

## Projects in climate change action plan

### Projects to reduce net emissions in Iceland

The action plan contains eight projects aimed at reducing the net emissions of greenhouse gases in Iceland. They are intended to bring added momentum to actions meant to reduce emissions and increase carbon sequestration which in turn should make it easier for Iceland to meet expected climate change requirements over the coming years. The action plan emphasises cooperation between the government and the economic sector where possible, since demonstrable results will hardly be achieved except through concerted actions and with broad participation.

- **Energy conversion in transport:** An action plan on energy conversion for the coming years, both on land and at sea, will be submitted to Althingi as a proposal for a parliamentary resolution during the spring session of 2016. The plan is drawn up by the Ministry of Industries and Innovation and Eco Energy, an energy conversion initiative which is focused on increasing the share of eco-friendly domestic energy resources at the expense of imported fossil fuel. Icelandic authorities have set the goal that by 2020 the share of renewable energy sources in transportation will be 10% and work on the basis of the forthcoming parliamentary resolution will be directed at achieving that goal.
- **Electric vehicles - strengthening of infrastructure at national level** Effort will be made to strengthen infrastructure for electric vehicles at the national level over the coming years. Recently there has been a great increase in the supply and sale of electric vehicles, but many think that insufficient infrastructure is impeding further progress. In the long run, development of infrastructure, such as rapid charging stations, will become self-sustaining since many can gain from installing such charging stations. However, it is considered appropriate that the state temporarily support an effort to develop infrastructure for electric vehicles so as to ensure that as many citizens as possible have access to a climate-friendly mode of transport that has newly become available to the public. This must be done in a careful manner, taking into account issues of competition as well as the experience gained by Norway and other countries from projects of this kind. Eco Energy - an initiative on energy conversion in transportation - will be entrusted with realising such an effort which will be incorporated into the aforementioned action plan on energy conversion which is to be submitted to Althingi during the spring session of 2016. Funding for this project will be set aside to ensure that work on it can commence next year.
- **Roadmap for Icelandic fisheries on reducing emissions:** The roadmap will drawn up by Oceana – Center of Excellence for the Protection and Sustainable Use of the Oceans. It will examine the opportunities and obstacles in the way of reducing emissions from fisheries by adopting climate-friendly technologies and targeted action in other areas, with the goal of reducing CO<sub>2</sub> emissions by 40% by 2030 compared to 1990 levels. The roadmap will be funded by the authorities and business organisations.
- **Climate-friendly agriculture:** A roadmap will be drawn up on reducing emissions in agriculture through the collaboration of the government and the Farmers Association of Iceland. The roadmap will take note of comparable work carried out for fisheries.
- **Promotion of forestry and soil reclamation:** Increased funding will be directed towards forestry and soil reclamation, i.a. with the intention of increasing the sequestration of carbon from

the atmosphere. Work will be expanded in 2016 with further expansion intended in the following two years. This will result in greater carbon sequestration from the atmosphere than would otherwise have been the case.

- **Wetland restoration:** A project on wetland restoration will be established. The first tasks pertaining to the project will be carried out in 2016 based on the work of a working group that has mapped areas eligible for restoration, including in state-owned lands. Mapping of drained areas suitable for wetland restoration will continue in cooperation with farmers, land owners and nature conservation organisations.
- **Carbon offset in government operations:** Projects focused on carbon offset in government operations will be supported.
- **Campaign against food waste:** Food waste creates unnecessary environmental pressure, e.g. by contributing to increased greenhouse gas emissions. If emissions for every person in Iceland are assumed to be comparable to the average emissions for every person in Europe, then the emissions from food waste in Iceland per year are estimated at 200 Gg of carbon dioxide equivalent, which equals about 5% of the total annual emissions for Iceland in 2013. Projects under the auspices of the Environment Agency of Iceland and other parties have the goal of reducing food waste through multifaceted actions, which may lower expenses for the public and businesses while delivering additional gains in the form of reduced emissions.

### **International efforts and projects to reduce emissions globally**

Iceland has a lot to contribute towards reducing emissions globally, including engineering and technical knowledge in the fields of geothermal energy and soil reclamation. In addition, Iceland is a vocal advocate of the integration of gender equality and climate issues. Part of the action plan will be to expand Iceland's work on climate change issues internationally.

- **Global Geothermal Alliance:** The Global Geothermal Alliance will be formally established in Paris in December. Iceland, along with IRENA, the International Renewable Energy Agency, initiated the establishment of the Alliance which will advocate for the utilisation of geothermal energy on a global scale to replace fossil fuels in order to reduce greenhouse gas emissions. The Alliance is a platform for states, organisations and enterprises which will be supervised by IRENA.
- **Climate change and the Arctic:** The objective will be to expand Iceland's participation in work undertaken by the Arctic Council on projects related to climate and environmental change in the Arctic. These include a plan to reduce soot and methane emissions, research on the effects of warming brought on by climate change on ocean ecosystems and the furtherance of monitoring and research into the effects of climate change in the Arctic region. Iceland will assume presidency of the Council in 2019.
- **Green Climate Fund:** Iceland will contribute \$1 million to the Green Climate Fund in 2016-2020 which is intended to become the primary global fund in the future for projects related to climate change.

- Funding for climate-friendly development aid: Iceland will continue to support climate-related projects and funds that concern developing countries, including the UNU-GTP, UNU-LRT, UNU-FTP and UNU-GEST in Iceland, the Geothermal Compact partnership between Iceland and the World Bank in East Africa, and others. The UNU Land Restoration Training Programme will also be specifically supported to conduct courses in developing countries that are fighting against desertification.

### **Strengthening infrastructure**

The action plan and expanding requirements relating to climate issues call for the strengthening of infrastructure to manage the policy area. Great economic and political interests are at stake for Iceland when it comes to climate change issues in addition to the environmental stakes, that require good record keeping and forecasting of emissions and carbon sequestration as well as robust analysis of the feasibility of, and results from, reduction in net emissions. This item also encompasses projects meant to further work on the analysis of the consequences of climate change and disseminate them to the public and those charged with responses to natural changes.

- Scientific report on the consequences of climate change: A scientific assessment of the consequences of climate change on Icelandic nature, economy and society will be carried out and published in the latter half of 2016. The goal is for the report to be the most comprehensive assessment of the likely effects of climate change to date. The report will contain a separate chapter on ocean acidification and the consequences likely to stem from it.
- Adaptation to climate change: A project will be launched, directed by the Icelandic Meteorological Office, on how Icelandic society can respond to the effects of climate change domestically. Some signs of long-term climate changes are already evident and forecasts predict continuing changes that will require a response. Adaptation to climate change involves minimising the damage from possible changes and utilising the changes that offer opportunities for the benefit of the nation. In some places account has already been taken of future changes in natural features, but it has yet to be done in a comprehensive manner. The project will i.a. involve the coordination of research and monitoring of changes in natural features, the drawing up of scenarios for likely climate development in Iceland and an assessment of the need for adaptation, in collaboration with stakeholders, as a result of climate change in Iceland, such as changes in sea level, vegetation and glaciers. A professional board will be appointed to oversee the coordinating role of the project.
- Better record keeping and forecasting of emissions and carbon sequestration: Record keeping of emissions in Iceland needs to be improved, especially in the field of land use and carbon sequestration in vegetation and soil and prepared for new and augmented requirements in the forthcoming Paris agreement and in European rules that Iceland will have to adopt. A two-year agreement will be made with the Agricultural University of Iceland on improved record keeping with regard to land use. Regular forecasts need to be made on emissions and sequestration of greenhouse gasses according to new requirements from the UN climate convention. Such forecasts have been made twice in Iceland, but new requirements call for more frequent forecasts using improved methodology. Forecasting also makes evaluation easier of the most feasible ways to meet

requirements for the reduction of net emissions. It will be ensured that such forecasts will be made from now on and integrated with energy forecasts and other related work to the extent possible.

- Icelandic glaciers – A natural laboratory on climate change: Climate change is in many ways an invisible problem, even though its effects are felt in nearly every place on Earth. Glaciers and their mass balance may be said to be the most obvious manifestation of climate change, since they advance or retreat in line with temperature, precipitation and other largely climate-related factors. Icelandic glaciers have shrunk in recent years and it is expected that they may shrink at an even faster pace in the future. Nowhere in Europe, and in only a few places in the world, is there easier access to glaciers and glacier tongues than in Iceland, especially around Vatnajökull, the largest national park in Western Europe. Glacier mass balance in Iceland has great educational value for Icelanders, tourists and the world at large. Glacier tongues have been monitored for a long time, and yet their mass balance and run-off is not adequately understood. Improved monitoring of glacier mass balance can be beneficial for hydropower utilisation, monitoring of natural hazards as well as other areas, but this project is especially focused on making the results visible and using them for public education, in tourism and as Iceland's contribution to international cooperation on the measuring of glacier change.

The monitoring of glaciers will be increased by the utilisation of regular satellite measurements and participation in the World Meteorological Organization's Global Cryosphere Watch. The goal is for the results from glacier monitoring to be made accessible in visitor centres in national parks that would promote the country's glaciers as continuously working measuring devices and natural laboratories on climate change and its effects. This coupling of scientific monitoring, education and tourism could raise significant attention in addition to the benefits previously mentioned.