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# Iceland's National Plan

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**Government of Iceland**

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Address: Skuggasund 1, 101 Reykjavík, Iceland

Tel. +354 545 8600

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uar@uar.is

www.government.is

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# Acronyms

|        |  |
|--------|--|
| AEA    | Annual Emissions Allocation                          |
| AR4    | Fourth Assessment Report of the IPCC                 |
| AR5    | Fifth Assessment Report of the IPCC                  |
| COP    | Conference of the Parties                            |
| CP     | Commitment Period                                    |
| EEA    | European Economic Area                               |
| EFTA   | European Free Trade Association                      |
| ESD    | Effort Sharing Decision (No 406/2009)                |
| ESR    | Effort Sharing Regulation (No 2018/842)              |
| EU     | European Union                                       |
| EU ETS | European Union Emission Trading System               |
| ESA    | EFTA Surveillance Authority                          |
| GDP    | Gross Domestic Product                               |
| GHG    | Greenhouse gas                                       |
| GWP    | Global Warming Potentials                            |
| IPCC   | Intergovernmental Panel on Climate Change            |
| IPPU   | Industrial Processes and Product use                 |
| JCD    | Joint Committee Decision                             |
| JFD    | Joint Fulfilment Decision                            |
| KP     | Kyoto Protocol                                       |
| LULUCF | Land Use, Land Use Change and Forestry               |
| MMR    | Monitoring Mechanism Regulation                      |
| NCP    | National Climate Plan                                |
| NIR    | National Inventory Report                            |
| PaMs   | Policies and Measures                                |
| WAM    | With additional measures                             |
| WEM    | With existing measures                               |
| UNFCCC | United Nation Framework Convention on Climate Change |

# 1. OVERVIEW AND PROCESS FOR ESTABLISHING THE PLAN

## 1.1 EXECUTIVE SUMMARY

Iceland's National Plan has been prepared on a voluntary basis, in accordance with Iceland's and Norway's Declaration on national plans related to Decision of the EEA Joint Committee No 269/2019. The plan describes how Iceland intends to fulfil the commitments of reducing greenhouse gas emissions jointly with the European Union and Norway in accordance with the objectives of the Paris Agreement.

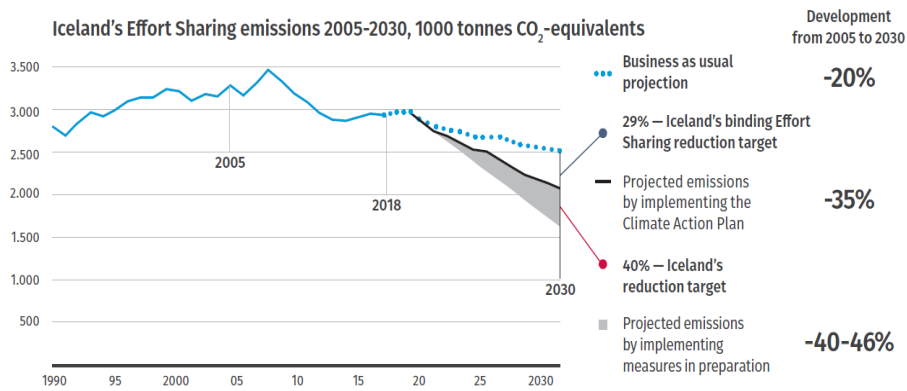
Iceland is committed to reduce its overall greenhouse gas emissions, in view of holding the increase in the global average temperature well below 2°C above pre-industrial levels, and to pursue efforts to limit the temperature increase to 1,5°C above pre-industrial levels, as stated in the Paris Agreement.

According to its NDC, Iceland aims to jointly fulfil the goal of a minimum -40% emissions target for 2030 (compared to 1990 emissions), with the European Union and its Member States. It has concluded an agreement on this with the EU and Norway. This includes reformed EU emissions trading system (EU ETS), national greenhouse gas emission reduction targets and legislation to maintain the land and forests sink.

In order to achieve the long-term temperature goal, set out in the Paris Agreement, a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases needs to be achieved at global levels, in the second half of this century. The Icelandic Government aims to make Iceland carbon neutral before 2040.

According to Iceland's Climate Action Plan that was presented in June 2020, emission reductions from the Effort Sharing sectors (non-ETS) are estimated to be more than one million tonnes of CO<sub>2</sub> equivalents lower in 2030 than 2005 levels, or 35%. This means that Iceland expects to meet its binding Effort Sharing reduction target of 29%.

In addition to this, further 5-11% emission reduction is expected from measures that are presented in the plan but remain yet to be quantified, a total of 40-46% reduction.



**Figure 1 Iceland's historical GHG emissions that fall under the Effort Sharing Regulation to 2018, and projected emissions in 2030 without the Action Plan, with the Action Plan and plus measures currently in preparation.**

### 1.1.1 Political, economic, environmental, and social context of the plan

In September 2018 the Icelandic Government announced a new Climate Action Plan. The plan was a watershed, as it was the first such long-term comprehensive plan that was fully funded, with substantial increase in government funding of key measures in climate mitigation.

An updated version of the Climate Action Plan was presented in June 2020, presenting new and elaborated measures and increased funding. The updated Plan also contains significantly improved analysis to estimate the individual and collective mitigation gains of the measures presented – aimed at reducing greenhouse gas emissions and increasing carbon uptake from the atmosphere.

The Climate Action Plan is Iceland's main instrument to reach its commitments under the Paris Agreement, specifically its emissions reduction goals for 2030. The plan is also intended to help reach the government's ambitious aim to make Iceland carbon neutral before 2040.

The Paris Agreement replaces the approach taken under the 1997 Kyoto Protocol. The Paris agreement calls for a balance between anthropogenic emissions by source and removals by sinks of greenhouse gases in the second half of this century and invites Parties to take action to conserve and enhance, as appropriate, sinks and reservoirs of greenhouse gases, including forests.

Iceland has adopted numerical targets for its emissions under the Kyoto Protocol since 2008 and has ratified the Doha Amendments to the Kyoto Protocol. Iceland submitted its Nationally Determined Contribution (NDC) under the Paris Agreement in June 2015. According to the NDC, Iceland aims to be part of a joint fulfilment of a -40% emissions target for 2030 (compared to 1990 emissions), with the European Union and its Member States. In October 2019 the EEA Joint Committee adopted Decision No 269/2019 which extends the cooperation on climate change, by including greenhouse gas emissions and removals from land



use, land use change and forestry (LULUCF) in the EEA Agreement. By the Decision, Iceland and Norway take action to fulfil the target of reducing their greenhouse gas emissions jointly with the European Union and in accordance with the objectives of the Paris Agreement.

The Joint Committee decision was confirmed by Alþingi, the Icelandic Parliament, on 5 March 2020.

Climate change will have a big impact on Iceland and Icelandic waters, as in most countries and regions. Almost all of Iceland's glaciers are receding. Glaciers cover some 11% of Iceland today, but scientists warn that they may largely vanish in the next 100-200 years if warming trends are not halted. Of special concern to Iceland is ocean acidification, which may have a profound impact on the marine ecosystem. Rapid acidification is observed in parts of Icelandic waters, changing the habitats and viability of many marine organisms<sup>1</sup>.

Iceland has an unusual profile among developed countries with regard to greenhouse gas (GHG) emissions and mitigation of climate change. Almost all electricity and heating are provided for by renewable energy, hydro and geothermal. In many countries, stationary energy production is the main source of emissions; in Iceland such emissions are negligible.

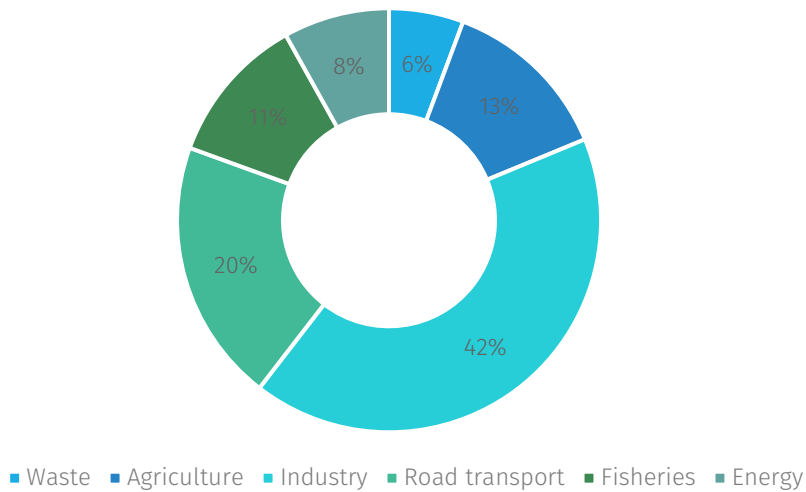
Iceland started using geothermal water to heat houses around 1930, replacing imported coal and oil. The transformation took several decades, supported by a push by the government to bring clean heating to areas outside the main geothermal areas. Electricity is mostly produced by hydro power, but also by harnessing geothermal steam. Today Iceland enjoys virtually carbon-free electricity and heating. Fossil fuels are used in transport and fisheries, and now the aim is set to decarbonize those sectors. Increased government resources have been allocated in this effort, inter alia for a rapid expansion of infrastructure for electric vehicles.

The main sources of GHG emissions (not counting LULUCF) are fossil fuels for cars and ships, industrial processes and agriculture. Road transport accounts for about 20%, fisheries for 11%, heavy industrial processes and chemicals for 42%, agriculture for 13% and waste management for 6%. The share of main sources of Iceland's emissions in 2018 can be seen below (without emissions from LULUCF).

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<sup>1</sup> Third report on impacts of climate change in Iceland (Loftslagsbreytingar og áhrif þeirra á Ísland) issued in May 2018: See abstract here: <https://en.vedur.is/climatology/iceland/climate-report>, full report in Icelandic here: <https://www.vedur.is/media/loftslag/Skyrsla-loftslagsbreytingar-2018-Vefur.pdf>

## GHG Emissions 2018



**Figure 2 Iceland's GHG Emissions 2018 (without LULUCF).**

Iceland's mitigation measures seek to reduce GHG emissions while ensuring sustainable growth, and providing synergies with other environmental goals, such as improving air quality and protecting biodiversity.

Forests, agricultural land and wetlands play a central role in Iceland's climate policy and efforts to reach carbon neutrality. The land use, land use change and forestry (LULUCF) sector has the potential to provide long-term climate benefits, and thereby to contribute to the achievement of Iceland's greenhouse gas emissions reduction targets.

Sustainable management practices in the LULUCF sector can contribute to climate change mitigation in several ways, by reducing emissions and maintaining and enhancing sinks and carbon stocks.

The LULUCF sector has a direct and significant impact on biodiversity and ecosystems services. Climate mitigation actions in the LULUCF sector are seen as nature-based solutions, and efforts are made to ensure coherence between such actions and Iceland's biodiversity strategy objectives.

### 1.1.2 Objectives of the plan

This plan was developed on a voluntary basis in accordance with Iceland's and Norway's Declaration on national plans related to Decision of the EEA Joint Committee No 269/2019. The measures and principles set out in the plan are

based on Iceland's Climate Action Plan from June 2020<sup>2</sup>. Iceland works towards cutting net emissions to meet its Paris Agreement targets for 2030 and reach the Government's ambitious aim to make Iceland carbon neutral before 2040.

The 2020 Climate Action Plan is a revised version of Iceland's Climate Action Plan published in September 2018 that aims to enhance climate mitigation, based inter alia on the results of consultations with the public and the Icelandic Climate Council. In accordance with the Decision of the EEA Joint Committee, Iceland aims to jointly fulfil the -40% emissions target for 2030 (compared to 1990 emissions), with the European Union and its Member States, and Norway.

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<sup>2</sup> Iceland's Climate Action Plan, June 2020 (Aðgerðaáætlun í loftslagsmálum – Aðgerðir íslenskra stjórnvalda til að stuðla að samdrætti í losun gróðurhúsalofttegunda til 2030) <https://www.stjornarradid.is/library/02-Rit--skyrslur-og-skrar/Adgerdaaetlun%20i%20loftslagsmalum%20onnur%20utgafa.pdf>

## 1.2 OVERVIEW OF CURRENT POLICY SITUATION

### 1.2.1 National system and policy context of the national plan

Iceland ratified the 1992 United Nations Framework Convention on Climate Change (UNFCCC) in 1993. In 1995 the Government of Iceland adopted an implementation strategy based on the commitments of the Framework Convention. The domestic implementation strategy was revised in 2002, based on the commitments of the Kyoto Protocol and the provisions in the Marrakech Accords.

A climate change strategy was adopted by the Icelandic Government in February 2007. In November 2010, the Icelandic Government adopted a Climate Action Plan in order to execute the mitigation part of the strategy and help the Government meet its international commitments in reducing emissions up to 2020. The Plan included inter alia provisions on carbon taxing and incentives for low-emission vehicles.

In 2015, in light of the Paris Agreement and the ongoing second commitment period of the Kyoto Protocol, the Government published a plan to enhance climate action, presenting 16 climate-related projects, with eight projects specifically aimed at reducing GHG emissions. This plan included funding earmarked for specific projects, while previous plans did not have specifically assigned funding.

In November 2017 a new Government took office. In the Governmental agreement there is a focus on climate issues, including a pledge for Iceland to become carbon neutral no later than 2040.

In September 2018 the Icelandic Government published a Climate Action Plan, intended to boost efforts in cutting net emissions to meet its Paris Agreement targets for 2030 and reach the Government's ambitious aim to make Iceland carbon neutral before 2040. An updated version of the Climate Action Plan, published in June 2020, presents new and elaborated measures and contains significantly improved analysis to estimate the individual and collective mitigation gains of the measures presented. Climate mitigation measures received a substantial increase in government funding. A minimum of ISK 46 billion is expected to be spent on key climate measures in the period 2020-2024.

According to its NDC, Iceland aims to be part of a joint fulfilment of a -40% emissions target for 2030 (compared to 1990 emissions), with the European Union and its Member States, and Norway. In October 2019 the EEA Joint Committee adopted Decision No 269/2019 which extends the cooperation on climate change, by including greenhouse gas emissions (Effort sharing and LULUCF) in the EEA Agreement. By the Decision, Iceland and Norway take action to fulfil the target of a -40% emission target by 2030 jointly with the European Union and in accordance with the objectives of the Paris Agreement.

This plan was developed on a voluntary basis in accordance with Iceland's and Norway's Declaration on national plans related to Decision of the EEA Joint Committee No 269/2019.

### **1.2.2 Current climate policies and measures**

The updated Climate Action Plan, published in June 2020, is Iceland's main instrument to reach its commitment in the Paris Agreement, specifically its emissions reduction goals for 2030. It is also the main instrument to reach Iceland's stated goal of carbon neutrality by 2040. Emphasis is put on a rapid clean energy transition in transport and increased efforts in the LULUCF sector, where Iceland has great mitigation potential in afforestation, revegetation and wetland reclamation. The Plan, however, addresses all major sources and sinks, and outlines climate mitigation measures in transport, fisheries, energy, industry, chemicals, agriculture, waste management and LULUCF.

All in all, the 2020 Plan contains 48 measures – 15 new from the 2018 version – aimed at reducing greenhouse gas emissions and increasing carbon uptake from the atmosphere. The updated plan reflects comments and suggestions received, and the conclusions of a consultation process with stakeholders and civil society. Emphasis has been placed on implementing measures immediately; 28 measures out of 48 had already been set in motion at the publication of the 2020 version.

According to analysis, the measures in the updated version of the Climate Action Plan will lead to a decrease of emissions in 2030 by more than one million tonnes of CO<sub>2</sub> equivalents compared to 2005 in sectors that fall under the EU Effort Sharing Regulation - ESR (transport, agriculture, fisheries, waste management etc.). This means that Iceland should meet its climate commitments for a 29% reduction in ESR emissions from 2005 levels, as analysis indicate that Iceland should be able to reduce emission in these sectors by 35% by implementing the measures in the Plan. In addition to this, measures currently in preparation are estimated to result in additional cuts in emissions of 5-11%, for a total decrease of 40-46%. The Icelandic government has signalled a willingness to achieve a reduction in emissions in ESR-sectors by 40%, or more than is currently demanded by Iceland's present international commitments.

A minimum of ISK 46 billion is expected to be spent on key climate measures in the period 2020-2024. The measures are described further in Chapter 3.

### **LULUCF mitigation plan**

In July 2019 the Icelandic Government published a mitigation plan in the LULUCF sector,<sup>3</sup> outlining concrete measures and funding in accordance to the 2018 Climate Action Plan. The LULUCF mitigation plan outlines efforts to increase carbon sequestration and to decrease carbon emissions from soils and vegetation.

Iceland is using land (ecosystem) restoration, reforestation and afforestation as mitigation efforts against climate change. These efforts are carried out in collaboration with farmers and other landowners, NGO's and local authorities and include restoring native vegetation in degraded areas, restoring drained wetlands and afforestation to create a woodland resource.

The Icelandic Government has increased these efforts with the aim to restore ecosystems to conserve and enhance biological diversity, increase ecosystem resilience against natural disasters and increase the potential of rural societies relying on these ecosystems to sustain their livelihoods.

### **Updated ETS for aviation and CORSIA**

Iceland is part of the EU Emissions Trading Scheme (EU ETS), through its commitments under the European Economic Area agreement. Revised legal framework for the ETS Phase IV from 2021 to 2030 will be adopted in accordance to the Joint Commitment Decision No 112/2020. The ETS is an important tool for reducing GHG emissions cost-effectively and is designed to reduce European GHG emissions by 43% by 2030 compared to 2005. In Iceland, it is mainly heavy industries and aviation which are covered by the EU ETS.

The regulations and implementation of the EU ETS in Iceland will be adjusted in accordance with the new period. Aviation is expected to be moved from the EU ETS in 2020 when the international trading system (CORSIA) is in place. Initially, it will be based on voluntary participation; Iceland intends to take part in the system from the beginning. The CORSIA system will probably be implemented by alterations to the EU ETS regulations.

### **Declaration on Nordic Carbon Neutrality**

For many years, the Nordic countries have successfully worked together on the environment and climate, which has contributed to progress both in the Nordic Region and internationally. In January 2019 the Nordic prime ministers and other Government ministers responsible for climate policy, agreed to strengthen

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<sup>3</sup> Iceland's LULUCF mitigation plan (Bætt landnýting í þágu loftslagsmála – Kolefnisbinding og samdráttur í losun frá landi), published July, 2019: <https://www.stjornarradid.is/lisalib/getfile.aspx?itemid=f8c0433d-9cca-11e9-9443-005056bc4d74>

Nordic climate co-operation even further and issued a declaration<sup>4</sup> that states, among other things, that the Nordic countries will reinforce their climate goals through to 2020 and work together to become carbon neutral.<sup>5</sup>

### **UN Sustainable Development Goals (SDGs)**

The UN Sustainable Development Goals (SDGs) serve as an important guide for the Icelandic Government in working towards increased sustainability. Iceland took an active part in the negotiations on the Sustainable Development Goals and adoption of the 2030 Agenda for Sustainable Development in 2015.

Iceland's Voluntary National Review on Iceland's implementation of the 2030 Agenda for Sustainable Development from June 2019<sup>6</sup> sets out the next phase of Iceland's implementation of the SDGs, including the Government's 2018 Climate Action Plan, which is an example of a co-ordinated policy made in consultation with various stakeholders, which was presented by seven ministers.

The preparation and implementation of Iceland's Climate Action Plan is done in line with several SDG targets, but mainly: Affordable and clean energy, Sustainable Cities and communities, Climate action and Partnership for the goals.



**Figure 3 The Climate Action Plan's main SDGs.**

#### **1.2.3 Administrative structure of implementing national climate policies**

The Ministry for the Environment and Natural Resources is responsible for implementation of national climate policy. However, climate policy is a cross-sectoral matter, in particular regarding measures for reducing emissions and adapting to climate change. This is acknowledged on a cross-sector level and reflected in the implementation of climate policy.

In June 2012 the Icelandic Parliament passed a law on climate change (Act No 70/2012). The Climate Change Act is intended to provide a structural framework

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<sup>4</sup> Stepping up Nordic climate co-operation <https://www.norden.org/en/news/stepping-nordic-climate-co-operation>

<sup>5</sup> Nordic declaration on carbon neutrality: <https://www.norden.org/en/news/stepping-nordic-climate-co-operation>

<sup>6</sup> Iceland's Implementation of the 2030 Agenda for Sustainable Development. Voluntary National Review [https://sustainabledevelopment.un.org/content/documents/23408VNR\\_Iceland\\_2019\\_web\\_final.pdf](https://sustainabledevelopment.un.org/content/documents/23408VNR_Iceland_2019_web_final.pdf)

for climate affairs in Iceland, including Iceland's participation in the EU-Emissions Trading Scheme (ETS) and to assist the Government in its efforts to mitigate climate change and fulfil its international climate obligations. In 2019 the Climate Change Act was revised with provisions inter alia on reporting on Policies and Measures and projections, and on the advisory role of the Climate Council (see below).

## **1.3 CONSULTATIONS AND INVOLVEMENT OF NATIONAL AND UNION ENTITIES AND THEIR OUTCOME**

### **1.3.1 Climate Council**

The Climate Council was established in 2018 and was given a legal basis with amendment to the Icelandic Climate Act in 2019. The Council is an independent body whose role is to hold authorities accountable and provide advice on policy objectives and specific measures related to climate change. According to the Climate Act, the Climate Council shall:

- provide advice on the reduction of greenhouse gas emissions and on measures for carbon sequestration,
- provide advice on climate change adaptation,
- review, at the stage of preparation, the Government's climate-related plans,
- have an overview of educational initiatives and dissemination of information on climate issues to the public, businesses, institutions, and municipalities,
- review proposals from government agencies about monitoring and climate related research,
- work on other tasks the Minister assigns to the Council at any given time.

Members of the Council are appointed for four years at a time and represent the business community, academia, municipalities, and environmental NGOs. Additionally, representatives from other stakeholders can be asked to participate as considered necessary at any given point in time. The Minister for the Environment and Natural Resources appoints the chair and the vice chair of the Council and has also appointed representatives of youth.

### **1.3.2 Inter-ministerial Steering Committee**

According to the Climate Act the Minister has appointed an Inter-ministerial Steering Committee that formulates proposals for climate actions and oversees their implementation. The following ministers nominate one representative each: The Prime Minister, Minister of Finance and Economics, Minister of Tourism, Industry and Innovation, Minister of Education, Science and Culture, Minister of



Transport and Local Government and Minister of Fisheries and Agriculture. The Association of Icelandic Local Authorities also has a representative in the Steering Committee.

The Steering Committee shall report annually on the progress of the Climate Action Plan. The report shall review emissions trends and whether they are in accordance with plans and make recommendations for improvement.

### **1.3.3 Public Consultation**

In line with the Climate Act No 70/2012 the Climate Action Plan from September 2018 was submitted to public consultation and was revised and updated based on the results from the public consultation, numerous meetings with stakeholders further implementation work by the Climate Council and the Inter-ministerial steering committee for Climate Action.

The Climate Action Plan will continue to be subject to continuous review, measures will be updated, and new ones added as needed to ensure the Plan delivers the expected results. The Climate Action Plan announced in June 2020 was placed in the Government's Consultation Portal, offering the general public the opportunity to submit comments and suggestions until 1 October 2020.

### **1.3.4 Nordic Council of Ministers**

For many years, the Nordic countries have successfully worked together on the environment and climate, which has contributed to progress both in the Nordic Region and internationally. However, in recent years, the challenges we face have grown, making co-operation increasingly important. Together, the countries aim to pursue the ambitious implementation of international agreements on the environment and climate – in particular the Paris Agreement.

Nordic co-operation on the environment and climate seeks to halt the loss of biodiversity and bring about the sustainable use of natural resources. Together, the Nordic countries work to accelerate the transition to a circular economy that aims for sustainable consumption and production.

The Nordic working group on Climate and Air pollution (Nordisk arbejdsgruppe for Klima og luft– NKL) supports the implementation of the Nordic Environmental Action Programme 2019-2024. The group funds various projects related to climate and air pollution and publishes reports on the subject.<sup>7</sup>

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<sup>7</sup> The Nordic working group on Climate and Air pollution <https://www.norden.org/da/information/mandat-nordisk-arbejdsgruppe-klima-og-luft-nkl>

## 2. NATIONAL OBJECTIVES AND TARGETS

Iceland is committed to reducing its overall greenhouse gas emissions and becoming carbon neutral by 2040, in view of holding the increase in the global average temperature well below 2°C above pre-industrial levels, and to pursue efforts to limit the temperature increase to 1,5°C above pre-industrial levels.

In October 2019 the EEA Joint Committee adopted Decision No 269/2019, by which Iceland and Norway with the European Union take action to fulfil the target of reducing their greenhouse gas emissions jointly by the minimum of -40% to 2030 (compared to 1990 emissions) with the European Union and in accordance with the objectives of the Paris Agreement.

### 2.1 Decarbonisation

#### 2.1.1 GHG emissions and removals

By the EEA Joint Committee Decision Iceland will fulfil its respective greenhouse gas emission reduction targets for the period 1 January 2021 to 31 December 2030 in accordance with Regulation 2018/842 on binding annual greenhouse gas emission reduction from 2021 to 2030 (Effort Sharing Regulation) and Regulation 2018/841 on inclusion of greenhouse gas emissions and removals from land use, land use change and forestry (LULUCF Regulation).

#### **Effort Sharing Regulation**

In May 2018 the European Council adopted a Regulation on the EU effort sharing of greenhouse gas emission reductions in the non-ETS sectors in the period 2021-2030 – the Effort Sharing Regulation (ESR). Under this regulation Iceland is committed to a reduction of 29% in non-ETS emissions in the period 2021-2030, relative to 2005. The target for the commitment period will be divided into annual targets, expressed in annual emissions allocation (AEA).

Annual GHG emission reduction targets from non-ETS activities for Iceland for the period from 2021 to 2030 will be set in 2020 by using the latest available GHG inventory data for 2005, 2016, 2017, and 2018 and after the EC implementing act referred to in Article 4 of Regulation 2018/842 is adopted. The annual GHG emission reduction (AEA) specified in this Plan is therefore indicative.

According to the Decision of the EEA Joint Committee No 269/2019 the 2005 base year for the emission allocation 2030 is based on the difference between total 2005 greenhouse gas emissions in Iceland's National Inventory Report (NIR) and CO<sub>2</sub> emissions treated as zero, and the stationary EU ETS 2005 emissions as reported in Decision of EEA Joint Committee No 152/2012 with updated values for global warming potentials (GWP).

## **LULUCF Regulation**

In May 2018 the European Council also adopted a regulation of emissions by sources and removals by sinks in the land sector – the LULUCF Regulation, where LULUCF is “Land Use, Land Use Change and Forestry”. Credits obtained under this Regulation can be used to reach the target for the non-ETS sector in accordance with the ESR up to a certain limit. The limit for Iceland is 0.2 million credits from LULUCF.

Commitments and GHG emissions and accounting rules in the LULUCF sector, for the period after 2020 are laid down by Regulation 2018/841, taken into the EEA-agreement in accordance with the Decision of the EEA Joint Committee No 269/2019.

According to Article 4 of the Regulation, Iceland, making use of the provided flexibilities, shall ensure that the amount of GHG emissions accounted according to the accounting rules laid down in the Regulation does not exceed the amount of GHG removals accounted in accordance with the LULUCF Regulation in the following land accounting categories:

- a) During the periods from 2021 to 2025 and from 2026 to 2030:
  - i. Afforested land: land use reported as cropland, grassland, wetlands, settlements and other converted to forest land;
  - ii. deforested land: land use reported as forest land converted to cropland, grassland, wetlands, settlements, and other land;
  - iii. managed cropland: land use reported as:
    - i. cropland remaining cropland,
    - ii. grassland, wetland, settlement, other land converted to cropland, and
    - iii. cropland converted to wetland, settlement and other land;
  - iv. managed grassland: land use reported as:
    - i. grassland remaining grassland,
    - ii. cropland, wetland, settlement and other land, converted to grassland, and
    - iii. grassland converted to wetland, settlement and other land;
  - v. managed forest land: land use reported as forest land remaining forest land.

- b) During the period from 2026 to 2030<sup>8</sup>:
- i. managed wetland: land use reported as:
    - i. wetland remaining wetland,
    - ii. settlement, other land converted to wetland, and
    - iii. wetland converted to settlement and other land.

**Table 1 Iceland’s climate policy targets and actual values.**

|                            |  | 2021-2025  | 2026-2030  |
|----------------------------|--|--|--|
| Reduction of GHG emissions | Non-ETS emissions                            | -29%<br>Divided into annual targets for Iceland                            |  |
|                            | EU ETS emissions                             | -43%<br>Divided into annual targets for each EU operator within the system |  |
| LULUCF                     | Afforested land                              | Accounted GHG emissions do not exceed accounted GHG removals               | Accounted GHG emissions do not exceed accounted GHG removals |
|                            | Deforested land                              |  |  |
|                            | Managed forest land (Forest reference level) |  |  |
|                            | Managed cropland                             |  |  |
|                            | Managed grassland                            |  |  |
|                            | Managed wetland                              | TBD*   |  |

\*TBD: Iceland will notify the EFTA Surveillance Authority whether Iceland intends to include managed wetland during the period 2021 to 2025 in the scope of its commitments by 31 December 2020, in accordance to Art. 2(3) of the Regulation No. 2018/841.

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<sup>8</sup> Iceland will notify the EFTA Surveillance Authority if Iceland intends to include managed wetland during the period 2021 to 2025 in the scope of its commitments to by 31 December 2020, in accordance to Art. 2(3) of the Regulation No. 2018/841.

# 3. POLICIES AND MEASURES

## 3.1 Decarbonisation

### 3.1.1 GHG emissions and removals

As stated above the Icelandic Government announced an updated Climate Action Plan in 2020. The new plan is based on the Climate Action Plan from 2018 and is intended to increase efforts in cutting net emissions so that Iceland can meet its objectives under the Paris Agreement for 2030 and reach the Government’s goal of carbon neutrality in 2040.

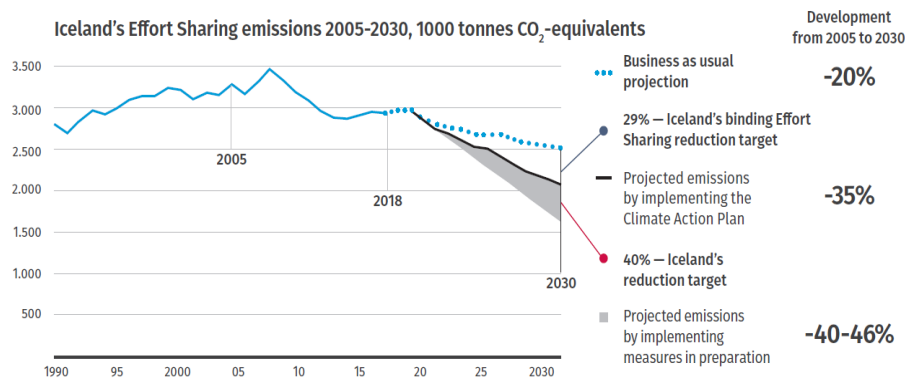
According to the updated Climate Action Plan, emission reductions from the Effort Sharing sectors (non-ETS) are estimated to be more than one million tonnes of CO<sub>2</sub> equivalents lower in 2030 than 2005 levels, or 35%. This means that Iceland expects to meet its binding Effort Sharing reduction target of 29%,

In addition to this, further 5-11% emission reduction is expected from measures that are presented in the plan but remain yet to be quantified, a total of 40-46% reduction.

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With the 2020 Climate Action Plan Iceland expects to achieve a substantial reduction in greenhouse gas emissions — still greater reduction is aimed at through additional measures currently in preparation

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**Figure 4 Iceland’s historical GHG emissions that fall under the Effort Sharing Regulation to 2018, and projected emissions in 2030 without the Action Plan, with the Action Plan and plus measures currently in preparation.**

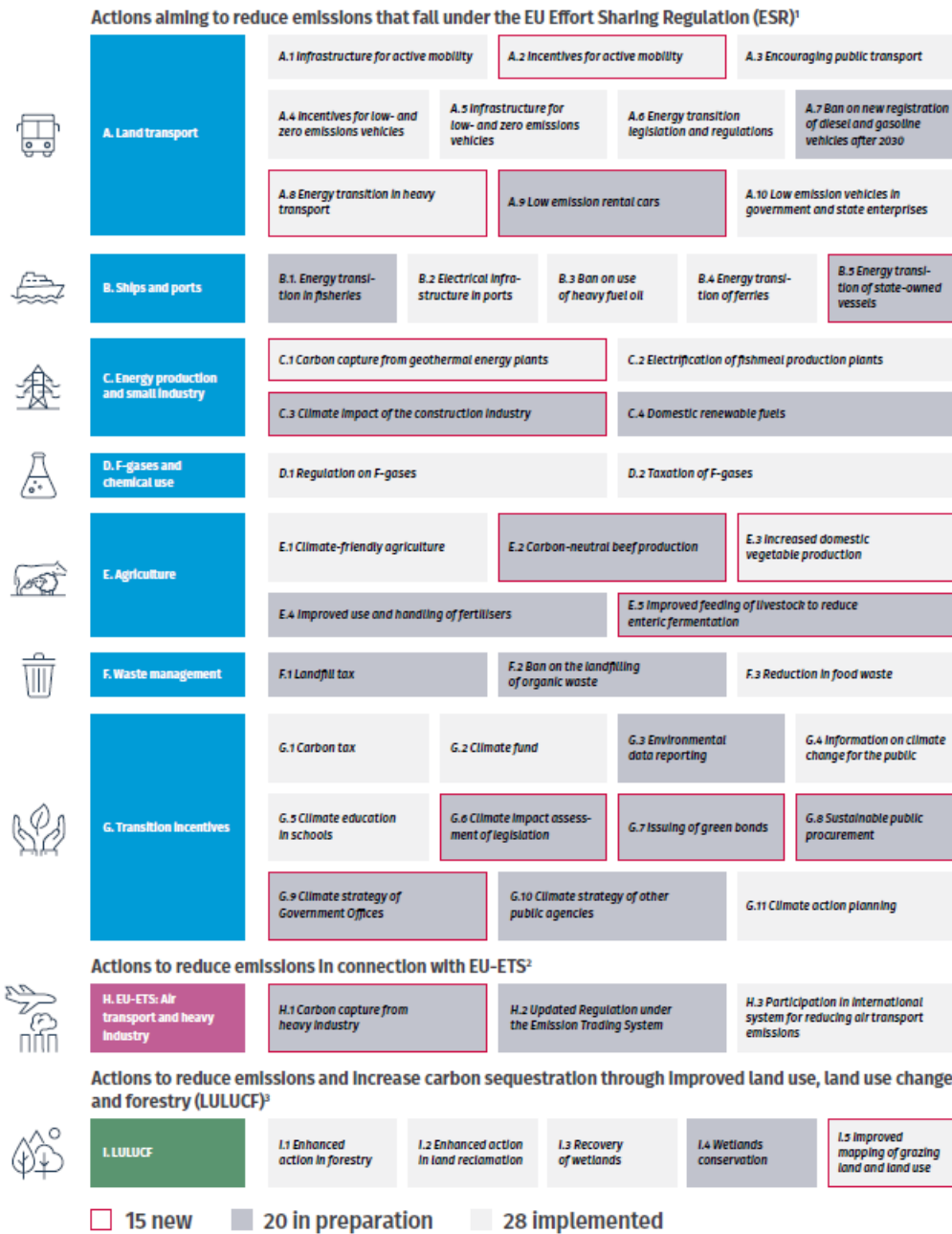
Over a five-year period, from 2020 to 2024, ISK 46 billion will be allocated to climate mitigation measures. The Action Plan consists of 48 measures, including 15 new ones, which have been added since the first version of the plan was released in 2018. In tandem with the extensive consultation process for the new version of the Action Plan, emphasis has been placed on implementing these

measures immediately. As a result, 28 of the 48 measures have already been set in motion.

The new version of the Action Plan is based on detailed calculations of the estimated effect of the measures presented. It was possible to assess the expected benefits of 23 measures, through which Iceland will achieve an estimated 35% reduction in emissions by 2030. Further 5-11% reduction of emissions, is expected from 16 measures presented in the plan but remain yet to be quantified, which is estimated to make the total reduction 40-46%. In addition, it was not possible to assess the impact of nine measures, such as on climate education and information, due to their general nature.

It should be noted that both the 2019 submission of the report on Policies and Measures and projection and Iceland's 2020 Climate Action Plan only included partial projections for emissions and carbon sequestration from the LULUCF sector. However, extensive work is currently being conducted by the Icelandic Government to develop holistic projections for emissions and carbon sequestration from the LULUCF sector, in line with accounting rules in the LULUCF Regulation. Iceland's upcoming 2021 submission of Policies and Measures and Projections will be based on updated LULUCF projections and measures presented in the 2020 Climate Action Plan.

The Climate Action Plan includes a total of 48 measures, divided into three parts



<sup>1</sup> ESR: Effort Sharing Regulation. Regulation on joint fulfilment. Effort Sharing emissions with binding annual greenhouse gas reduction targets for each state.

<sup>2</sup> EU-ETS: EU - Emissions Trading System.

<sup>3</sup> LULUCF: Land Use, Land-Use Change, and Forestry.

Figure 5 Summary of measures in Iceland's 2020 Climate Action Plan, indicating whether they are new and whether they are being implemented or in preparation.

**Table 2 Summary of measures in Iceland’s Climate Action Plan, June 2020.**

| <b>Measures to reduce emission that fall under the Effort Sharing Regulation (ESR)</b> |   |
|--|---|
| <b>A. ROAD TRANSPORT</b>   |   |
| <b>A.1 Infrastructure for active mobility</b>  | Infrastructure will be built, both in urban areas and between population centres to enhance active mobility, such as cycling and walking.   |
| <b>A.2 Incentives for active mobility</b>  | Tax incentives will be adopted to encourage active mobility, such as cycling and walking.   |
| <b>A.3 Encouraging public transport</b>  | Public transport will be encouraged with a better public transport system in the capital area. Public transport between regional population centres in Iceland will be supported.   |
| <b>A.4 Incentives for low- and zero emission vehicles</b>                              | Tax incentives will be continued and expanded as necessary to increase low- and zero emission vehicle use in Iceland. Incentives have proved to be an effective catalyst for eco-friendly vehicles in Iceland since the adoption of these incentives in 2012.   |
| <b>A.5 Infrastructure for low- and zero emission vehicles</b>                          | Infrastructure will be increased for low- and zero emission vehicles. Investment grants have been allocated for high power recharging points widely around the country and at tourist accommodation, among other incentives.  |
| <b>A.6 Legislation and regulations for clean energy transition</b>                     | The goal of this measure is to ensure that legislation supports energy transition. Diverse measures have recently been taken in this regard, including a requirement that all new buildings supply EV-charging stations, and regulations facilitating setting up EV-charging stations in apartment buildings. Further measures will be adopted. |
| <b>A.7 Ban on new registration of diesel and gasoline vehicles after 2030</b>          | Registration of new diesel and gasoline vehicles will be banned after 2030. Some exceptions are expected, taking into account harsh climate and safety issues.  |
| <b>A.8 Energy transition in heavy transport</b>  | A task force that aims towards accelerating energy transition in heavy vehicle transport has been formed. Around 15% of total land transport emissions can be traced to heavy vehicle use.  |
| <b>A.9 Low emission rental cars</b>  | The measure aims at increasing the availability of low emission and electric rental cars. A large part of new vehicles in Iceland are imported for car rentals and addressing this issue is therefore crucial for energy transition of the car fleet.   |
| <b>A.10 Low emission vehicles in government and state enterprises</b>                  | Government agencies will be obliged to buy low emission and electric vehicles when renewing their vehicle fleet.  |



| <b>B. SHIPS AND PORTS</b>                                |   |
|--|---|
| <b>B.1 Energy transition in fisheries</b>                | Emissions from the fisheries sector will be reduced through various incentives.   |
| <b>B.3 Ban on use of heavy fuel oil</b>                  | A regulation will be issued tightening fuel requirements which effectively bans the use of heavy fuel oil in the territorial sea of Iceland.  |
| <b>B.4 Energy transition of ferries</b>                  | Ferries that are a regular part of the transport system will be required to use fossil free fuel.   |
| <b>B.5 Energy transition of state-owned vessels</b>      | The measure aims to reduce the use of fossil fuel in state owned vessels other than ferries.  |
| <b>C. ENERGY PRODUCTION AND SMALL INDUSTRY</b>           |   |
| <b>C.1 Carbon capture from geothermal energy plants</b>  | CO <sub>2</sub> emissions from geothermal power plants will be reduced through carbon capture, for example by the CarbFix method.   |
| <b>C.2 Electrification of fishmeal production plants</b> | Further electrification of fishmeal production plants will be supported. Icelandic fishmeal factories have been industry leaders worldwide in moving from oil to clean electricity in production. |
| <b>C.3 Climate impact of the construction industry</b>   | CO <sub>2</sub> emissions from the construction industry will be reduced through various incentives.  |
| <b>C.4 Domestic renewable fuels</b>                      | Domestic renewable fuel production will be reviewed for environmental benefit and cost effectiveness. Small-scale production is present now, including rapeseed oil and recycled cooking oil.     |
| <b>D. F GASES AND CHEMICAL USE</b>                       |   |
| <b>D.1 Regulation on F-gases</b>                         | A regulation on F-gases will be issued adopting EU-Regulation 517/2014 which includes i.e. import quota on F-gases.   |
| <b>D.2 Taxation of F-gases</b>                           | F-gases will be taxed to reduce further the use of F-gases.   |
| <b>E. AGRICULTURE</b>                                    |   |
| <b>E.1 Climate-friendly agriculture</b>                  | Information on climate-friendly agricultural practices will be made accessible for farmers.   |
| <b>E.2 Carbon-neutral beef production</b>                | Emissions arising from beef production will be reduced and carbon sequestration enhanced to aim for carbon neutral beef production in 2040.   |
| <b>E.3 Increased domestic vegetable production</b>       | Domestic vegetable production will be increased and the objective of carbon neutral vegetable production set for 2040.  |

|   |   |
|---|---|
| <b>E.4 Improved use and handling of fertilisers</b>                     | Information on manure and synthetic fertilizer use and handling and their effect on GHG emissions will be made accessible for farmers.  |
| <b>E.5 Improved feeding of livestock to reduce enteric fermentation</b> | Research shows that supplements can reduce enteric fermentation in livestock, that results in methane emissions; these possibilities will be explored in the Icelandic context. |
| <b>F. WASTE MANAGEMENT</b>  |   |
| <b>F.1 Landfill tax</b>   | Greenhouse gas emissions from landfills will be reduced with the application of a tax on landfilling.   |
| <b>F.2 Ban on the landfilling of organic waste</b>                      | Landfilling of organic waste will be banned from 2021.  |
| <b>F.3 Reduction in food waste</b>                                      | Various projects will be conducted with the aim of reducing food waste.   |
| <b>G. TRANSITION INCENTIVES</b>   |   |
| <b>G.1 Carbon tax</b>   | The carbon tax will be increased to reduce fossil fuel use and the resulting CO <sub>2</sub> emissions.   |
| <b>G.2 Climate fund</b>   | Climate education and innovation will be supported through the new Icelandic Climate fund.  |
| <b>G.3 Environmental data reporting</b>                                 | Regulation will be issued for better environmental data reporting, such as material use, GHG emissions among other pollutants.  |
| <b>G.4 Information on climate change for the public</b>                 | Information on climate issues, the effects of climate change, mitigation and adaptation will be supported through various means.  |
| <b>G.5 Climate education in schools</b>                                 | Climate education in schools will be reinforced.  |
| <b>G.6 Climate impact assessment of legislation</b>                     | The climate impact of all relevant new legislation will be evaluated.   |
| <b>G.7 Issuing of green bonds</b>                                       | Evaluation will be made on the feasibility of issuing green bonds in order to raise green investor interest in traditional state loans.   |
| <b>G.8 Sustainable public procurement</b>                               | Environmental and climate issues will be evaluated in all government purchasing with a new policy on sustainable public procurement.  |
| <b>G.9 Climate strategy of Government Offices</b>                       | A climate strategy has been introduced for Government Offices. Various measures aim to reduce GHG emissions and remaining emissions will be offset.                             |
| <b>G.10 Climate strategy of public agencies</b>                         | All public agencies will need to adopt a climate strategy. The same applies to local government.  |

|                                     |  |
|-------------------------------------|--|
| <b>G.11 Climate action planning</b> | Climate issues will be addressed through Iceland's National Planning Strategy. |
|-------------------------------------|--|

## Measures to reduce emission that fall under the EU ETS

### H. EU ETS: AVIATION AND HEAVY INDUSTRY

|  |  |
|--|--|
| <b>H.1 Carbon capture from heavy industry</b>  | CO <sub>2</sub> emissions from industrial plants will be reduced through carbon capture, for example using the CarbFix method.                             |
| <b>H.2 Updated legal framework for the Emission Trading System</b>                         | Updated legal framework for the EU ETS will be adopted for the 4 <sup>th</sup> trading period.   |
| <b>H.3 Participation in an international system for mitigating emissions from aviation</b> | Iceland will partake in CORSIA, an emission mitigation scheme for the global airline industry, developed by the International Civil Aviation Organization. |

## LULUCF measures to reduce emissions and increase carbon sequestration

### I. LAND USE, LAND USE CHANGE AND FORESTRY

|  |  |
|--|--|
| <b>I.1 Enhanced action in forestry</b>                   | Efforts in forestry will be enhanced leading to increased carbon sequestration and reducing CO <sub>2</sub> emissions.   |
| <b>I.2 Expanding revegetation</b>                        | Revegetation efforts will be increased for increased carbon sequestration. Efforts will also be made to halt and reverse land degradation and decrease CO <sub>2</sub> emissions from degraded land. |
| <b>I.3 Restoration of wetlands</b>                       | Efforts in wetland restoration will be increased as well as research on the effect of such measures on carbon emissions.   |
| <b>I.4 Wetlands conservation</b>                         | Increased efforts will be made for wetland conservation making sure existing wetlands are not drained and degraded.  |
| <b>I.5 Improved mapping of grazing land and land use</b> | The state of grazing land will be mapped and used for grazing management.  |

### 3.1.2 Other elements

#### Energy Policy to 2050

In the beginning of October 2020, the Icelandic Government presented a new Energy policy until 2050<sup>9</sup> based on the vision for a sustainable energy future. The vision states e.g. that in 2050 all energy production is of renewable origin. Energy use should be sustainable, in a way that benefits society and the public in general. Iceland should be leading in sustainable energy production and clean energy transition. Consensus should be achieved on the balance between nature protection and utilization of energy resources.

#### Iceland's Energy Policy to 2050 main aims are:

- Energy needs are fulfilled
- Infrastructure is solid and shock-resistant
- More diverse energy system
- Iceland is independent of fossil fuels; clean energy transition on land, at sea and in the air
- Improved energy efficiency and energy loss minimized
- Resource streams are multi-use
- Nature conservation is taken into account in energy utilization
- Environmental impact is minimized
- Sustainable utilization of energy resources
- The nation benefits from energy resources
- Energy market is active and competitive
- Equal access to energy throughout the country

#### Carbfix

CarbFix is a collaborative research project led by Reykjavik Energy, that aims to develop safe and economically viable methods and technology for permanent CO<sub>2</sub> capture and mineral storage underground. The mineralization process takes less than two years, according to results from experimental projects. In June 2019 the Government and heads of heavy industry operators in Iceland signed a declaration of intent to explore possibilities for carbon capture and storage of industrial emissions, using the Carbfix method.<sup>10</sup>

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<sup>9</sup> Iceland's Energy Policy, presented 2<sup>nd</sup> of October 2020. Orkustefna til 2050: Skýr framtíðarsýn um sjálfbæra orkuframtíð. <https://www.stjornarradid.is/library/01--Frettatengt---myndir-og-skrar/ANR/Orkustefna/200327%20Atvinnuvegaraduneytid%20Orkustefna%20A4%20V5.pdf>

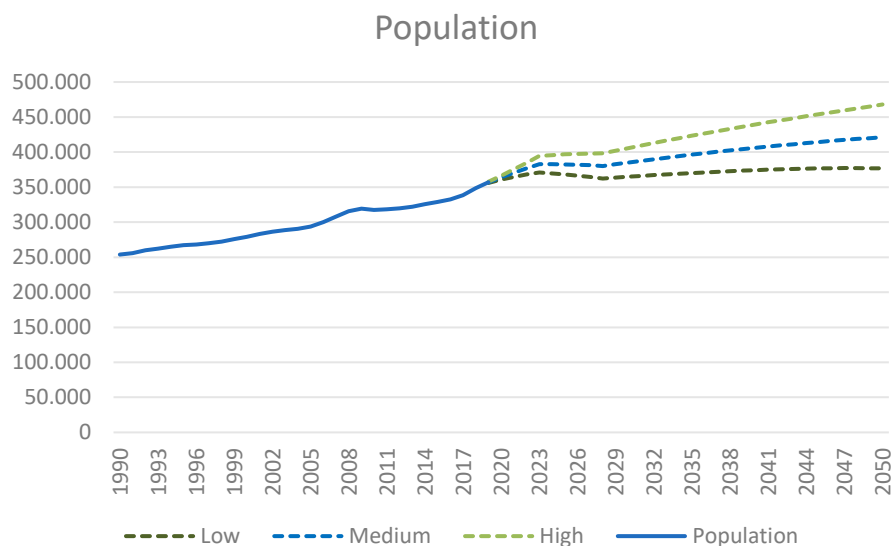
<sup>10</sup> Declaration: <https://www.government.is/news/article/?newsid=ccd3e130-ff11-11e9-944e-005056bc530c>

# 4. CURRENT SITUATION AND PROJECTIONS WITH EXISTING POLICIES AND MEASURES

## 4.1 Projected evolution of main exogenous factors influencing GHG emission developments

### 4.1.1 Macroeconomic forecasts (GDP and population growth)

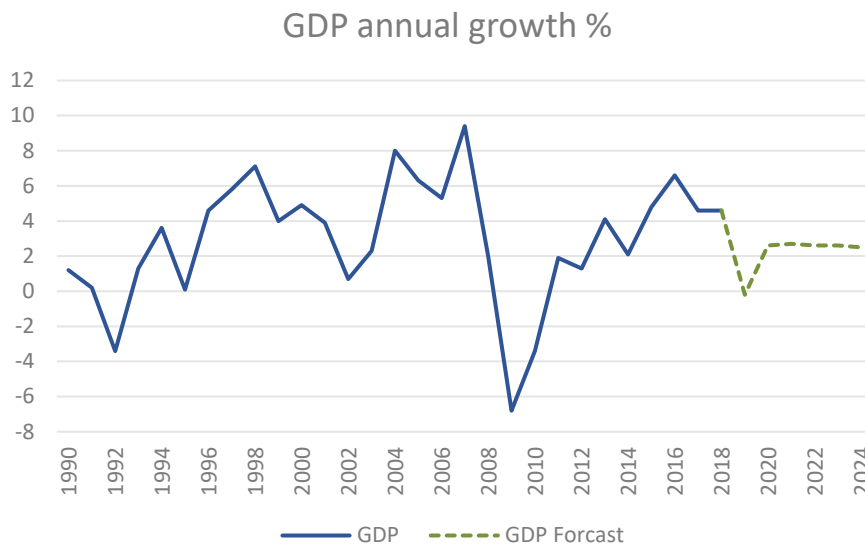
The population of Iceland was 356 991 on 1 January 2019. With 3 inhabitants per square kilometre, Iceland is the least densely populated country in Europe. In 2000–2015, annual average population growth was 1.1% and the natural increase (births minus deaths) 0.8%. Around 63% of the population (almost 210 thousand) live in the capital city of Reykjavík and its surrounding municipalities. Figure 6 shows Iceland’s population 2005-2019 and three scenarios for population growth until 2050. The low estimate predicts that the population will reach almost 380 thousand in 2050, the medium estimate predicts 421 thousand and the high estimate predicts that the population will reach 468 thousand in 2050 (Statistics Iceland, 2018).



**Figure 6 Population 1<sup>st</sup> January each year 1990-2019, projected population 2020-2050 (source: Statistics Iceland).**

GDP Annual Growth Rate in Iceland averaged 3.52 % from 1998 until 2019. Iceland was severely hit by an economic crisis when its three largest banks collapsed in the fall of 2008. The crisis resulted in serious contraction of the economy followed by increase in unemployment, a depreciation of the Icelandic króna by

over 40% in 2009 and a drastic increase in external debt. Figure 7 shows the historical annual GDP growth and forecasted annual GDP growth until 2024.



**Figure 7 GDP annual growth, % (source: Statistics Iceland).**

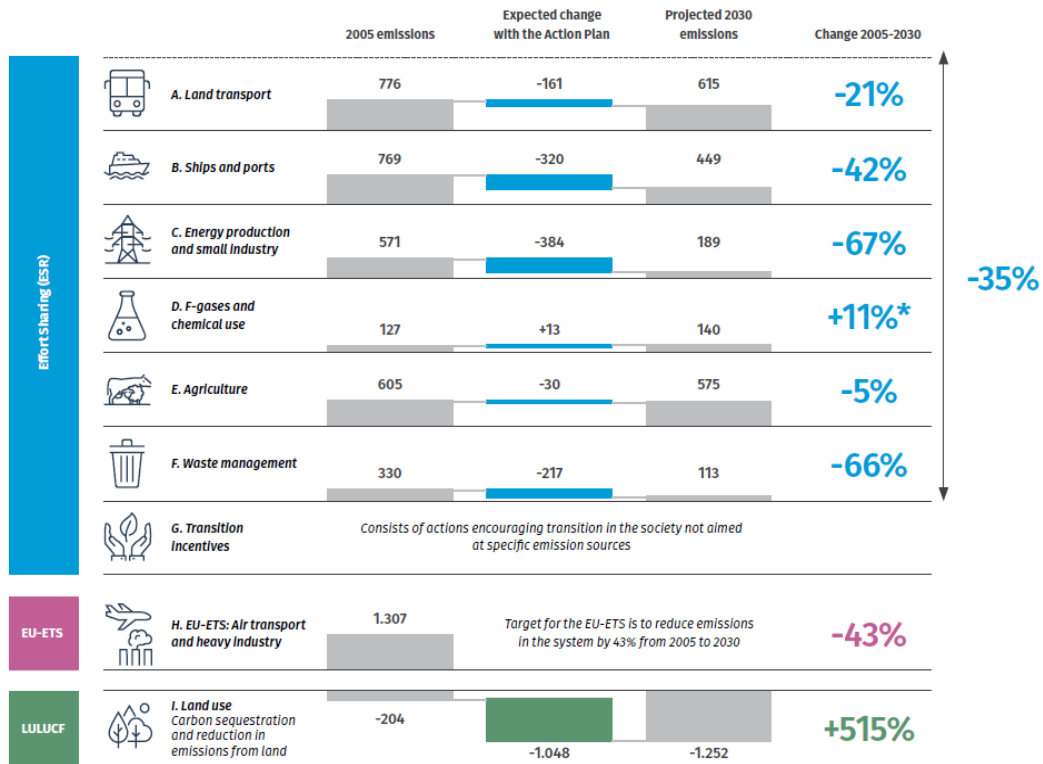
#### 4.1.2 Sectoral changes expected to impact GHG emissions

The Climate Action Plan from 2020 is Iceland’s main instrument to reach its commitment in the Paris Agreement, specifically its emissions reduction goals for 2030. It is also the main instrument to reach Iceland’s stated goal of carbon neutrality by 2040. The plan consists of 48 measures across all sectors that aim to reduce greenhouse gas emissions and increase carbon sequestration. The main sectoral changes that are expected to impact Iceland’s GHG emissions until 2030 are the phaseout of fossil fuels in transport and an increase in carbon sequestration in LULUCF, by restoration of woodlands and wetlands, revegetation and afforestation.

A newly implemented F-gas Regulation, aided by a tax on F-gases, is expected to limit the import of F-gases and thereby decrease emissions from Industrial Processes and Product Use (IPPU). Emissions from waste are mostly expected to be affected by projected population increase, by new waste Regulation and by a new waste management facility in the capital area. Emissions from geothermal steam are expected to be reduced due to the employment of carbon sequestration and storage in geothermal power plants, inter alia by using the Carbfix method (see 3.1.2). Figure 8 shows the expected impact on GHG emissions, by sector.

Estimated reduction 2005-2030 in Iceland's GHG emissions under the ESR  
 – carbon sequestration will be greatly increased through better land use

Annual greenhouse gas emissions and carbon sequestration by category, 1000 tonnes of CO<sub>2</sub> equivalents



EU-ETS: EU - Emissions Trading System.

LULUCF: Land Use, Land-Use Change, and Forestry.

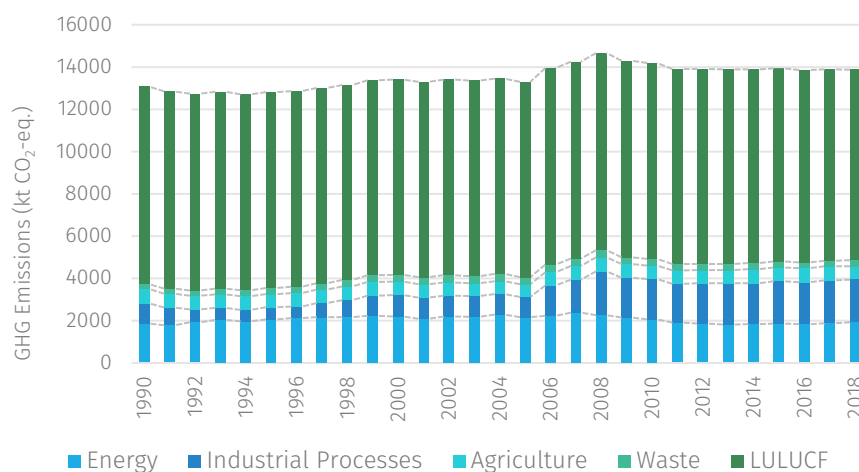
\* Emissions from F-gases rose rapidly in a short period after they were introduced to replace ozone-depleting refrigerants. The Action Plan anticipates a 23% decrease in 2030 compared to 2018.

**Figure 8 Breakdown of projected effect of measures in the Climate Action Plan on GHG emissions and sequestration on each sector.**

## 4.2 Decarbonisation

### 4.2.1 GHG emissions

According to Iceland's 2020 submitted National Inventory Report (NIR)<sup>11</sup> Iceland's total GHG emissions in 2018 were 4 857 kt. CO<sub>2</sub>-eq. without LULUCF and 13 867 kt. CO<sub>2</sub>-eq. with LULUCF. Emissions that fall under the EU ETS were 38% of Iceland's emissions in 2018, without LULUCF.



**Figure 9 GHG emissions 1990-2018, with LULUCF.**

LULUCF is the largest sector, with emissions of more than double the combined emissions from the other sectors across the time series. LULUCF emissions have remained relatively constant since 1990. Estimates of LULUCF emissions are subject to great uncertainty.

**Table 3 Trends in current GHG emissions (kt. CO<sub>2</sub>-eq).**

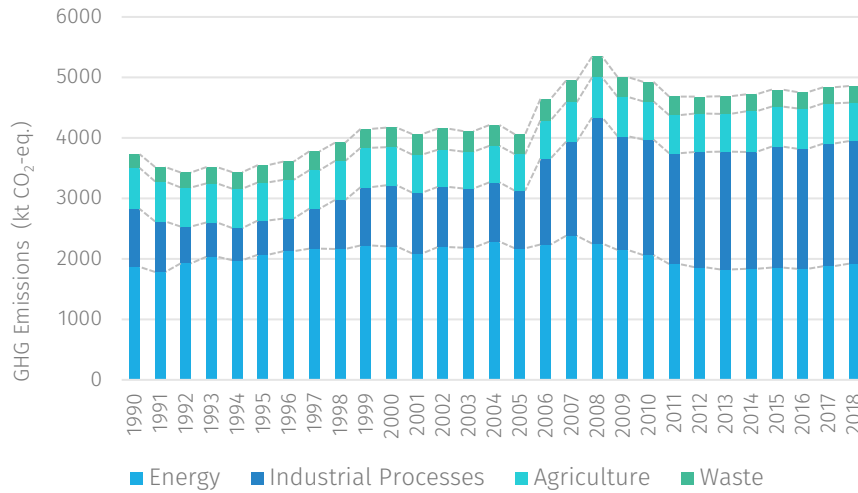
|  | 2005   | 2010   | 2015   | 2016   | 2017   | 2018   |
|--|--------|--------|--------|--------|--------|--------|
| EU ETS (based on ETS 2013- 2020 scope) | 856*   | 1.801  | 1.812  | 1.781  | 1.832  | 1.855  |
| ESR (based on ETS 2013- 2020 scope)    | 3.178  | 3.107  | 2.967  | 2.951  | 2.981  | 2.978  |
| Domestic aviation                      | 26     | 21     | 20     | 23     | 23     | 25     |
| LULUCF                                 | 9.242  | 9.262  | 9.141  | 9.141  | 9.053  | 9.010  |
| Total emissions excluding LULUCF       | 4.059  | 4.929  | 4.800  | 4.755  | 4.836  | 4.857  |
| Total emissions including LULUCF       | 13.301 | 14.191 | 13.941 | 13.896 | 13.889 | 13.867 |

\*According to JCD No 152/2012 the 2005 ETS emissions for 2005 shall be 940 kt CO<sub>2</sub>-eq.

<sup>11</sup> Iceland's National Inventory Report, 2020: <https://ust.is/library/Skrar/loft/NIR/NIR%202020.pdf>

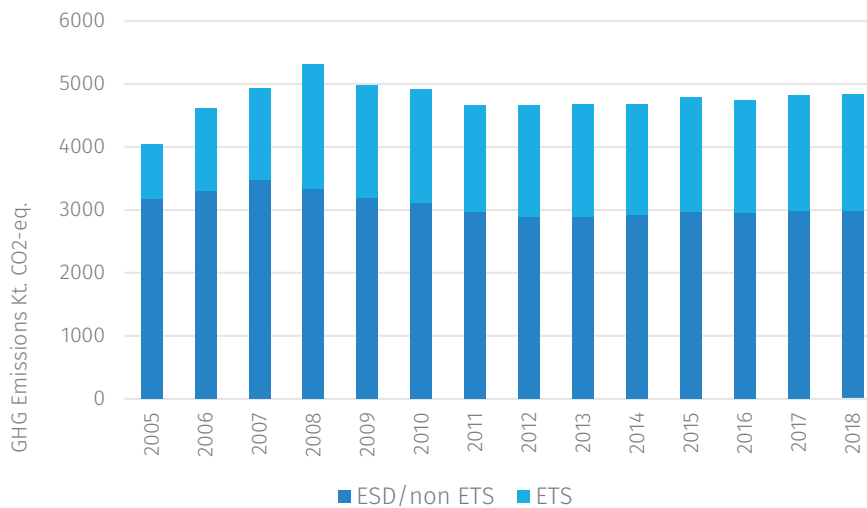


Total GHG emissions (excluding LULUCF) increased by approximately a third from 1990 to 2018. The greatest change in the trend over the time series is the increase in the contribution of industrial processes to total emissions. This is primarily due to the increased production of aluminium in Iceland, which is a highly energy-intensive process.



**Figure 10 GHG emissions 1990-2018, without LULUCF.**

For the period 2005 to 2018 verified GHG emissions from stationary installations that fall under the EU ETS.



**Figure 11 GHG emission trends, 2005-2018 divided by ETS and ESR/non-ETS.**

Removals by measures under LULUCF have increased steadily in the last years and amounted to 386 kt. CO<sub>2</sub>-eq. in 2018.

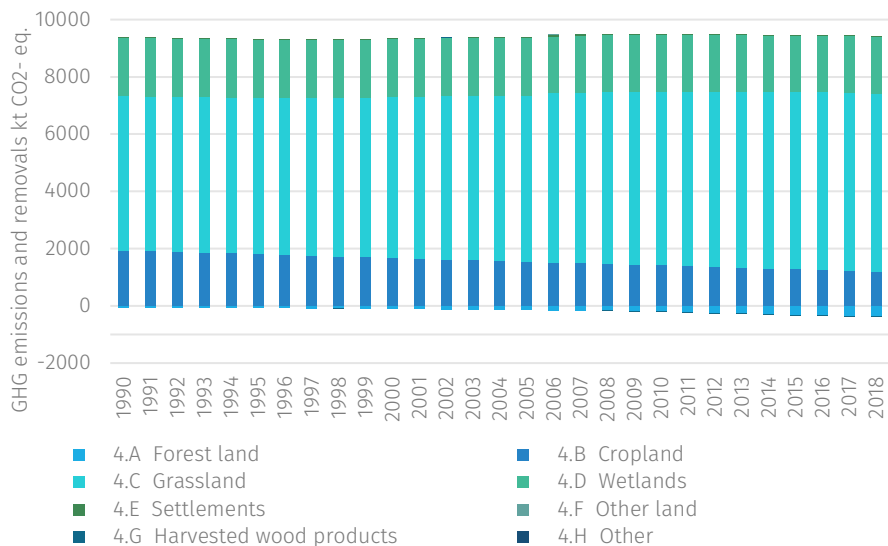


Figure 12 LULUCF emissions and removals 1990-2018.

#### 4.2.2 Projections of sectoral developments with existing national policies and measures

In 2019 Iceland submitted for the first time a report<sup>12</sup> on policies and measures (PaMs) and GHG projections to the European Union. The report was submitted in accordance with the bilateral agreement<sup>13</sup> between Iceland and the EU concerning Iceland’s participation in the Joint Fulfilment Agreement for the second commitment period of the Kyoto Protocol (2013-2020).

The report describes policies and measures in Iceland’s Climate Action Plan that was published in September 2018 and does therefore not include measures from Iceland’s updated Climate Action Plan that was published in June 2020. The first submission only included projections for “with existing measures” (WEM) scenario, based on the following four PaMs: electrification of harbours and

<sup>12</sup> Iceland’s report on Policies , Measures and Projections, 2019

<https://ust.is/library/Skrar/Atvinnulif/Loftslagsbreytingar/PaMs%20final%20April%202019.pdf>

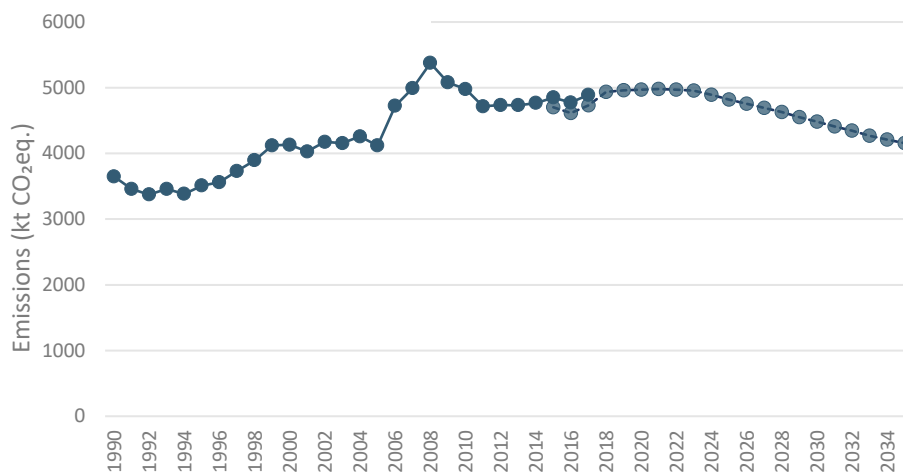
<sup>13</sup> Bilateral agreement between Iceland the EU on Iceland’s participation in ht Joint Fulfilment for the second commitment period of the Kyoto Protocol

<http://register.consilium.europa.eu/doc/srv?l=EN&f=ST%2010941%202014%20INIT>

electrification of fishmeal factories, electrification of ferries, a new gas and composting plant and increased afforestation for carbon sequestration. It should be noted that the projections in the 2019 PaMs and Projections report do not include carbon emissions or removals from the LULUCF sector.

The projections were based on fuel projections generated by the National Energy Authority (NEA) that was published in 2016 and contains a limited analysis of the likely impact of Iceland’s Climate Action Plan.

Based on the Environment Agency’s (EA) calculations and assumptions in the PaMs and Projections report from 2019, emissions from Iceland are expected to increase between 2015 and 2021, after which the total emissions begin to decrease until 2035.



**Figure 13 Total GHG emissions from 1990-2017 and projected 2035 (without LULUCF), according to Iceland’s 2019 report on PaMs and Projections.**

The main cause for the projected decrease, according to the 2019 PaMs and Projection report, in emissions is the impact of the electrification of the car fleet on energy emissions. Industrial processes and product use (IPPU) and agriculture emissions are also projected to decrease slightly. IPPU will mainly decrease because of a projected reduction in emissions from heavy industry and the newly implemented F-gas Regulation which limits the import of F-gases. Emissions from agriculture are seen to decrease because of a projected decrease in some livestock population numbers. Waste emissions should decrease until 2027, after which they begin to increase again in line with a projected population increase.

The projected ESR emissions according to the report amounted to 19% less emissions in 2030 than in 2005. This indicates a gap between projected emissions and Iceland’s Effort sharing 2030 target of 29%. This is seen partly due to the fact that the effect of the 2018 Climate Action Plan was not fully evaluated. In Iceland’s new Climate Action Plan (published June 2020) efforts were strengthened to project the GHG emissions and evaluating effects of efforts to cut emissions. The projected ESR emissions according to the 2020 Climate Action

Plan amounted to 35% less emissions in 2030 than in 2005, which indicates that Iceland's will go well beyond its 2030 ESR targets. This will be reflected in Iceland's next PaMs and Projections report that will be based on Iceland's 2020 Climate Action Plan.

# 5. IMPACT ASSESSMENT OF PLANNED POLICIES AND MEASURES

## 5.1 Planned policies and measures under the Effort Sharing Commitment.

Under the Effort Sharing Regulation Iceland has a commitment to reduce emissions covered by this Regulation by 29 per cent in 2030 compared to 2005 levels. According to the Regulation, Iceland will have a binding annual emission level for the years 2021 to 2030.

The binding annual emission levels for the period 2021-2030 are based on reviewed emissions for 2005, 2016, 2017 and 2018 and will become final later this year after finalisation of the procedures according to the Effort Sharing Regulation and the EEA Joint Committee Decision (JCD) No 269/2019.

In Art. 4 of the Effort Sharing Regulation the calculation methods for the AEA for the period from 2021 to 2030 are set forth. The JCD provides for an addition to Art.4 (3) that applies for the EFTA states, Iceland and Norway.

Based on the addition to the Regulation according to the JCD, the 2005 base year for the emission allocation 2030 will be based on the difference between total GHG emissions in 2005 and the stationary EU ETS 2005 emissions in 2013 ETS scope as reported in the Decision of the EEA Joint Committee No 152/2012 (with CO<sub>2</sub> emissions from domestic aviation excluded).

In order to ensure consistency of the determined AEAs with reported greenhouse gas emissions for each of the year of the period from 2021 to 2030, which will be reported in CO<sub>2</sub>-equivalents calculated using global warming potentials from the IPCC Assessment Report 5 (GWP AR5), the AEAs need to be calculated in CO<sub>2</sub>-eq. by applying the same AR5 values for GWP, as set out in Commission Delegated Regulation 2020/1044. The incorporation of the Delegated act is currently in preparation, but using the disaggregation by gases as per the JCD 269/2019 and the GWP AR5, the 2005 EU ETS emissions in 2013 ETS scope amount to 937.096 tonnes of CO<sub>2</sub>-eq.

For the purpose of calculating the final AEAs for the period 2021 to 2030 the 2005 ETS emission shall be adjusted for emissions from operators excluded in phase 4 from the EU ETS under Article 27 of Directive 2003/87/EC, so-called opt-outs. This adjustment is based on the average emissions from the operators from 2008 to 2010, or 16.688 tonnes of CO<sub>2</sub>-eq. according to preliminary calculations. Table 4 shows the main values that the indicative AEA calculations are based on.

**Table 4 Values used for Iceland’s indicative AEA calculation for 2021 to 2030 (in t CO<sub>2</sub>-eq. using GWP AR5).**

|   |  | Quantity<br>tonnes CO <sub>2</sub> eq. |
|---|--|--|
| A | 2005 total GHG emissions (excluding LULUCF)        | 4.072.433                              |
| B | 2005 CO <sub>2</sub> emissions from civil aviation | 26.007                                 |
| C | 2005 verified ETS emission (JCD No 269/2019)       | 937.096                                |
| D | 2005 ESR base year (2005 ESR base year=A-B-C)      | 3.109.329                              |
| E | Iceland's ESR 2030 target                          | -29%                                   |
| F | AEA 2030 = 2005 ESR base year*(1+ESR 2030 target)  | 2.207.624                              |
| G | 2016-2018 average ESR <sup>12</sup>                | 2.977.984                              |
| H | ETS opt-outs: average 2008-2010                    | 16.688                                 |

Based on the values in Table 4 Iceland’s indicative Annual Emissions Allocation for the period 2021 to 2030 were calculated and are presented in Table 5. The linear trajectory for the AEA is set to start at five-twelfths of the distance from 2019 to 2020, and the end point for the year 2030 is 29% less than the year 2005 (under the same scope).

AEAs are then adjusted to take into account opt-outs under the EU ETS, by way of adding to the AEAs the annual ETS opt-outs emission values as calculated to determine the EU ETS Cap 2021-2030. Annual values for EU ETS opt outs adjustments are calculated using the 2008-2010 emissions as a base year (see variable H in Table 5.1), decreasing the emissions annual by a factor of 1.74% of the base value for the period 2021-2020, and by a factor of 2.2% of the base value for the period 2021-2030 (cf. Art. 9 of Directive 2003/87/EC).

**Table 5 Iceland’s indicative AEA calculation for 2021 to 2030, including adjustments to account for ETS opt-outs (in t CO<sub>2</sub>-eq. using GWP AR5).**

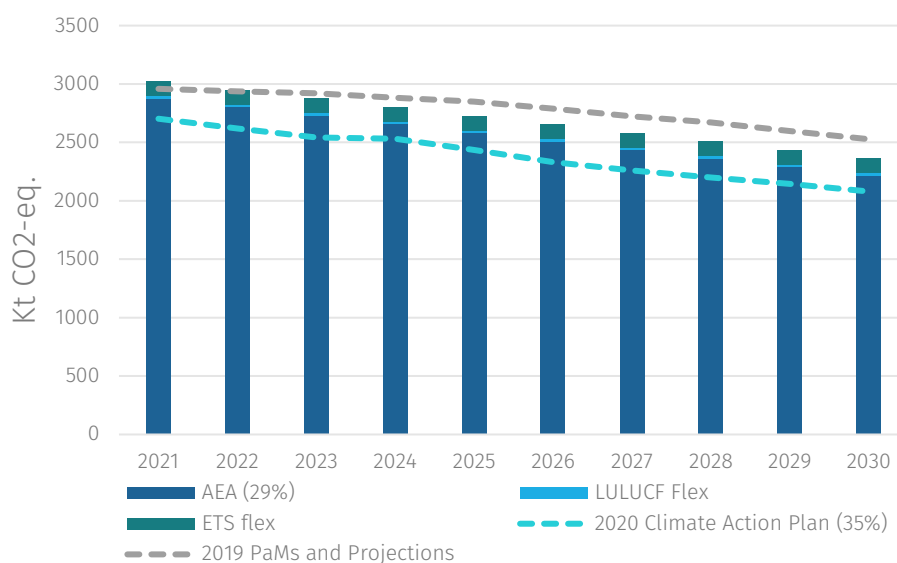
| Total Indicative Annual Emissions Allocation | Quantity<br>tonnes CO <sub>2</sub> eq. |
|--|--|
| AEA 2021                                     | 2.876.150                              |
| AEA2022                                      | 2.802.993                              |
| AEA 2023                                     | 2.729.836                              |
| AEA 2024                                     | 2.656.679                              |
| AEA 2025                                     | 2.583.522                              |
| AEA 2026                                     | 2.510.365                              |
| AEA 2027                                     | 2.437.208                              |
| AEA 2028                                     | 2.364.050                              |
| AEA 2029                                     | 2.290.893                              |
| AEA 2030                                     | 2.217.736                              |

According to the JCD Iceland can make use of the EU ETS flexibility under Article 6 of the ESR and take into account EU ETS allowances for compliance. Iceland has notified the Commission of the intent to use the full amount of the ETS flexibility mechanism. Iceland aims to reduce the ESR emissions through policies and measures, and only if strictly necessary, this flexibility will be used.

If necessary, Iceland may use a maximum of 4 percent EU ETS allowances of the 2005-emissions under the Effort Sharing Regulation. Preliminary estimations indicate that these may add up to 1.243.732 tonnes of CO<sub>2</sub>-eq. for the period 2021–2030, or 124.373 tonnes of CO<sub>2</sub>-eq. per year.

In addition to the EU ETS flexibility, Iceland can, as stated above (Chapter 2.1.1) and according to JCD No 269/2019, make use of up to 0.2 million credits obtained under the LULUCF Regulation to reach compliance under the Effort Sharing Regulation. This so-called LULUCF flexibility corresponds to 200.000 tonnes CO<sub>2</sub>-eq. from LULUCF for the period from 2021 to 2030, or 20.000 tonnes CO<sub>2</sub>-eq. per year, as calculated using GWP AR5.

Figure 14 shows the estimated ESR projections according to the 2019 report on PaMs and Projections and Iceland’s 2020 Climate Action Plan, the Indicative Annual Emissions Allocation (AEAs) for Iceland 2021–2030 as well as maximum ETS flexibility and LULUCF flexibility.



**Figure 14 ESR projections, based on the 2019 PaMs and Projections report and Iceland’s Climate Action Plan, and Indicative Annual Emissions Allocation (AEA) for Iceland 2021-2030.**

Note: At this time, ESR projections are not available in GWP AR5, and AEAs are not available in GWP AR4. However, the difference between ESR emissions according to AR4 and according to AR5 is around 1% therefore it is deemed reasonable to present those datasets in the same graph.

## 5.2 Planned policies and measures

Iceland’s updated Climate Action Plan from June 2020 presented new and elaborated measures and increased funding. The updated Plan also contained significantly improved analysis to estimate the individual and collective mitigation gains of the measures presented. All in all, the 2020 Plan contained 48 measures. Emphasis has been placed on implementing measures immediately; 28 measures out of 48 had already been set in motion at the publication of the 2020 Climate Action Plan.

According to analysis, the measures will lead to a decrease of emissions in 2030 by more than one million tonnes of CO<sub>2</sub>-equivalents compared to 2005 in sectors that fall under the Effort Sharing Regulation. This means that Iceland should meet its climate commitments for a 29% reduction in ESR emissions from 2005 levels, as analysis indicate that Iceland should be able to reduce emission in these sectors by 35% by implementing the measures in the Plan.

The report on Policies, Measures and Projections that was published in 2019 did not include projections for the LULUCF sector. Iceland has started to work on LULUCF projections based on the 2020 Climate Action Plan and the LULUCF



mitigation plan that was published in July 2019 and outlines efforts to increase carbon sequestration and to decrease carbon emission from soils and vegetation.

The extensive work regarding policies and measures that has been conducted in relation to the 2020 Climate Action plan and ongoing improvements to the LULUCF accounting will be reflected in Iceland's upcoming submission of report on Policies and Measures and Projections

The Climate Action Plan will continue to be subject to continuous review, just as the previous version. Measures will be updated, and new ones added as needed to ensure the Plan's continued success. Iceland will, in accordance to the EEA Joint Committee No 269/2019, report on the progress and fulfilment of the commitments in the Effort Sharing Regulation and LULUCF Regulation. Iceland will report on policies and measures and projections every other year and the effect on emissions towards 2030.

