opportunity to sign the new declaration.
	Involved stakeholders	Festa, All members of Festa, 184 companies. Head og climate change affairs at Reykjavik City.
	Comments on implementation – consider mentioning resources, timelines, milestones	<p>The declaration will build on the momentum from the declaration from 2015 but this declaration will focus on transportation aiming to promote green mobility options, energy transition and behavioural change.</p> <p>The declaration will mention both the vehicles operated by the businesses and how the businesses plan to encourage their staff to travel to and from their workplaces in a sustainable manner.</p>
Impact & cost	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume, or fuel type	Reduction and avoidance of fossil fuel use in private cars and trucks.
	GHG emissions reduction estimate (total) per emission source sector	Avoided GHG emissions has not been estimated. Developing the declaration includes setting this measurement. One option could be a travel-mode survey.
	GHG emissions compensated (natural or technological sinks)	N/A
	Total costs and costs by CO2eq unit	N/A



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

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

²⁴ See calculations in Sector S.5.C Vehicles [cf1138cc-8f2c-ef11-9bc3-005056bcce7e \(island.is\)](https://www.island.is/cf1138cc-8f2c-ef11-9bc3-005056bcce7e)



Increased recycling of waste from the private sector (businesses and offices)		
	Action name	Increased recycling of waste from the private sector (businesses and offices)
	Action type	Awareness
	Action description	Implementation and follow up on requirements of the Resolution on Waste Management in Reykjavik (Samþykkt um meðhöndlun úrgangs) with focus on increased sorting.
Reference to impact pathway	Field of action	Waste
	Systemic lever	Regulation
	Outcome (according to module B-1.1)	Included in estimation of Current Climate action Plan 20.549 tonnes CO2 eq.
Implementation	Responsible bodies/person for implementation	Office of Environmental Quality (Skrifstofa umhverfisgæða) of Reykjavik.
	Action scale & addressed entities	Local level
	Involved stakeholders	Service providers collecting and/or treating waste from the private sector (municipal and operational waste). The relevant stakeholders that have declared commitment are: Íslenska Gámafélagið, Sorpa bs. and Terra.
	Comments on implementation – consider mentioning resources, timelines, milestones	Íslenska Gámafélagið and Terra are the two largest companies providing waste collection and treatment in the Capital Area. Both companies operate according to an accredited EMS and provide waste related consultation to clients, and are knowledgeable when it comes to sustainability. Both companies provide collection and sorting services, and have agreements with third party recycling companies. Sorpa bs. is the municipal waste receiving company, servicing both the public and private sector. Sorpa handles and exports recyclable waste for recycling and unsorted waste for energy recovery. Sorpa bs. can have impact on sorting quality by education programs and setting conditions for waste acceptance for the private sector. Sorpa also operates GAJA, a treatment plant for food waste. Emissions will be estimated using the material balances of the waste streams and emission factors for the waste sector used in the National Inventory Report. At the beginning the indicators will be decided in cooperation with the stakeholders. It is estimated to have yearly consultation meetings with stakeholders. The timeline foresees zero emissions from waste in 2030.



Impact & cost	Generated renewable energy (if applicable)	Has not been estimated. There is a production of methane gas from source segregated organic waste from that is utilised for industry and vehicles. Mixed household waste from the private sector is exported to incineration with energy recovery.
	Removed/substituted energy, volume, or fuel type	N/A
	GHG emissions reduction estimate (total) per emission source sector	The reduction from the actions of stakeholder in this action is to support and add to CCC Action Plan. According to the regional plan on waste the goal is to keep the emissions the same in 2032 compared to 2022 though the population will grow at the same time. ²⁵ It is estimated that the actions of the stakeholders in this action will lead to more reduction.
	GHG emissions compensated (natural or technological sinks)	There are some carbon-offset projects (forestry) of some of the stakeholders ongoing, but uncertain about the validation of credits.
	Total costs and costs by CO2eq unit	N/A

²⁵ samlausn.is - Samlausn.is



Reducing the use of F gases		
	Action name	Reducing the use of F gases
	Action type	Regulation
	Action description	Regulations to reduce the import of F gases to Iceland
Reference to impact pathway	Field of action	IPPU
	Systemic lever	Regulation
	Outcome (according to module B-1.1)	Reduced GHG emissions from IPPU
Implementation	Responsible bodies/person for implementation	Ministry of Environment, Energy and Climate
	Action scale & addressed entities	National level
	Involved stakeholders	Fishing ships, fish processing, grocery stores
	Comments on implementation – consider mentioning resources, timelines, milestones	This action is in the new Climate Action Plan of the Icelandic government and important action to close the gap in Reykjavik
Impact & cost	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume, or fuel type	N/A
	GHG emissions reduction estimate (total) per emission source sector	Action S3.A2 Regulation on the maximum amount of imported F gases Proportion of the national estimation of GHG emissions reduction: 42.120 CO ₂ tonnes ²⁶ (Regulation on the maximum amount of imported F gases: 117,000 x 0.36 = 42,120)
	GHG emissions compensated (natural or technological sinks)	N/A
	Total costs and costs by CO ₂ eq unit	N/A

²⁶ See calculations in Sector S.3.A Refrigerants [cf1138cc-8f2c-ef11-9bc3-005056bcce7e \(island.is\)](https://island.is/cf1138cc-8f2c-ef11-9bc3-005056bcce7e)



Carbon sinks		
	Action name	Carbon sinks
	Action type	Governance
	Action description	A working group will be established to map out possible actions to reduce the emissions of Land use
Reference to impact pathway	Field of action	Green infrastructure and nature based solutions
	Systemic lever	Procedures
	Outcome (according to module B-1.1)	In current Climate Action plan the estimated reduction of change of Landuse is 34.522 tonnes CO2 eq
Implementation	Responsible bodies/person for implementation	Mayor of Reykjavik
	Action scale & addressed entities	Local
	Involved stakeholders	The institution “Land og skógar”, Climate council of Iceland
	Comments on implementation – consider mentioning resources, timelines, milestones	A detailed plan is needed on how to reduce emissions due to Land use.
Impact & cost	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume, or fuel type	
	GHG emissions reduction estimate (total) per emission source sector	The biggest opportunities here are carbon sequestration through forestry and wetland reclamation, which is part of the current Climate Plan and is also pursued in the City's Green Plan.
	GHG emissions compensated (natural or technological sinks)	N/A
	Total costs and costs by CO2eq unit	N/A



Fossil fuel free construction sites		
	Action name	Fossil fuel free construction sites
	Action type	Planning, procurement
	Action description	The purpose is to reduce fossil fuel free emissions on construction sites. This will be done by implementing the use of alternative energy sources, such as electricity and biodiesel. The action involves reevaluating the planning process to better accommodate for necessary infrastructure and motivating stakeholders to invest in decarbonisation technologies through fiscal incentives.
Reference to impact pathway	Field of action	Energy
	Systemic lever	Capacity development
	Outcome (according to module B-1.1)	Reduced GHG emissions – 5.792 CO ₂ eq – calculated as a % of estimated reduction.
Implementation	Responsible bodies/person for implementation	The Icelandic Housing and Construction Authority (HMS) for Building a Greener Future (Byggjum grænni framtíð). City of Reykjavík, Commissioning & Maintenance department.
	Action scale & addressed entities	N/A
	Involved stakeholders	Green Building Council Iceland, The Federation of Icelandic Industries and Veitur utility company.
	Comments on implementation – consider mentioning resources, timelines, milestones	Has been researched by Green Building Council Iceland, Housing and construction authority, the Ministry of Infrastructure and Nordic Sustainable Construction. ²⁷ The Icelandic Sustainable Construction Roadmap to 2030 provides specific actions and resources that support the implementation of fossil fuel-free construction sites.
Impact & cost	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume, or fuel type	Removed fossil fuel use
	GHG emissions reduction estimate (total) per emission source sector	5.379 CO ₂ tonnes reduction in the energy sector
	GHG emissions compensated (natural or technological sinks)	N/A
	Total costs and costs by CO ₂ eq unit	Has not been calculated

²⁷ Byggjum grænni framtíð Vegvísir að vistvænni mannvirkjagerð 2030. II hluti Markmið og aðgerðaáætlun. Bls. 6



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



Impact & cost	Generated renewable energy (if applicable)	N/A
	Removed/substituted energy, volume, or fuel type	Removed fossil fuel use Green house gas emissions during chemical reactions Green house gas emissions during production
	GHG emissions reduction estimate (total) per emission source sector	21.709 CO2 tonnes reduction in the IPPU sector – Scope 3 The Icelandic Sustainable Construction Roadmap to 2030 aims for a reduction of 55% from building materials. ²⁸

2.6.1. Summary Strategy for Residual Emissions

Residual emissions, both the 20% and the additional emissions, which will be 10% of the emissions in the baseline year 2019 will be approached by a working group stated more closely in Section C.

²⁸ Byggjum grænni framtíð Vegvísir að vistvænni mannvirkjagerð 2030. III hluti Samantekt: Losun, markmið og aðgerðir. Vegvísir-ad-vistvaenni-mannvirkjagerd.-III.-hluti.-Samantekt-Losun-markmid-og-adgerdir.pdf (byggjumgraenniframtid.is) Page 4



2.7. Module B-3 Indicators for Monitoring, Evaluation and Learning

B-3.1: Impact Pathways					
Outcomes/ impacts addressed	Action/ project	Indicator No.	Indicator name	Baseline	Target values
2019					2030
GHG emissions	Climate neutral energy production by 2030	1	GHG emissions CO ₂ eq stationary energy (electricity and heat)	11.445	0
GHG emissions	Fossil fuel free construction sites	1	GHG emissions CO ₂ eq stationary energy (fossil fuel)	7,684	5.379
GHG emissions Air quality	Transport Treaty	1 and 5	GHG emissions CO ₂ eq road transport	292,952	58.590 (20%)
Travel mode Air quality	Co-operation with the largest workplaces in Reykjavik on mobility	2 and 5	% per travel mode disaggregated by gender and age	71% using car to and from work (drivers+ passengers)	50% using car to and from work
GHG emissions	Co-operation with Festa on a new declaration on mobility	N/A	Suggestion: # of businesses accounting GHG emissions from transport incl. travel modes of employees	N/A	To be decided in co-operation with Festa
GHG emissions Air quality	Faxaflóahafnir climate neutral 2030	1 and 5	GHG emissions CO ₂ eq transport – waterborne navigation	51,074	0
GHG emissions Air quality	Energy transition of vehicles	3 and 5	Percentage of vehicles registered in the city that are low-emission vehicles(ISO37122 no 19.3)	9,39% (in 2020)	50%
GHG emissions Tonnes of collected waste	Increase recycling waste	1 and 4	GHG emissions CO ₂ eq waste (scope 1&3)	51.664	10.333 (20%)
GHG emissions	Reducing the use of F gases	1	GHG emissions CO ₂ eq IPPU	41,685	8.337 (20%)
GHG emissions	Carbon sinks	1	GHG emissions CO ₂ eq AFOLU	47,132	9,426 (20%)
GHG emissions	Low-carbon and circular building materials	1	GHG emissions CO ₂ eq building materials	50,485	10,097 (20%)



B-3.2: Indicator Metadata

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



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



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



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



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



3. Part C – Enabling Climate Neutrality by 2030

3.1. Module C-1 Governance Innovation Interventions

3.1.1. Description or visualisation of the participatory governance model for climate neutrality

NetZeroCity project:

There is a steering group with elected officials, with the Deputy Mayor as the foreman, the chairmen of all the political parties, the Mayor included and also the Director of Environment and Planning and Head of Climate Change Affairs, Department of Environment and Planning. The political committee of Environment and Planning has the political responsibility of policies, including the Municipal Plan and the Climate Action Plan.

Actions that need political decisions are discussed in the steering group, the Committee of Environment and Planning relevant political committees and when needed in City Council. Climate neutrality is a part of the Reykjavik Green Deal which has a core team with staff members from all the divisions of Reykjavik City, Environment and Planning, Culture, Education, Welfare, Sports, Mayors Office, Service, Finance and Human Resources. Climate risk and resilience is approached through the Municipal Plan.

Responsibility for climate mitigation policies within the City

The primary responsibilities for climate mitigation policies and cross-sectoral co ordination of the climate agenda is with the Department of Environment and Planning, Department of Municipal Planning and Climate. Cross sectoral co-ordination for the Green Deal is with the Mayors Office.

Legal procedures in planning work in all stages of planning by the Department of Environment and Planning. The public can participate in the creation of development plans through resident forums or other consultations.

The Reykjavík Green Deal

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



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

The City's municipally owned companies will be important stakeholders as they are responsible for energy production, public transportation, the port, sewerage and waste collection. Reykjavik City can engage these companies individually through their governing boards.

Reykjavik City has seven municipally owned corporations. They are; the Associated Icelandic Ports, Faxaflóahafnir, the social housing provider Félagsbústaðir, asphalt plant Malbikunarstöðin Höfði, Reykjavik Energy (Orkuveitan), the fire brigade Slökkvilið höfuðborgarsvæðisins, the public bus company Strætó and waste collector Sorpa. Each of them has ambitious climate goals.

Sorpa and Strætó are municipally owned corporations, owned and run by the municipalities in the Capital Area together. They will both be instrumental in our journey towards carbon neutrality. Sorpa also runs gas- and compost facilities for the municipalities.

Reykjavik Energy is co-owned with the municipalities of Akranes and Borgarbyggð, it is the largest geothermal provider in Iceland and supplies Reykjavik with 100% of its house-heating needs, as well as electricity. Reykjavik Energy holds the utility company Veitur, the renewable power company ON power, the fiber channel provider Ljósleiðarinn and the innovative carbon capture and mineralisation company Carbfix.

Working Groups

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

A working group will be established to analyse options regarding the carbon market in Iceland.

Festa & the Business Sector

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



Innovation in the City

For the “smart” part of becoming a climate neutral and smart city by 2030 it will be essential for Reykjavik to engage directly with the blossoming innovation sector within the city. Our aim is to create a fertile ground for new ideas to flourish. This is laid out in the Reykjavik City Economic and Innovation Strategy 2022-2030²⁹. We already support some projects that foster innovation and offer entrepreneurs the resources to allow their dreams to become a reality.

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

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

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

Website: [Iceland Innovation Week](#)

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

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

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

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

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

Website: [Hringiða – Klak](#)

²⁹ [Atvinnu-og-nyskopnunarstefna-2022-2030.pdf \(reykjavik.is\)](#)

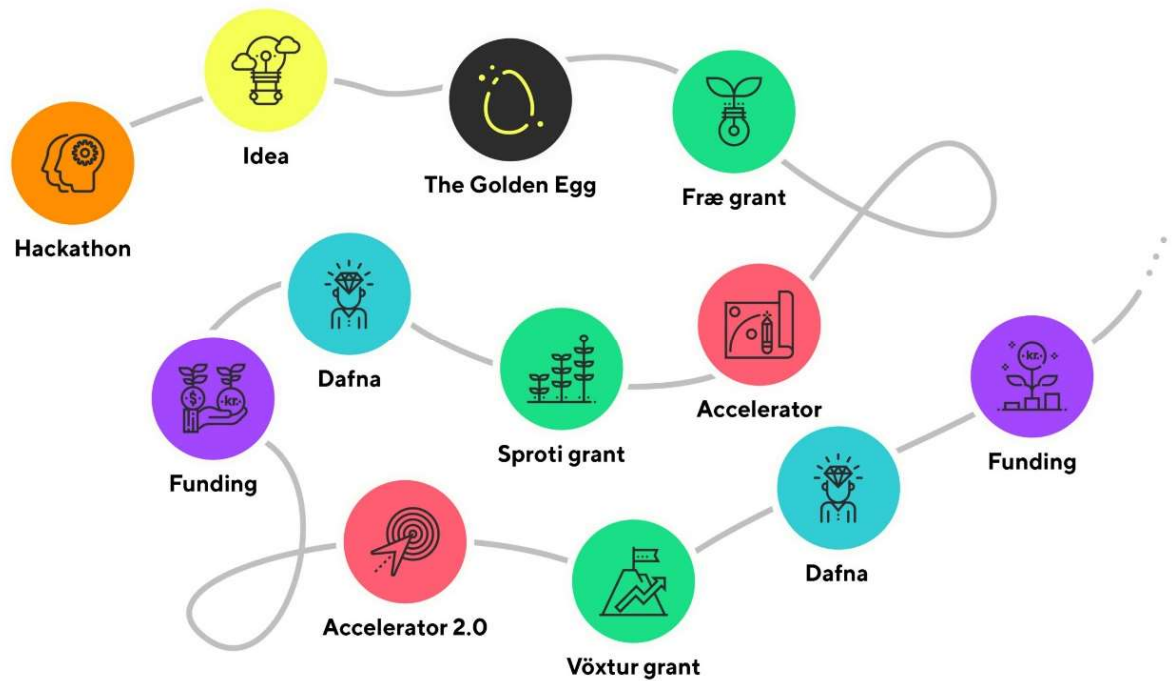
- **Startup SuperNova** is a collaboration between KLAKE Icelandic Startups and telecommunications companies Nova and Huawei which seeks to build business solutions for the international market.

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

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

Website: [Dafna – Klak](#)

Here below is a graphic showing the roadmap for a person with an innovative idea and how they can transform their idea into a business by using the accelerators and funding in place in Iceland.





Clusters in the City

In Reykjavik, there are many clusters which foster innovation, sustainability and increase competitiveness within their members. They tend to be sector-based and very successful, usually including the entire range of businesses from their sector, from the largest companies to startups. They offer a very efficient path to engage with entire sectors on specific problems and Reykjavik City already works closely with them. This can surely be harnessed in order to meet our goal of carbon neutrality by 2040.

Examples of clusters that work within the city and we would aim to co-create actions with in future editions of our climate contract:

The Iceland Renewable Energy Cluster

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

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

Iceland Tourism Cluster Initiative

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

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

Reykjavik Fintech Cluster



The Reykjavik Fintech Cluster brings together companies, investors, banks and startups - relevant players from all levels of experience by arranging networking conventions, launching events and conferences - all to breed innovation and maximise the potential of rewarding partnerships to make a lasting impact in everyday lives of people and businesses. We also cultivate connections to the international Fintech scene - other clusters as well as companies and investors.

Together, members create an ecosystem where everyone benefits by learning, developing and connecting. The innovation centre in Gróska is the heart of Reykjavik Fintech Cluster. Here, young companies and parties offering support, facilitation and mentorship break new ground and contribute to the growth of the network as well as bringing new solutions to market.

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

The Iceland Ocean Cluster

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

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



3.1.2. Pilot Project: Piercing Through the Gridlocks

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

The Pilot activities are divided as follows:

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

3.1.3. Twin City to Lahti

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



3.1.3. Citizens

In Reykjavik, the mechanisms to involve citizens are quite mature with resident councils, the project “my neighbourhood”, the consultation portal and the Citizens' Assembly, but the experience of consultation on environmental and climate issues is not as great, except when the consultation is directly related to statutory consultation for planning work.

A gender equality evaluation was made of the City of Reykjavik Climate Policy 2021-2025 and is included in the Climate Action plan. A toolbox for a just transition has been made and is accessible at the website of the climate action plan of Reykjavik City. Focusing on a just transition will support the analysis of gender effects of both the Green Plan and the Climate Action Plan and what kind of actions are needed to ensure gender equality as well as a just transition on the path towards climate neutrality.

These external stakeholders will be included in later revisions of the climate contract. As we become more ambitious, we will need to engage more stakeholders.

1. Betri samgöngur
2. Græna orkan
3. SA
4. SAF
5. ISAVIA
6. Vegagerðin

3.2. Module C-2 Social Innovation Interventions

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

3.1.2. General Overview and History of Participation in Reykjavik

In the aftermath of the economic collapse in 2008, more and more emphasis has been placed on participatory democracy in the city of Reykjavik as is enshrined in our Democracy Policy² which was published in 2021. Reykjavik is a world-leader when it comes to citizen engagement and participatory democracy.

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

In 2008, neighbourhood councils were established in all neighbourhoods of the city of Reykjavik, but in 2017 they were abolished in their original form, and in 2019 new residents' councils were



established with a new system that is still in force. The change was made in order to strengthen the ties between the residents' councils and the city politics and administration.

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

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

We have a participatory democracy portal³ in place, which gives an overview of different ways for citizens to engage directly with the City. These pathways can also be used to discuss specific issues related to carbon neutrality and will allow us to actively engage our citizens.

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

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

Specific consultation actions regarding the Climate City Contract:

1. The 2025 citizens' convention will be on climate/environmental issues. Emphasis will be placed on environmentally friendly means of transportation in Reykjavik.
2. Consultation Portal opened at the same time as the Citizens' Convention in the fall of 2025 – gathering opinions and ideas from residents, businesses and all stakeholders on ways to reach climate neutrality.
3. One cycle of our participatory budgeting project - My Neighbourhood – will have a climate theme. When collecting ideas and in the reviewing process; ideas that contribute to carbon neutrality will be prioritised and specifically sought after. Processing ideas will take place in collaboration with the resident's councils at open meetings where all residents will be invited to participate.

Citizens' Convention

Annually, The Reykjavik City Council holds an open Citizens' Convention at Reykjavik City Hall to discuss a predetermined topic. The Convention is a formal forum for citizens and the city council to have a conversation about the issues of the city of Reykjavik. The aim is to increase the possibilities of the participants to influence the City's strategy and administration and gives residents the opportunity to have direct contact with the elected representatives through a conversation about what is important to them at any given time.

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

By making the Citizens' Convention about climate issues and the challenges that citizens face due to climate change, we encourage discussions on the subject and give residents the opportunity to express themselves about the situation and how it impacts them. In



Reykjavík, many decisions have been made regarding transportation, parking, garbage collection and more, which have created heated discussions in society. At the Citizens' Convention, citizens can have frank discussions with City representatives about such actions, and at the meeting, it is possible to call for new ideas to tackle climate change and hopefully inspire participants and politicians to cooperate in the future regarding Reykjavík's carbon neutrality.

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

Consultation Portal

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



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

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

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

My Neighbourhood – Participatory Budgeting Project

My neighbourhood is a participatory budgeting project by the City of Reykjavik that takes place every two years. There, citizens can influence their immediate environment by coming up with ideas for new projects that make the city better. The project is basically about prioritizing funds for new smaller scale projects in the districts of Reykjavik. Allocated to this process is 3m euros each time. The amount is partly divided equally between districts and partly divided according to the number of residents in each district. The process of the project is divided into idea collection, review of ideas, setting up of ballots, electronic voting and finally project implementation. The goal is to mobilise the public to participate in democratic discussion and decision-making.

My Neighbourhood – Participatory Budgeting Project on Climate/Environmental Issues (Consultation Action 3)

One cycle of the project will be designated to the climate. If successful it could be done again. The next collection of ideas will start in 2025 and we hope to be able to introduce an environmental theme immediately then. When collecting ideas and in the reviewing process; ideas that contribute to carbon neutrality will be prioritised and specifically sought after. Processing ideas will take place in collaboration with the resident's councils at open meetings where all residents will be invited to participate. Implementation and execution of the elected ideas is 2 years from the idea collection phase.

Resident Councils

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

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

Resident Councils on Climate/Environmental Issues (Consultation Action 3)

When processing ideas in the participatory budgeting project, there is close co-operation with the residents' councils. At the level of the residents' councils, we will call for extra meetings to develop the ideas before they go on the ballots of the neighbourhoods and residents can vote between them.



4. Outlook and Next Steps

4.2. Plans for Next CCC and CCC Action Plan Iteration

Next steps

Portfolio management and execution. A consultation platform will be created for the participants in the CCC, and how the actions will be implemented. It is also necessary to formulate how the actions will be implemented within the City of Reykjavik.

The gap. Since it is clear that the 20% minimum target will not be reached, it is imperative to take a closer look at the actions that are present in this CCC and what could be done to achieve even greater success in reducing emissions. It is also necessary to examine how the carbon offset of the remaining portion will be carried out. The carbon offset market has to be analysed before outlining how carbon credits will be purchased to bridge the gap. Technical and nature-based solutions are available, but the market is still immature. A steering group will be established to add to the Action Plan contained in this CCC to at least close residual emissions, and those actions will be part of the new version of the CCC. That group is also evaluating whether it is possible to add more participants to the next edition of the CCC. We will continue to engage relevant stakeholders and raise awareness of our common goal within the city.

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

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

A broad discussion is needed about how the iterations of the CCC will take place. The actions will develop and it is expected that participants will be added and thus the number of actions will increase. Those changes will be recorded and the CCC will be developed so that it can be updated every 2 years until 2030. Municipal elections will be held in 2026 and the CCC will be overhauled with the majority and Mayor after the elections.



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Climate City Contract

2030 Climate Neutrality Commitments

Climate Neutrality Commitments of the City of Reykjavík



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1 Introduction

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

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

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

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

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



2 Goal: Climate Neutrality by 2030

When the goal of carbon neutrality in 2040 was set, the thinking was that the year 2030 would be a touchstone on the way and a certain measure of success. The goal for 2030 was to reduce emissions by 300,000 tonnes of CO₂ equivalents until 2030, which corresponded to a 60% reduction from 2019. The minimum requirement from NetZero Cities of at least 80% reduction is therefore very challenging. The mission enables the City to accelerate the climate neutrality ambition and to introduce stakeholders outside the City to participate with their actions to support the City to be climate neutral by 2030.

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

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

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

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

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

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



3 Strategic Priorities

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

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

3.1.1.1 Key Strategic Priorities:

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

4 Process and Principles

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

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

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

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

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



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



5 Signatories

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



6 Contract with Signatures

We, the undersigned, undertake to participate in

- formulating actions that measurably reduce greenhouse gas emissions and support Reykjavík's climate goal of becoming carbon neutral by 2030
- participate in annual consultation meetings until at least 2030

Við undirrituð skuldbindum okkur til að taka þátt í að:

- móta aðgerðir sem draga mælanlega úr losun gróðurhúsalofttegunda og styðja við loftslagsmarkmið Reykjavíkurborgar um að verða kolefnishlutlaus 2030
- taka þátt í árlegum samráðsfundum fram til ársins 2030 hið minnsta

Date of signature

Name

Signature



Climate City Contract

2030 Climate Neutrality Investment Plan

2030 Climate Neutrality Investment Plan of the City of Reykjavík



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Disclaimer

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Glossary of Terms

Acronym	Description
AP	Action Plan
IP	Investment Plan
KPI	Key Performance Indicator
MEL	Monitoring Evaluation & Learning
MRV	Monitoring Reporting Verification
WP	Work Package



1 Part A – Current State of Climate Investment

1.1 Module IP-A1: Existing Climate Action Funding and Financing

A-1.1: Textual element

The City of Reykjavík has up until now not engaged in structured climate budgeting. The overall strategy of the City of Reykjavík (The Green Deal) outlines the City's future vision up to the year of 2030 and connects policies and plans. The emphasis of the Green Deal is on environment, economy and society, as the aim of the city is to grow in a sustainable manner. The climate action plan for the city of Reykjavík is divided into six categories; walkable city, energy exchange, health enhancing communities, circular thinking, ecofriendly structures, and carbon sequestration. When establishing the share of budget for climate actions, all expenditure (excluding operation expenditure and excluding municipally-owned companies) was fitted together with the categories of the city's climate action plan, depending on which actions have considerable impact on climate actions categories, enabling one or more of the 11 principal actions and/or four support actions of the city's climate action plan. Following the signing of the climate city contract, the aim is to work with city owned companies, including them in the budget analysis represented in table 1.

For the City of Reykjavík, issuing of green bonds includes projects that fall under different categories of the Reykjavík climate action plan. Additionally, new construction is partly financed with green bonds, if the projects fall under the Green Bond Framework [Græn skuldabréf | Reykjavík](#). As these projects are not intended for direct enforcement of the climate action plan, but rather to minimize the environmental impacts of new construction, these projects are differentiated in the analysis as "Additional Green Bond Projects". The main project is the construction of the elementary school "Dalskóli", amounting to 90% of all Additional Green Bond Projects in the years 2020-2023. For the 2024 budget, the number for Additional Green Bond Projects is an estimate, built on the average of foregoing years.

The breakdown of budget by categories is shown in table 2, as well as the share of each category out of overall climate related projects. The categories include the following projects:

Walkable city: traffic lights for walking, construction of walking paths in new and existing streets, speed bumps, hydration posts.

Energy exchange: fossil fuel free cars, LED lighting fixtures, electric car infrastructure.

Health enhancing communities: bus stops, public transport centres, walking/biking paths for commuting, bridges over traffic streets, bike stands.

Circular thinking: new waste collection trucks, waste bins, waste collection centres in neighbourhoods.

Ecofriendly structures and Carbon sequestration: various construction for open green areas, arboriculture centres, botanical garden, wetland restoration, traffic trees/plants.

In the years 2021-2023, the largest categories were walkable City and Healthy transportation methods, with similar results for all years. In 2021, the biggest projects of Walkable City were: digital transformation of internal processes, city densification, and remaking of streets in older neighbourhoods and the city centre, emphasising on making the streets more walkable. In 2023, the biggest projects of Healthy Transportation methods were: the city share of the transport treaty between the state and municipalities and making of walking/cycling paths for commuting. In 2023, the category of Circular Economy was considerably higher than other years, due to a large investment in new waste collection trucks and new waste bins, distributed city-wide.



Table 1: Historical Municipal Budget and Budget for Climate Actions

Budget Data	2020	2021	2022	2023	2024*
Municipal Budget (€)	97.988.816	129.514.974	175.171.740	172.210.138	151.780.000
Municipal Budget for Climate Actions & Projects (€)	18.785.296	32.157.444	31.431.145	33.086.046	32.100.000
Share of Municipal Budget for Climate Actions & Projects (%)	19%	25%	18%	19%	21%
Municipal Budget for Additional Green Bond Projects (€)	14.763.333	20.429.333	9.634.000	6.827.647	6.600.000
Municipal Budget for all Climate Actions and Projects (€)	33.548.630	52.586.777	41.065.145	39.913.693	38.700.000
Share of Municipal Budget for all Climate Actions & Projects (%)	34%	41%	23%	23%	25%

*approved budget for Climate Actions and Projects, estimate for additional Green Bond Projects

Does not include operation budget

Does not include city-owned companies

Table 2: Finance Sources By Field of Actions, for Years 2021 to 2023

Fields of Action	Sector Subsection	Budget Allocation for Climate Actions and Projects (EUR)		
		2021	2022	2023
Transportation	<i>Walkable City</i>	11.270.513	11.809.395	13.888.674
	<i>Healthy transportation methods</i>	16.255.627	10.012.000	7.306.003
Green Infrastructure and Carbon Sequestration	<i>Green and open areas</i>	1.495.082	5.092.033	2.797.167
	<i>Carbon Sequestration</i>	330.304	174.062	30.775
Energy Systems	<i>Energy transition</i>	2.257.220	3.914.982	2.358.022
Waste and Circular Economy	<i>Circular Economy</i>	548.697	428.673	6.705.406
Built Environment	<i>Additional Green Bond Projects</i>	20.429.333	9.634.000	6.827.647
Total in €		€ 52.586.778	€ 41.065.145	€ 39.913.694
Fields of Action	Sector Subsection	Share of overall climate related projects		
		2021	2022	2023
Transportation	<i>Walkable City</i>	21%	29%	35%
	<i>Healthy transportation methods</i>	31%	24%	18%
Green Infrastructure and Carbon Sequestration	<i>Green and open areas</i>	2,8%	12%	7%
	<i>Carbon Sequestration</i>	0,6%	0,4%	0,1%
Energy Systems	<i>Energy transition</i>	4,3%	10%	5,9%
Waste and Circular Economy	<i>Circular Economy</i>	1%	1%	17%
Built Environment	<i>Additional Green Bond Projects</i>	39%	23%	17%
Total in €		€ 18.785.296	€ 32.157.444	€ 31.431.145



1.2 Module IP-A2: Strategic Funding and Financing Evaluation

A-2.1: Textual element

Public income sources in Iceland are first and foremost based on tax revenues, as well as income derived from the Municipal Equalisation Fund. The Fund operates on legal basis, with the aim to balance different expenditure needs and tax revenues of municipalities.

Other revenues include cost of services. Capital sources include issuing of green bonds and long-time borrowings from private financial entities.

Recent source of capital, yet to be realised, is the Central European Bank, intended to meet the need for school renovations in the coming years.

The strategic funding and financing evaluation is based on the 2023 financial statement for the city. The evaluation includes municipally-owned companies and profits generated from them. As a non-EU member country, the cities of Iceland are not subject to EU grants and funding schemes, with the exceptions of specific project grants, based on the costs for those specific projects, not intended for basic investment projects for the cities.

<https://reykjavik.is/sites/default/files/2024-05/financial-statements-2023-short.pdf>

Table 3: List of Income Sources for the City

Income Category	City income 2023 (EUR)	Share of city budget
Tax revenues	896.713.120	54%
Municipal Equalisation Fund	89.218.893	5%
Other revenues	691.567.560	41%
Total in €	1.176.058.393	100%

Table 4: List of Capital Sources for the City

Type	Size Range (EUR)	Level	Description
Capital contributions from state	3.002.053	Public	...
New long-time borrowings	360.570.600	Private	Banks / financial institutions
Prepaid revenue	12.644.020	Public	Revenue of City owned companies
Other financing activities	124.853
Total in €	376.341.526		

1.3 Module IP-A3: Barriers to Climate Investment

A-3.1: Textual element

A structured analysis of the barriers to Climate Investment has yet to be conducted by the Transition Team. Among the activities intended to take place with the CCC stakeholders is working towards identifying these barriers.

Table 5: Barriers to Climate Investment

Financial Barriers to achieving Climate Neutrality	Typology of Barrier	Description	Sector and stakeholders involved
...



2 Part B – Investment Pathways towards Climate Neutrality by 2030

2.1 Module IP-B1: Cost Scenarios for Climate Neutrality

B-1.1: Textual element

The City has yet to engage in activity-based costing, and the actions in the city's action plan are not costed. Table 6 is generated from the Economic Model, through the work with NZC and the results are in line with the climate neutrality challenges already identified by the City. The single largest source of emissions in the City of Reykjavík is derived from transport. The share of the city's investment cost (excluding operations) for transportation related actions was 12% of the City's total budget in 2023 and 53% of all climate related budget. These are mainly pedestrian and cycling infrastructure related investments.

A comprehensive investment plan is among the planned stakeholder activities, including for the city-owned company Strætó, with a current fleet of approximately 70 buses, where 49 electric buses are needed to fully electrify the fleet today. To enable the shift to public transport it may be assumed that at least 200 more electric buses are needed in the time spanning from 2025-2030. The implementation cost also consists of charging infrastructure and periodical renewal of the fleet.

The Transport Treaty for the greater Reykjavík area (agreement between the state and the Association of Municipalities in the Capital Area) includes priority lanes for public transport, bicycle and pedestrian infrastructure. In addition the treaty includes road construction and traffic control. The current treaty covers the years of 2020-2040, with the sum of 2.073 MEUR, see table 7. In general, information regarding OPEX is not available. The treaty assumes CAPEX and Investment Split between stakeholders.

www.betrisamgongur.is

<https://straeto.is/media/2021/10/mannvit-orkuskipti-i-almenningsamgongum-svidsmynidir.pdf>



Table 6: Sectorial Costing (economic model)

Fields of Action	Action / Indicator	NPV Investment Expense - CAPEX (MEUR 2020-2030)	NPV Operational Savings - OPEX (MEUR 2020-2040)	Year 2030 kton CO2e Reduction	NPV MEUR Investment Expense / Year 2030 kton CO2e Reduction	NPV Co-benefits (MEUR 2020-2040)
Transport	<i>Reduced motorized passenger transportation need</i>	-	282	24	-	70
	<i>Shift to public & non-motorized transport</i>	(34)	88	18	1,85	241
	<i>Increased car pooling</i>	-	135	10	-	39
	<i>Electrification of cars + motorcycles</i>	(118)	36	23	5,25	18
	<i>Electrification of buses</i>	(4)	4	2	1,57	5
	<i>Optimized logistics</i>	-	73	99	-	137
	<i>Electrification of trucks</i>	(28)	118	53	0,52	31
Buildings & Heating	<i>Building renovations (envelope)</i>	(117)	323	1	221	-
	<i>New- energy-efficient buildings</i>	(82)	34	0	1.460	-
	<i>Efficient lighting & appliances</i>	(86)	267	0	15.444	-
	<i>Decarbonizing heating generation</i>	2	1	14	(0,12)	-
Electricity	Decarbonizing electricity generation	(0)	27	0	0,51	-
Waste	Increased waste recycling	1	(2)	3	(0,39)	(0)
Total in €		(465)	1.384	246	1,89	542

Negative numbers denote outflows of money (investment/cost) and positive numbers denote inflows of money (savings/co-benefits)

Table 7: Capital Intensive Projects

Fields of Action	Action / Indicator	Investment Expense CAPEX (MEUR 2020-2030)	Investment Split % 2020-2030	Investment Expense CAPEX (MEUR 2020-2040)	Investment % 2020-2040
Transportation	Cityline and improved public transportation	675	State 62%, municipalities 38%	2.073	State 26%, municipalities 29%, traffic taxation 45%
		<i>Includes improvement of main roads, priority lanes, infrastructure for cycling and walking, and traffic control measures</i>			



2.2 Module IP-B2: Capital Planning for Climate Neutrality

Textual element
Tables 8 and 9 are generated from the Economic Model, through the work with NZC. The tables are a very good start for the City to be able to start the stakeholder investment need discussion. In other words, comprehensive work with the ccc stakeholders has yet to take place, necessary in order to deepen the analysis provided in the tables.

Table 8: Capital Planning by Stakeholder

Total Investment-CAPEX (Cash Basis MEUR 2020-2030)

Field of Action	Action / Indicator	Citizens (€)	Private Sector (€)	Municipality (€)	Transport Operators (€)	Utility Providers (€)	Total (€)
Transport	<i>Reduced motorized passenger transportation need</i>	-	-	-	-	-	-
	<i>Shift to public & non-motorized transport</i>	(16)	-	(3)	(23)	-	(42)
	<i>Increased car pooling</i>	-	-	-	-	-	-
	<i>Electrification of cars + motorcycles</i>	(113)	(10)	(1)	-	-	(124)
	<i>Electrification of buses</i>	-	-	-	(5)	-	(5)
	<i>Optimized logistics</i>	-	-	-	-	-	-
	<i>Electrification of trucks</i>	-	(5)	(1)	(28)	-	(33)
	<i>Electrification of port</i>	-	-	-	-	-	-
Buildings & Heating	<i>Building renovations (envelope)</i>	(96)	(34)	(7)	-	-	(138)
	<i>New- energy-efficient buildings</i>	(29)	(59)	(10)	-	-	(98)
	<i>Efficient lighting & appliances</i>	(72)	(26)	(5)	-	-	(102)
	<i>Decarbonizing heating generation</i>	0	0	0	-	2	2
	<i>Building materials, scope 3</i>	-	-	-	-	-	-
Electricity	<i>Fossil fuel free construction sites</i>	-	-	-	-	-	-
	<i>Decarbonizing electricity generation</i>	(0)	(0)	(0)	-	(0)	(0)
Waste	<i>Increased waste recycling</i>	-	-	1	-	-	1
AFOLU	<i>Forestry and reclamation of wetland</i>	-	-	-	-	-	-
IPPU	<i>Use of F gases, scope 3</i>	-	-	-	-	-	-
Total in € (MEUR)		(326)	(134)	(25)	(56)	2	(539)
% of total		60%	25%	5%	10%	0%	100%
Euros Per Capita (2030 population)		(2.158)	(885)	(164)	(372)	10	(3.568)

Negative numbers denote outflows of money (investment/cost) and positive numbers denote inflows of money (savings/co-benefits)



Table 9: Capital Planning

Field of Action	Action / Indicator	Cost to City – Investment Expense – CAPEX	Cost to Other Stakeholders – Investment Expense CAPEX	% of City CAPEX Covered
Transport	<i>Reduced motorized passenger transportation need</i>	-	-	-
	<i>Shift to public & non-motorized transport</i>	(3)	(39)	-
	<i>Increased car pooling</i>	-	-	-
	<i>Electrification of cars + motorcycles</i>	(1)	(123)	-
	<i>Electrification of buses</i>	-	(5)	-
	<i>Optimized logistics</i>	-	-	-
	<i>Electrification of trucks</i>	(1)	(33)	-
	<i>Electrification of port</i>	-	-	-
Buildings & Heating	<i>Building renovations (envelope)</i>	(7)	(131)	-
	<i>New- energy-efficient buildings</i>	(10)	(88)	-
	<i>Efficient lighting & appliances</i>	(5)	(97)	-
	<i>Decarbonizing heating generation</i>	-	2	-
	<i>Building materials, scope 3</i>	-	-	-
Electricity	<i>Fossil fuel free construction sites</i>	-	-	-
	<i>Decarbonizing electricity generation</i>	-	-	-
Waste	<i>Increased waste recycling</i>	1	-	-
AFOLU	<i>Forestry and reclamation of wetland</i>	-	-	-
IPPU	<i>Use of F gases, scope 3</i>	-	-	-
Total in €		(27)	(514)	-



2.3 Module IP-B3: Economic and Financial Indicators for Monitoring, Evaluation and Learning

B-3.1: Textual element

Tables 10 and 11 are generated from the Economic Model, through the work with NZC. The City has established systems for evaluating the progress towards climate neutrality. Combined with the existing systems, the Economic and Financial Indicators provide a comprehensive overview of the current status and progress.

The City has a Green Frame in place, for estimating the eligibility of projects subject to funding through green bonds. The Green Frame is confirmed as Medium Green by CICERO (Center for International Climate Research). All projects that are funded through the issuing of green bonds are subject to yearly impact reports, assured by an independent auditor, in line with ISQC 1 International Standard on Quality Control.

Emissions data for city operations are in line with Greenhouse Gas Protocol Standards and reported each year through the CDP portal.

The City has implemented a series of standards for sustainable cities. The ISO 37120 Series on City Data include ISO 37120 Indicators for Sustainable cities, ISO 37122 Indicators for smart cities, and ISO 37123 Indicator for Resilient cities. The indicators over 200, in 19 cross-cutting themes. The implementation process included connecting the set of indicators with the overall strategy for the City, the Green deal.

[Græn skuldabréf | Reykjavik](#)

[WCCD ISO 37120 Series on City Data — World Council on City Data \(dataforcities.org\)](#)

[The Green Deal | Reykjavik](#)

Table 10: Economic Indicators by Sector

Fields of Action	Indicator	Indicator Unit	Indicator Baseline*	Indicator Target 2030*
Transport	Reduced motorized passenger transportation need	% reduction by 2030		23%
	Reduced passenger kilometres by car through shift to public and non-motorized transportation	% reduction in car passenger kilometres by 2030		30%
	Car pooling	average passengers per car	1,2	1,5
	Electrification of cars + motorcycles by 2030	% of fleet electrified	3%	50%
	Electrification of buses	% of fleet electrified	18%	100%
	Optimization of trucking logistics - light duty trucks (<3.5t)	Average utilization of maximum load weight for light duty trucks (<3.5t)	23%	45%
	Optimization of trucking logistics - heavy duty trucks (>3.5t)	Average utilization of maximum load weight for heavy duty trucks (>3.5t)	45%	60%
	Electrification of light duty trucks (<3.5t) by 2038	% of fleet electrified	0%	100%



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	Electrification of heavy duty trucks (<3.5t) by 2060	% of fleet electrified	0%	90%
Buildings & Heating	Building renovations (envelope)	% annual renovation rate	1%	2,5%
	New buildings built to top performing standard	% of buildings built to the top standard	0%	30%
	Efficient lighting & appliances	% annual renovation rate	1%	2,5%
	Heating technologies	share of heating as district heating	95%	95%
	Decarbonizing district heating	share of district heating produced using fossil fuels	0%	0%
	Decarbonizing district heating	share of district heating produced using electric heat	100%	100%
	Decarbonizing district heating	share of district heating produced using bio fuels	0%	0%
	Heating technologies	share of heating as local heating	5%	5%
	Decarbonizing local heating	share of local heating produced using fossil fuels	0%	0%
	Decarbonizing local heating	share of local heating produced using electric heat pumps	100%	100%
	Decarbonizing local heating	share of local heating produced using bio fuels	0%	0%
Electricity	Renewable/fossil fuel electricity production	share of electricity produced using fossil fuels	0%	0%
Waste	Paper recycling	% recycling rate	85%	85%
	Metal recycling	% recycling rate	79%	85%
	Plastic recycling	% recycling rate	42%	68%
	Glass recycling	% recycling rate	74%	85%
	Organic recycling	% recycling rate	54%	85%



Table 11: Financial Indicators by Sector

Fields of Action	Action	NPV Investment Expense – CAPEX (MEUR 2020-2030)	NPV Operational Savings – OPEX (MEUR 2020-2040)	NPV Co-benefits (MEUR 2020-2040)	NPV Return on Investment (ROI) (MEUR 2020-2040)	% Return on Investment (ROI)	Year 2030 kton CO2e Reduction	NPV MEUR Investment Expense / Year 2030 kton CO2e Reduction
Transport	Reduced motorized passenger transportation need	-	282	70	352	0%	24	-
	Shift to public & non-motorized transport	(34)	88	241	295	871%	18	1,85
	Increased car pooling	-	135	39	174	0%	10	-
	Electrification n of cars – motorcycles	(118)	36	18	(63)	-54%	23	5,25
	Electrification of buses	(4)	4	5	5	132%	2	1,57
	Optimized logistics	-	73	137	209	0%	99	-
	Electrification of trucks	(28)	118	31	121	437%	53	0,52
Buildings & Heating	Building renovations (envelope)	(117)	323	-	206	176%	1	221
	New energy-efficient buildings	(82)	34	-	(47)	-58%	-	1.460
	Efficient lighting & appliances	(86)	267	2	182	212%	-	15.444
	Decarbonizing heating generation	2	1	-	2	-136%	14	(0,12)
Electricity	Decarbonizing electricity generation	-	27	-	27	118.693%	-	0,51
Waste	Increased waste recycling	1	(2)	-	(1)	132%	3	(0,39)
Total		€ (465)	€ 1.384	€ 542	€ 1.461	314%	246	€ 1,89



3 Part C – Enabling Financial Conditions for Climate Neutrality by 2030

3.1 Module IP-C1: Climate Policies for Capital Formation and Deployment

C-1.1: Textual element

The Transition Team has yet to go through policy processes in connection with capital flows.

Table 12: List of Climate Policies to Enable Capital Deployment

Climate Policy	Policy Status (Enacted, In Process, Development, etc.)	Description of the policy (sector, targeted audience, etc.)	Intended Outcome for Capital Formation
...		...	



3.2 Module IP-C2: Identification and Mitigation of Risks

C-2.1: Textual element

Transmission channels link climate risk drivers to the financial risks faced by the city of Reykjavík. The city classifies transmission channels as microeconomic and macroeconomic:

-Microeconomic transmission channels allow climate risk drivers to impact the city's financial risks directly or indirectly, for example, through their counterparties or financial assets. Climate risk drivers can affect the city's credit risk through its citizens, market risk through the value of financial assets, liquidity risk through funding costs and drawdowns of credit or liquidity lines, and threats to the city's operations.

-Macroeconomic transmission channels are the mechanisms by which climate risk drivers affect macroeconomic factors (for example, labour productivity and economic growth) and how these, in turn, may impact the city through an effect on the economy in which it operates. Macroeconomic transmission channels also capture the impact on macroeconomic market variables such as risk-free interest rates, inflation, commodities, and foreign exchange rates.

Each climate risk that is mentioned below has been categorized using the following risk categories:

Risk	Potential effects of climate risk drivers (physical and transition risks)
Credit risk	Credit risk increases if climate risk drivers reduce citizens' ability to pay taxes.
Market risk	Stocks, currencies, or commodity prices. Reduction in financial asset values, including the potential to trigger significant, sudden, and negative price adjustments where climate risk is not yet incorporated into prices. Climate risk could also lead to a breakdown in correlations between assets or a change in market liquidity for particular assets, undermining risk management assumptions.
Liquidity risk	Asset valuation, counterparty behaviour, funding conditions. The city's ability to raise funds or liquidate assets as market conditions change.
Operational risk	Failed internal processes, internal or external events. Increasing legal and regulatory compliance risk associated with climate-sensitive investments and operations.
Reputational risk	Increasing reputational risk to banks based on changing market or consumer sentiment.

What we have experienced in Reykjavik in recent years is a more prolonged and more challenging winter, with more snow and storms and more precipitation. The city's financial impact is divided into Assets, Operations and Capital Expenditures, and Taxes and Service Revenues.

Assets:

At-risk assets include public buildings, roads, utilities, transportation systems, and natural resources. We evaluate several levels of financial risk for the assets: reduced lifespan, reduced value, stranded assets, and direct damage or loss. These risks can result in financial impact, including a write-down of asset value or reduced asset lifetime.

Reykjavik has not experienced any damage to its properties connected to climate change. Still, during maintenance, we often use the opportunity to make the assets more climate resilient. That, of course, costs more.

Operations and Capital Expenditures:

Extreme weather and chronic climate stressors, like sea level rise and drought, can hinder Reykjavik's ability to manage responsibilities, provide community services, support labour productivity, and protect residents and employees.

Iceland is an island that is highly dependent on the import of goods. Extreme weather and global climate change are likely to increase global currency volatility and raise commodity prices and, thus, increase our imported inflation. This can significantly affect the city's financial sustainability. This has yet to occur, but we are monitoring it closely.

Reykjavik has already experienced increased costs due to; additional maintenance on roads and public buildings; damage repair and asset replacement; heating for buildings; risk mitigation investments such as upgrades, retrofits, and new infrastructure investments; and service level, especially winter services, waste collection, and stormwater and sewerage service.



Because of this increased spending, Reykjavik could have higher borrowing costs or limited access to debt markets.

We expect that more people will migrate to Iceland in the next few decades because of climate change impact. The city will have to adapt its public infrastructure and facilities to maintain service levels and protect assets, which will cost considerably.

We have yet to experience the following due to climate change, but we are monitoring it closely.

- Reduced employee productivity resulting from disruptive natural disasters or environmental conditions that present health challenges.
- Reduced operational capacity of assets and technologies directly affected by extreme weather or changing environmental conditions.
- Additional public service needs from changing public demands (i.e., more interest in parks and recreational facilities in response to seasonal changes).
- Costs associated with grant writing and implementation related to disaster response and recovery.
- Costs to ensure worker safety in harsh climate conditions and increased healthcare costs due to climate events' physical and human health impacts.
- Relocation expenses to avoid certain financial impacts, including moving public assets out of harm's way, and potentially employee relocation costs in the most extreme circumstances.
- Changes in insurance liabilities and premiums due to increasing climate-related damage pay-outs, in addition to changes in coverage. Reduced access to insurance could require more self-insurance or reliance on financial bailouts from the state or federal government.

Taxes and Service Revenues:

Lower tax revenues resulting from physical risk drivers may result from impaired corporates, reduced household income and an overall reduction in output.

One of Reykjavik's most significant revenue streams is the property tax, which is calculated by taking the estimated real estate price for every house in Reykjavik and multiplying it by a certain percentage. Sea level rise and repeated flooding could damage property in sensitive areas and lead to large devaluations of residential real estate. That would significantly impact the city's revenue stream. However, we have yet to experience this; all the prominent real estate analysts predict that the price will increase in the next few years. But we are monitoring this closely.

Extreme weather may as well involve a contraction in service revenues.

Below are how the transition risk drivers may impact Reykjavik's financial stability through its public assets, expenses, and revenue streams.

Assets:

The transition to a low-carbon economy can result in stranded assets, i.e. assets that have suffered from unanticipated or premature write-downs, devaluations, or conversion to liabilities, or lead Reykjavik to pursue early asset retirements to replace assets before the end of their useful life. This risk can, for example, apply to the city's vehicle fleets and buildings with aging or inefficient HVAC systems. We have not yet experienced this but are monitoring it closely.

Operations and Capital Expenditures:

Reykjavik's response to the shift to a low-carbon economy has increased expenditures and will continue to do so. The changes that Reykjavik is making to its policies and programs include:

- Addressing the impacts of climate change in the municipal plan,
- Addressing the effects of climate change on the suitability, location and type of houses, commercial premises, and roads to construct in the spatial planning,
- Promoting lower carbon and energy efficient transport options such as walking, cycling and public transport,
- Developing waste management and minimisation plan.

These changes have introduced new training costs for current employees and the hiring of new employees to address these climate issues. These costs will only continue to increase in the future.



We expect that the demand for service because of these changes will increase, inflicting higher costs if the city wants to maintain its relatively high service level.

Because of these changes, and others, the city may be exposed to an increasing legal and regulatory compliance risk and litigation and liability costs associated with climate-sensitive investments. For example, the city might be prosecuted where it is perceived to have caused environmental harm or where it poses additional requirements that the counterparty views as unduly onerous.

The transition to a low-carbon economy has adjusted Reykjavik’s investment strategy, but climate-friendly investments and financial products are becoming a high priority in the city. Climate-friendly investment usually costs more, but a positive side effect of this strategy is that funding these types of investments is cheaper and much more accessible than financing other projects. However, there is a future risk that investment projects that are not considered climate-friendly will be harder to finance in the future and will only do so at a considerably greater cost.

We expect additional future cost because of procurement of low-carbon assets, technologies, and products. These decisions carry a risk of being unsuccessful or may come at a cost premium in comparison to other options.

Taxes and Service Revenues:

These additional development conditions mentioned earlier will most likely cause the entire development project to take longer time, which will delay the collection of real estate tax income. In light of recent climate policies change, we are expecting that regulations that go even further will be imposed sooner rather than later. These changes may entail limits or rules on highly contaminating tourist mode of travel, like yachts and airplanes. This could harm our local tourist industry which will significantly impact on the city’s revenues.

Table 13: Climate Investment Plan Risk Framework

Fields of Action	Sectoral Project	Risks Identified	Description of Risk	Risk Priority	Mitigation of Risk
Transportation	n/a	n/a	n/a	n/a	n/a

Built Environment

Energy Generation					
Green infrastructure and Nature Based Solutions					
Waste and Circular Economy					
City Wide Risks (Cross Cutting)					



3.3 Module IP-C3: Capacity Building and Stakeholder Engagement for Capital and Investment Planning

C-3.1: Textual element

The Transition Team has yet to assess internal capacity and identify knowledge resource gaps in a structured manner. The Transition Team expects to engage with stakeholders in the discussion on supporting financing and CAP development.

Table 14: Stakeholder Engagement Mapping

Stakeholders involved	Required Investment (€)	Network	Influence	Interest	Level and Type of Engagement
n/a	n/a	n/a	n/a	n/a	n/a

Table 15: Stakeholder Activity Cost

Stakeholders involved	Activity	Cost to Municipality (€)
n/a	n/a	n/a
...