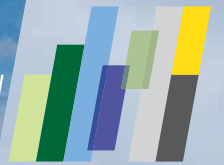


Environmental
Performance Reviews

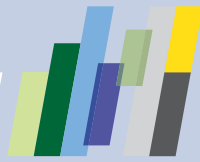


Iceland

HIGHLIGHTS

2014





What are EPRs?


The OECD conducts in-depth assessments of the environmental policies and programmes of selected OECD and key partner countries. These Environmental Performance Reviews (EPRs) identify good practice and make recommendations to strengthen the reviewed countries' policies and instruments for promoting green growth. They are conducted through a peer review process which involves countries assessing each other as equals.

The EPRs are based on national and international data and make wide use of economic analysis. Since work began in 1992, more than 70 EPRs of OECD member and partner countries have been conducted.

WHY AN EPR OF ICELAND?

This is the third OECD review of Iceland's environmental performance: the first was published in 1993, the second in 2001. It provides Iceland's policy makers with a wide-ranging assessment of environmental progress and policies. The review aims to identify where new or reinforced efforts might be needed to enhance policies' coherence and cost-effectiveness. It involved a constructive and mutually beneficial policy dialogue between Iceland and the countries participating in the OECD Working Party on Environmental Performance. The main report presents 28 recommendations. These Highlights summarise the main findings, with a special emphasis on:

- **Green growth**
- **Energy and environment**
- **Tourism and environment**



“Renewable energy and spectacular natural tourist attractions create opportunities for Iceland to play a pioneering role in the transition to green growth.

However, these assets will need to be well-managed, and the conflicts between these competing uses of land fully addressed, in order to realise this potential.”

Simon Upton, OECD Environment Director

ICELAND 2013**Population**

323 700

GDP/capita

(current prices and purchasing power parity)

USD 39 902,
among OECD top 15**Total area**103 000 km²**Population density**3 inhabitants/km²
(OECD Europe average is 109)**Currency**

USD 1.00 = ISK 122.18

Overview

Iceland has a very small, open economy, built on plentiful and cheap renewable energy, the aluminium industry, tourism and fishing. Its people enjoy a high standard of living and a good environment, with excellent water quality, low air pollution and easy access to uncontaminated nature. The deep recession sparked by the 2008 financial crisis reduced some pressures on the environment, but also affected the resources available for environmental programmes and related infrastructure investment. At the same time, it spurred interest in the transition towards a greener economy. The natural environment is a key asset for Iceland's recovery: it provides abundant hydro and geothermal energy reserves, as well as the pristine wilderness and spectacular landscapes that attract thousands of tourists every year.

OPPORTUNITIES

- **A sound policy framework for environmental management and sustainable development.**
- **Innovative policy approaches to managing natural resources such as fish and renewable energy sources.**
- **A long tradition of public participation in decision making.**
- **Historically low levels of air and water pollution.**
- **A unique natural environment, with pristine wilderness, hot springs, lava fields and glaciers, which many people want to visit.**
- **A very low-carbon energy mix, with the highest share of renewables in the OECD.**

CHALLENGES

- **Financial constraints and insufficient local administrative capacity to implement environmental policy.**
- **An unbalanced industrial structure that relies heavily on cheap, clean electricity to power energy-intensive industry.**
- **A legacy of acute soil erosion, worsened today by subsidies that encourage overgrazing.**
- **Growing and highly seasonal tourist arrivals, which exert pressures on fragile ecosystems and infrastructure designed for a small population.**
- **Potential land-use conflicts between renewable power development and nature-based tourism.**
- **Lack of viable alternatives to road transport for domestic passengers and freight.**



Green growth indicators | Iceland

The OECD has developed a set of green growth indicators and these are used to evaluate countries as part of their Environmental Performance Reviews: (1) the environmental and resource productivity of the economy; (2) the natural asset base; and (3) the environmental dimension of quality of life. These have been assessed for Iceland using national and international data.

CARBON, ENERGY AND RESOURCE EFFICIENCY OF THE ECONOMY

- Iceland has a very low-carbon energy mix. Renewable energy sources accounted for 85% of total primary energy supply in 2012, far more than in any other OECD country (Figure 1). Imported fossil fuels make up the rest and are used primarily in transport and fishing.
- Iceland has an energy-intensive industrial structure, based on aluminium smelting. The energy intensity of its economy is four times the OECD average (see page 10).
- Between 2000 and 2011, greenhouse gas (GHG) emissions increased by 14%, but remained within the limits of Iceland's commitment under the Kyoto protocol. More than a third of GHG emissions come

from industrial processes, mainly aluminium smelting, rather than fossil fuel-based energy production or consumption as in most countries. Emissions have declined since 2008 because of the recession (Figure 2).

- Waste generation and the amount of materials consumed in the economy also fell considerably due to the economic crisis and its impact on household income and consumption. Municipal waste generation picked up again with the recovery, but at 340 kg per capita it is well below the OECD average (530 kg).
- Improved waste management has helped divert waste from landfills and increase recycling, composting and incineration. In 2012, however, half of municipal waste was still landfilled (Figure 3).

Renewable sources in total primary energy supply (%)

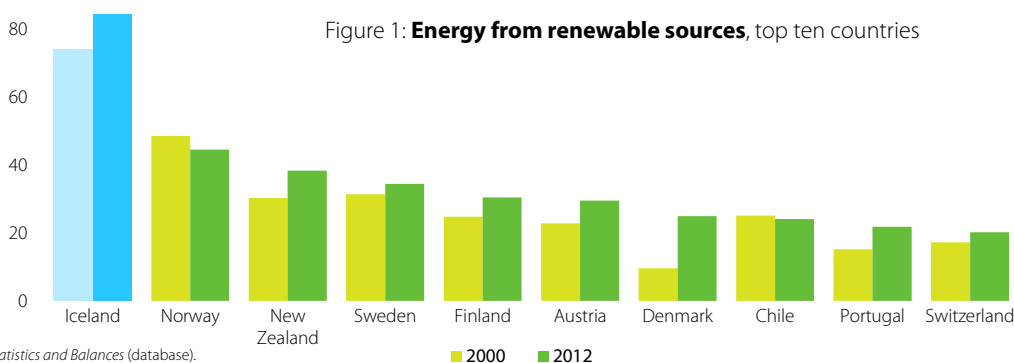


Figure 1: Energy from renewable sources, top ten countries

Source: IEA (2013), IEA World Energy Statistics and Balances (database).



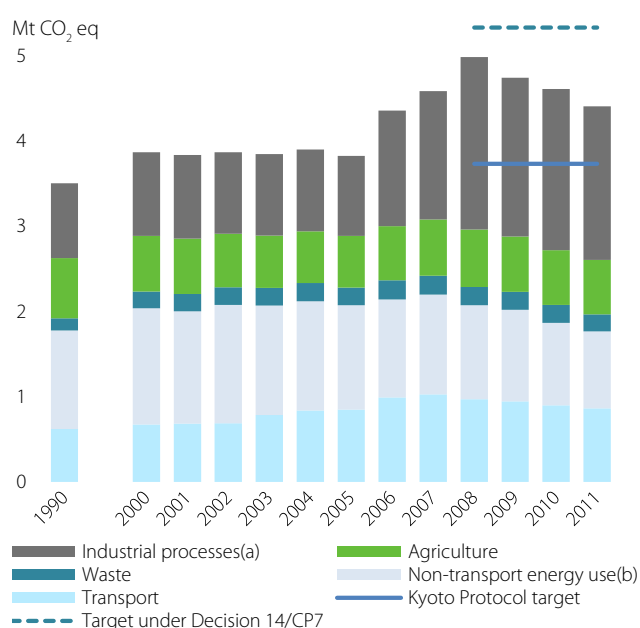
NATURAL ASSETS

- Glaciers, rivers and lakes cover 13% of Iceland's area, resulting in abundant freshwater supplies. Between this abundance and the small population, the water use intensity is among the lowest in the OECD.
- Less than 1% of the land area is artificially built, and agricultural land is scarce. Vegetation covers 60% of the land area. Forests cover only 0.3% of the total area. About 90% of the population lives in coastal areas, mainly in and around Reykjavík.
- National parks and reserves have been expanded: about 20% of the land area is under some form of nature protection, among the highest shares in the OECD (see page 12).
- Nevertheless, several activities exert pressure on Iceland's biodiversity, including hydropower and geothermal exploitation, urban sprawl and tourism development. About half the country suffers from acute soil erosion, partly due to overgrazing.
- More than 290 species of flora and fauna are threatened, including nearly 40% of the bird species nesting in Iceland (mainly seabirds) and 12% of the country's moss species.

ENVIRONMENTAL QUALITY OF LIFE

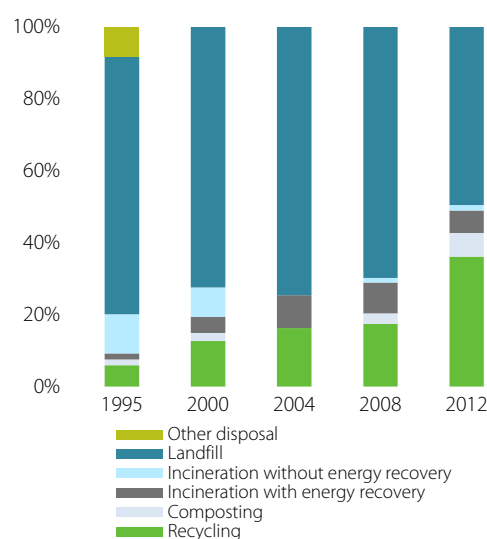
- Icelanders are very politically active. More than half the population is satisfied with the government's efforts to preserve the environment. Iceland's people are also generally more satisfied with water and air quality than in the OECD as a whole.
- Groundwater is of excellent quality and does not need treatment before consumption. Concentration of nutrients in rivers and lakes has historically been low, although the nitrogen and phosphorus balances, as well as pesticide sales, have increased in line with agricultural production.
- The share of the population connected to wastewater treatment systems increased to 73% in 2011 (including individual treatment facilities), although most systems only provide primary treatment. This is among the lowest levels in the OECD, partly because the very low population density makes building extensive infrastructure unfeasible.
- Emissions of most air pollutants declined in the 2000s and ambient air quality is generally good in the Reykjavík area. However, concentrations of small particulates (PM₁₀) continue to exceed the limit value; the use of studded tyres, which wear away road asphalt, is a major factor.
- Emissions of sulphur oxides (SO_x) and hydrogen sulphide (H₂S) have grown with increased geothermal exploitation, the largest source of sulphur emissions. Concentrations of H₂S in the Reykjavík area have often exceeded health guidelines and may have a long-term impact on health and the environment (see page 9).

Figure 2: **Greenhouse gas emissions by sector, 1990 - 2011**



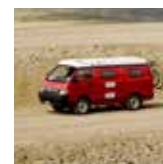
Notes: (a) Includes solvents. (b) Includes emissions from energy use in the following sectors: manufacturing and construction; agriculture, forestry and fisheries; and residential, commercial and institutional.
Source: OECD (2013), *OECD Economic Outlook No. 93* (database); UNFCCC (2013), *Greenhouse Gas Inventory Data* (database).

Figure 3: **Municipal waste management, 1995-2012**



Note: Waste collected by or for municipalities, including household, bulky and commercial waste, and similar waste handled at the same facilities.
Source: OECD (2014), *Environment Statistics* (database); OECD (2013), *OECD Economic Outlook No.93* (database).

Policies for green growth



Iceland has strengthened its environmental policy framework. It has several policy instruments that put a price on resource use and pollution, such as transferable fishing quotas and taxes on fuels and vehicles. The financial and economic crisis, however, reduced the resources available for investing in environmental protection and services. Part of Iceland's response to the crisis has been an increased emphasis on green growth. A 2011 parliamentary report contains 50 proposals to promote the transition towards a greener economy.

ENVIRONMENTAL GOVERNANCE AND MANAGEMENT

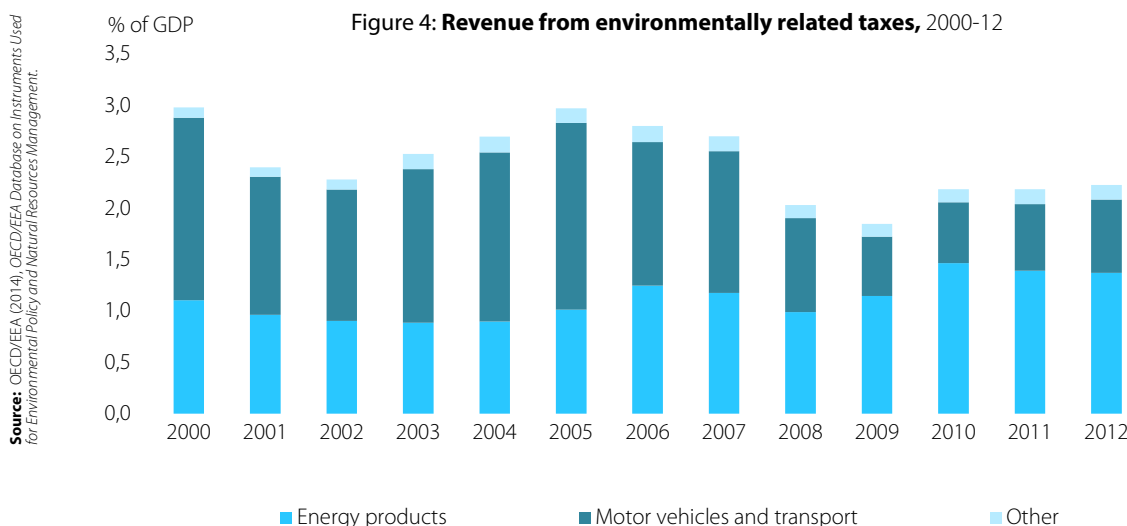
Iceland adopted a comprehensive national strategy for sustainable development in 2002. This has stimulated several environmental policy initiatives, including on climate change, nature conservation and waste management. As a member of the European Economic Area, Iceland has largely aligned its environmental policies and legislation with those of the European Union.

Progress in developing and implementing environmental legislation and policies slowed with the 2008 crisis.

Public environmental expenditure dropped, particularly at the local level. Although the trend has recovered since, it remains below the pre-recession level.

Municipalities play a key role in environmental management, including land-use planning and environmental permitting. More than halving the number of municipalities has helped improve efficiency in providing water, waste and transport services. However, with several environment-related agencies and many small municipalities with differing administrative capacity, inconsistencies in how environmental measures are designed and enforced persist.

Environmental assessment and licensing rules that took effect in 2005 streamlined procedures and responsibilities. Yet they remain complex and slow, involving multiple national and local authorities and overlapping requirements.



HOW TO STRENGTHEN THE GREEN ECONOMY

The recommendations of the Parliamentary Committee on the Strengthening of the Green Economy include:

- Make the green economy a priority in the government's employment policy.
- Put the Prime Minister's Office in charge of co-ordinating the development and implementation of a green economy action plan.
- Make the concepts of sustainable development and green economy part of the statutory responsibilities of public institutions.
- Integrate cost-benefit analysis into environmental assessment procedures.
- Implement green procurement practices in all ministries and public institutions.
- Establish a green competitive fund to finance environmental innovation projects.
- Mandate the finance ministry to develop pollution fees, whose revenue will finance pollution prevention.
- Reduce the value-added tax on environmentally/organically certified goods and services.



Iceland has a long environmental democracy tradition.

By ratifying the Aarhus Convention, it improved public participation in decision making and access to environmental information and justice. However, environmental monitoring data are scattered among several central and local institutions, causing gaps and inconsistencies that could ultimately hamper policy development and surveillance.

TAXES AND SUBSIDIES

In the last 10 years, Iceland has introduced new environmentally related taxes, including a diesel tax, a carbon tax and a CO₂-based vehicle tax. The recession caused a reduction in fossil fuel use and vehicle purchases, on which environmentally related taxes are calculated. Thus revenue fell to 2.2% of GDP, below the level in many other OECD countries (Figure 4). Iceland joined the European Emission Trading System (EU ETS) in 2007, though it has had a limited impact so far.

Iceland introduced a carbon tax in 2010, with a rate (about EUR 14 per tonne of CO₂) reflecting the price of EU ETS emission allowances at the time. Unlike in most countries, the carbon tax is also applied to fuels used by fishing vessels.

Iceland's carbon and energy tax rates on petrol, diesel and heating oil are generally below those of other Nordic countries. Raising the rates and applying them to more fuels, such as kerosene and coal, could help limit emissions of GHGs and other pollutants more cost-effectively. The energy tax on diesel should be raised to match that on petrol, as burning diesel generates more hazardous local air pollution.

Some subsidies and tax preferences provide environmentally harmful incentives. Agriculture support is above the OECD average; measures that help maintain large numbers of grazing animals exacerbate soil erosion, which is a major problem in Iceland. Subsidies to sheep farmers are only partly conditional on meeting environmental performance standards. Other perverse incentives include the tax treatment of company cars and vehicle tax reductions on rental cars, which encourage rental companies to buy high-emission vehicles.

GREEN INNOVATION

Iceland is a relatively innovative country. Its innovation strategy to 2020 targets eco-innovation as a key growth sector. In line with this, 3% of the public R&D budget was allocated to environment in 2011-13, among the highest shares in the OECD. Industry is the main funder of environment- and energy-related R&D, and there are several eco-innovative companies in Iceland. However, while patenting activity in general has been on par with that in other OECD countries, there have been very few Icelandic patent claims in environmentally relevant sectors.

Next steps | towards green growth

- **Clarify responsibilities of environmental agencies** and strengthen co-ordination in policy development and implementation.
- **Further streamline environmental assessment and permitting procedures** to reduce administrative costs and delay, and reinforce local administrative capacity.
- **Review the environmental monitoring and information system** to ensure completeness and consistency of data collection and provision.
- **Apply the carbon and energy taxes to more fuels**, such as kerosene and coal; increase their rates, including on petrol and diesel; scale back the vehicle tax reductions given to some users, such as car rental companies.
- **Keep the fisheries resource rent tax under review** to maintain social fairness and biologically sustainable fish stocks.
- **Reform subsidies to sheep farmers** to reduce negative environmental impacts; make them conditional on meeting strengthened environmental performance criteria.
- **Assess environment-related innovation policies** to strengthen them, particularly where Iceland has a comparative advantage, such as geothermal energy.

Case studies



REFUNDABLE CONTAINERS

Iceland was the first country in the world to set up a national deposit system for a wide range of containers. The collection company has about 60 return facilities across the country where people can get their deposit of ISK 15 per container paid back. Very good return ratios have been achieved in recent years: 87% in 2011 and 2012, ranging from 82% for glass to 87% for plastic bottles and about 90% for aluminium.



THE RECYCLING FUND

All manufacturers and importers of the products subject to the Recycling Act (including cardboard, paper, plastic packaging, hay bale wrap, tyres, synthetic fishing gear, paints, batteries and motor vehicles) have to pay a fee proportional to the amount of waste generated. The Recycling Fund, a state-owned fund set up in 2002, reimburses facilities which transport, recycle or dispose of such products. The fees are periodically adjusted to cover the costs of waste treatment and disposal. As in other extended producer responsibility programmes, the Recycling Fund shifts these costs from the consumers of the products to their producers, encouraging them to make products easier to recycle or dispose of. The system helped increase recycling and recovery, although half of municipal waste still goes to landfills (Figure 3).



LEARNING ABOUT NATURE IN SCHOOL

The city of Reykjavík operates the Municipal Work School in the summer and the Nature School in the winter. Participating children and youth receive focused information about environmental concerns while learning to cultivate urban gardens. The Nature School also provides environmental training for teachers. Over 20 schools have been allocated adjacent areas to use as outdoor classrooms, encouraging students to learn while experiencing nature.



LIMITING H₂S EMISSIONS

Geothermal power plants emit hydrogen sulphide (H₂S), a gas with the foul odour of rotten eggs. The health and environmental impact of long-term exposure is still unknown. In 2010, in response to repeated complaints from residents, the environment ministry tightened the daily H₂S concentration limit to 50 µg/m³, or one-third of the World Health Organization guideline value. If the limit is exceeded, it triggers financial penalties. This has encouraged energy companies to seek new ways to reduce emissions, such as dissolving H₂S in condensate water and injecting it back into the reservoir.



GREEN PUBLIC PROCUREMENT

The 2009 Government Policy for Ecological Procurement was based on education and collaboration tools such as guidelines and workshops for public institutions. A survey showed that in 2012 about a third of government institutions were trying to green their operations. By early 2013, people from more than 140 public institutions, including some schools, had attended presentations or workshops on green procurement. The government adopted a new green procurement policy in 2013. It aims to raise the proportion of tenders incorporating environmental criteria to 50% by 2016 and to promote Icelandic enterprises that offer eco-friendly options.



EUROPE'S LARGEST GLACIER

In 2008, Iceland embarked on Europe's single largest nature conservation project to date (Figure 7). Vatnajökull National Park covers 14% of Iceland's territory, incorporating two national parks, the Lónsöræfi wilderness and Vatnajökull glacier, which is larger than all other glaciers in Europe combined. The project offers a unique opportunity to observe the wide-ranging impact of Vatnajökull glacier on its surroundings, in which ice and fire play leading and often complementary roles. Visitor centres are the park's core service facilities, hosting exhibitions and cultural events, providing information and housing the park wardens. Wardens also offer guided nature tours. The park is managed by a board of seven that includes representatives of local authorities and environmental NGOs.

In-depth | energy and environment



Abundant and cheap renewable energy is one of Iceland’s key economic assets. Power production capacity has expanded enormously to meet demand from new energy-intensive industry, notably aluminium smelting. This has helped diversify the economy, but also exerted pressures on the country’s unique landscape and fragile ecosystems, and generated heated public debate. Iceland needs to fully address these land-use conflicts if it is to succeed in developing its economy based on both power-intensive industry and nature-based tourism. The recent energy master plan is a step in the right direction. Reducing fossil fuel use in transport and fishing remains a major challenge, given the relative lack of alternatives.

OPPORTUNITIES

An abundant supply of clean energy. Iceland’s combination of geological activity, large glaciers and numerous rivers provides vast potential for geothermal and hydropower development, only part of which is exploited. All electricity and 95% of heat are generated from these two sources, with no need for support measures such as those used in many countries. Both geothermal and hydropower production have increased considerably, especially since 2005 (Figure 5). Geothermal is the primary energy source, mainly used to heat homes.

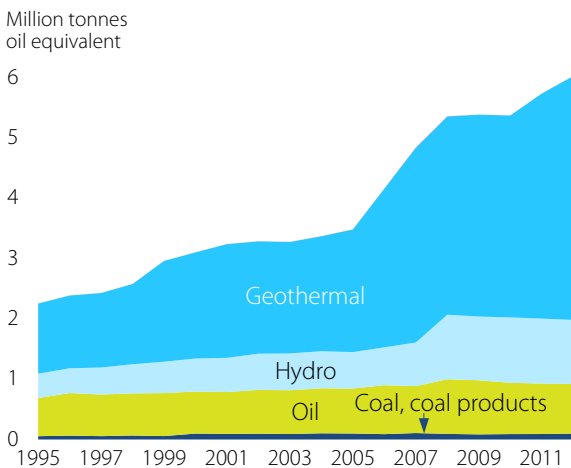
Cheap electricity and heat. Households and businesses can benefit from energy prices that are among the lowest in Europe owing to the renewable nature of power generation, which is capital intensive but entails no fuel costs. Instead of expanding the aluminium sector further, Iceland could

leverage its low-cost renewables by developing smaller, cleaner energy-intensive industries, such as greenhouses and data treatment centres, and by promoting the use of electric vehicles.

A sound energy policy framework. Energy policy is grounded in the Comprehensive Energy Strategy for Iceland and is broadly in line with EU legislation. Some difference exists, for example on energy efficiency, due to the country’s unique energy mix and isolated market.

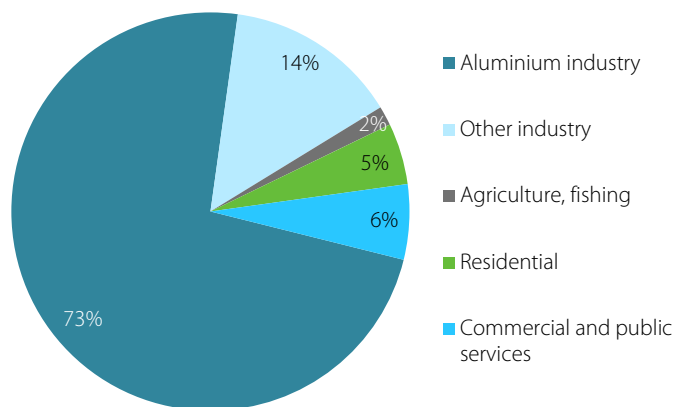
An innovative approach to land-use planning for energy development. The Master Plan for Hydro and Geothermal Energy Resources provides a valuable model for building consensus and addressing the trade offs between building power plants, expanding nature-based tourism and preserving precious natural ecosystems.

Figure 5: **Energy supply by source, 1995-2012**



Note: Total primary energy supply, excluding trade of electricity and heat.
Source: IEA (2013), IEA World Energy Statistics and Balances (database).

Figure 6: **Electricity consumption, 2012**



Source: Orkustofnun (2014), Iceland Energy Portal.



THE MASTER PLAN

After more than a decade of debate and analysis, the plan was adopted in 2013 and is to be reviewed every four years. All municipalities must incorporate its provisions in their land-use plans. It classifies some 80 areas with potential for hydro or geothermal development as suitable for development (green), not suitable (red), or needing further research (yellow). The plan is based on scientific analysis and wide public participation, although some environmental effects were not fully considered due to methodological constraints.

CHALLENGES

Environmental impact. Development of large hydropower and geothermal power plants, and related infrastructure (power lines, pipes, roads), can affect sites of exceptional beauty and unique biodiversity and that, in addition, are often major tourist attractions. Geothermal power plants, furthermore, discharge wastewater containing chemicals and nutrients, and they emit H_2S (see page 9).

An energy-intensive industrial structure. In 2011, industry consumed 45% of all energy and 87% of electricity, mostly for aluminium smelting (Figure 6). Power generation is already five times the amount needed by the population alone. Iceland is effectively locked into long-term contracts to provide large industrial plants with power at prices below average commercial rates. It is not clear if the rate of return earned by public utilities is sufficient to cover all costs, including environmental costs.

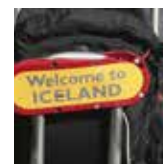
Scant attention to home energy efficiency. Energy use for space heating grew by about 12% over 2000-11. This reflects, in part, the low energy prices and relatively poor building insulation. As geothermal energy may be exhausted in the long term, however, tightening building energy efficiency requirements would be a prudent policy. Subsidising electric and oil heating for the 10% of the population that does not have access to geothermal heat also tends to encourage energy waste.

Road transport. Transport, like fishing, is one of the main consumers of fossil fuels, all of which are imported. Inland freight and passenger transport is virtually all by road, due to the low population density and limited alternatives. There is scope to improve urban planning and public transport development in the capital area so as to reduce urban sprawl and private car use. Electric vehicle use is limited, but increasing it is technically feasible within the current renewables-based power system.

Next steps | energy

- **Ensure that electricity prices are adequate** to cover the long-term costs of power installation projects, including the environmental costs.
- **Reinforce the independence of scientific assessment and include economic analysis** in the next phase and review of the Master Plan for Hydro and Geothermal Energy Resources.
- **Review the energy efficiency requirements** in the building code.
- **Consider how a tax and an air quality standard for hydrogen sulphide** could accelerate the development of low- or no-emissions technology.
- **Review the cost and benefits of heating subsidies** and remove those that encourage energy waste.
- **Improve urban planning and public transport development** to reduce urban sprawl and private car use; assess the potential for extending the use of electric vehicles.

In-depth | tourism and environment



Nature-based tourism is an important source of economic growth. Increased international arrivals, during a short season, exert growing environmental pressures that could threaten the sustainability of tourism. Iceland has taken steps to address such pressures, investing in protecting vulnerable and damaged sites and improving the environmental records of tourist operators. However, more needs to be done to ensure policy coherence and effectiveness.

OPPORTUNITIES

A unique combination of natural assets. Most tourists visit Iceland to experience its pristine wilderness, with natural hot springs and pools, lava fields, spectacular glaciers and waterfalls. The country is also famous as a destination for the northern lights, outdoor activities, whale and bird watching, and fishing.

A driver of economic growth. Tourism is one of Iceland's fastest-growing sectors and contributes about 6% of GDP and employment. Employment in the tourism sector increased by 13% between 2008 and 2011, while the recession cut total employment by 6.3% during the same period. The number of annual visitors has increased in recent years to more than twice the country's population and is expected to reach 1 million per year by 2020.

Investment in protecting nature and tourist attractions. Areas under nature protection have increased, especially with the establishment of Vatnajökull National Park in

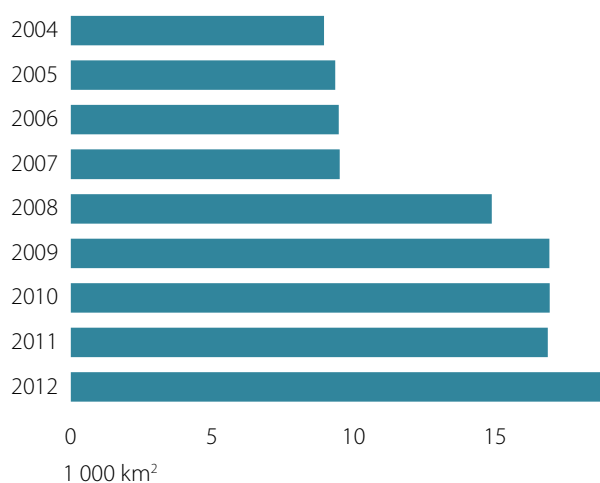
2007 (Figure 7). A 2010 study by the environment agency identified the most vulnerable and damaged tourist sites and has formed the basis for targeted investment. In 2012, the government set up a Tourist Site Protection Fund to support development and maintenance of infrastructure that protects nature at frequently visited attractions and at new sites.

Environmental performance certification. The VAKINN certification system, introduced in 2011, is a voluntary, fee-based quality assessment system that rates various aspects of tourism services, including environmental protection and sustainability. Only nine companies were participating in VAKINN as of August 2013, but the system has potential for growth.

673 000

visitors in 2012 (more than double the population).

Figure 7: National protected areas, 2004-12



Note: Nationally designated protected areas (including national parks, natural monuments, nature reserves and habitat protection, and country parks).
Source: Statistics Iceland (2014), "Geography and environment", Statistics portal.

VAKINN ENVIRONMENTAL AWARD CRITERIA



- Strategy and work procedures: Have the company's strategy and mission been presented to the staff?
- Procurement and resources: Is lifetime cost taken into account with regard to procurement and other decisions?
- Energy: Are cooling and heating systems regularly monitored and maintained?
- Waste: Is glass, paper, plastic or metal returned for recycling?
- Nature preservation: Is land re-vegetation supported?
- Community: Is there a company representative on a committee or board of a local association?
- Suppliers and market: Is it known where and how raw materials are obtained?
- Information to customers: Are customers informed of the company's main concerns with regard to nature preservation?

A tourism company receives an environmental grade (bronze, silver or gold award) depending on the number of criteria it fulfils.

CHALLENGES

Growing environmental pressures. Receiving increasing numbers of tourists during a short season places growing pressures on fragile ecosystems. It also requires the construction of additional accommodation, transport and other infrastructure. Concentration of visitors during summer and in the area around Reykjavik strains environment-related infrastructure, such as that for waste and wastewater treatment, which is designed for a much smaller population. Littering is also a problem at many tourist sites.

Landscape degradation. In some areas, environmental damage has reached such a level that public access is banned or severely restricted. It is not unusual for national parks to close trails for extended periods due to significant erosion and vegetation damage from hiking. Restrictions are also imposed on cruise boats to avoid disturbing nesting bird colonies. Off-road motoring has been banned since 1999, yet there is evidence that it still takes place. In 2010, a three-year action plan was prepared to strengthen enforcement.

Lack of clear policy and institutional frameworks. Strategies developed for 2006-15 and 2011-20 considered

environmental issues but did not really provide a framework for action. Iceland has well-developed but separate institutional arrangements for tourism policy and nature conservation. Statistics on the environmental impact of tourism are partial and scattered.

Financing shortfalls. The shortfall in financing infrastructure at tourist sites has become more acute with the sharp increase in tourist numbers. To meet the new demand, an accommodation tax on lodging was introduced in 2011. In its first two years, the tax proved difficult to administer and raised less revenue than expected, in part because of design flaws and difficulties in collecting it from private homeowners. Developing “nature passes” that provide access to a set of locations, including less popular sites, would help finance and reduce pressures on the most visited sites. There is also a need to leverage private investment in transport, hotels and other infrastructure.

80 %

of visitors decided to come because of “Icelandic nature”.



Next steps | tourism

- **Develop a comprehensive action plan for sustainable tourism** in co-ordination with policies for land use, infrastructure development and nature conservation.
- **Improve the information base** on tourism and environment by integrating the environment into official tourism statistics and indicators and strengthening analysis of environmental consequences of tourism.
- **Reinforce co-operation** among institutions with responsibilities related to tourism and environment; consider establishing a body to implement a comprehensive sustainable tourism policy.
- **Consolidate national park and protected area management** within a single authority to better integrate nature conservation and tourism policies.
- **Review funding mechanisms** to close the funding gap for infrastructure at tourist sites.
- **Promote the VAKINN certification system** as a way to improve environmental performance of tour operators.

Quick focus | fisheries management

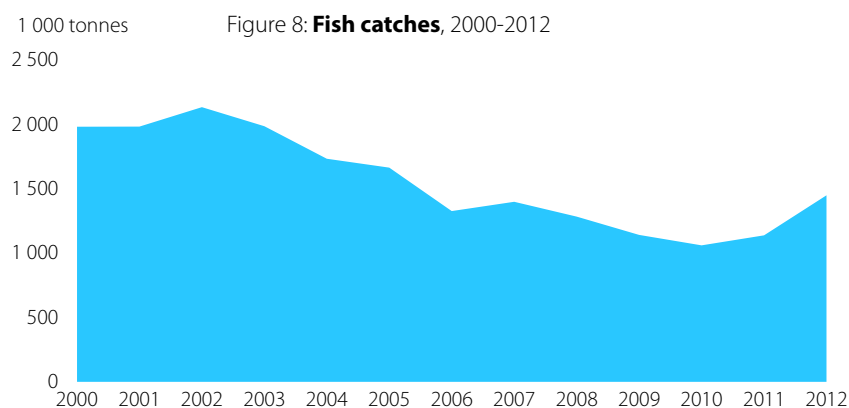
The Icelandic economy is heavily reliant on the fishing industry. Marine products represented more than 25% of total exports of goods and services in 2012. In the past, Iceland experienced chronic overfishing, which threatened the sector's sustainability. The gradual introduction of a transferable fishing quota system between 1984 and the early 1990s was key in maintaining the sustainability and profitability of the fishing industry.

With a total catch of about 1.5 million tonnes in 2012, Iceland is a major fishing country. The total tonnage decreased by 27% between 2000 and 2012, mainly due to fluctuations in the catch of pelagic species, but also because of Iceland's sustainable fisheries management (Figure 8).

The system works by setting total allowable catches (TACs), based on scientific recommendations of what is biologically sustainable, and assigning individual transferable quotas (ITQs) to fishers. Each quota gives its holder the right to catch a certain share of the TAC. Quota owners thus have an incentive to ensure that TACs are not set too high, as that would undermine the rent and the value of their quotas. Originally, quotas were allocated for free, based on historic fishing activity levels.

Since the introduction of the system, the industry has become much more efficient, increasing the value of the resource rent and, hence, of the quotas. As a result, income disparities appeared. To capture part of the natural resource rent, a special fee on extra profits in the sector was introduced in 2012, in addition to a general fishing fee introduced in 2001 to finance the management system. In practice, the special fee applies to the difference between the sales value of the output and its extraction and production costs, including a fair rate of return on capital.

The system is under review because of implementation difficulties and concerns over increased taxation and potential disparities across fishing sectors. While a well-designed fisheries resource rent tax is an efficient way to capture extra profits, an excessively high rate could damage the fisheries management system and drastically reduce ITQ value.



Source: FAO (2014), *FAO Global Capture and Aquaculture Production* (database)





Useful resources

PUBLICATIONS

OECD Environmental Performance Reviews: Iceland 2014

OECD Publishing, <http://dx.doi.org/10.1787/19900090>

Towards Green Growth

OECD Publishing, <http://dx.doi.org/10.1787/9789264111318-en>

www.oecd.org/greengrowth/towardsgreengrowth.htm

WEB

EPR programme:

www.oecd.org/environment/country-reviews/iceland2014.htm

Country profiles

www.oecd.org/site/envind

MORE INFORMATION

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All figures, tables and boxes are from the forthcoming OECD publication,
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Map p8/9 adapted from GoogleMaps.com

