

Welfare for the Future

Iceland's National Strategy for Sustainable
Development

Priorities 2010-2013



Foreword

Welfare for the Future: Iceland's National Strategy for Sustainable Development was first approved in 2002. *Welfare for the Future* creates a framework for the objectives set by the Government with respect to sustainable development at the beginning of the 21st century. The Strategy is reviewed every four years in connection with the Environmental Assembly. This publication presents the Government's emphases concerning environmental protection and sustainable utilisation of natural resources over the next four years under the objectives set forth in *Welfare for the Future*.

Record attendance at the sixth Environmental Assembly, held in the fall of 2009, reflects growing interest in environmental affairs, in Iceland as well as abroad. Environmental issues have also assumed greater importance in administrative affairs, even though they do not necessarily dominate social discourse at present, while Iceland is still battling the after-effects of the economic collapse. Current discourse bears symptoms of a short-sighted attitude towards environmental matters. The environment is viewed as a topic that must wait until more serious matters have been addressed; in a sense, it is treated as an afterthought. This attitude is evident, for example, in the voices that demand more aggressive fishing and immediate harnessing of the nation's energy resources for financial gain. It can be seen in the demands that environmental authorities stay "out of the way" of those wishing to accelerate the exploitation of land and sea resources so as to eliminate the debt left by the banks' collapse.

Attitudes like this are downright dangerous. Environmental affairs are not just today's fad; they involve tangible value and the sensible utilisation of resources. They centre on protecting the living resources that are the cornerstones of fishing and agriculture. They touch on geological sites, geothermal heat, falling water, and landscape. They focus on protecting Iceland's natural surroundings, which generate substantial revenues through the tourism industry, at the moment of our greatest need. They involve stemming the tide of profound climate changes that could radically change the living conditions of all of mankind. They mean reducing pollution in the air that we breathe. And they focus on land allocation, physical planning, and habitats. Environmental affairs are of pivotal importance to our wallets, our health, our basic values, and life itself.

I personally consider sustainable development the optimal way to ensure the successful reconstruction of Icelandic society. But what does sustainable development entail? What does the term mean? In "Our Common Future", a report issued in 1987 under the leadership of former Norwegian Prime Minister Gro Harlem Brundtland, it is defined as follows: "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs." The term actually centres on a single core: equal rights. Equal rights of generations and of nations. Coming generations have the same right as we do to enjoy the bounty of the earth, and developing countries have the right to improve the living conditions of their people. This is why we need to ensure that future generations are included when we take decisions that affect their future and that of generations yet to come. With this idea in mind, I placed special emphasis on the young people's participation in last fall's

Environmental Assembly so as to promote intergenerational dialogue about Iceland's future development. A separate young people's symposium held concurrent with the Assembly sought to answer the quest, "How can Iceland become sustainable?"

The formulation of Icelanders' vision for the future in the spirit of sustainable development is a demanding project; therefore, a single government strategy cannot do it justice. It is a dynamic endeavour that is actually the task of all of society. In order to achieve the goals of sustainable development, it is necessary to build on sound scientific knowledge, constant re-evaluation of conditions and priorities, and open and democratic discourse. As Minister for the Environment, I strongly emphasise democratic consultation with the public, with companies and non-governmental organisations, and with all those who are concerned about the environment. In order to promote equality and democracy in the discussions at the Environmental Assembly, it was decided to establish so-called World Café discussions where questions about sustainable development were discussed in small groups.

The report by the Parliamentary Special Investigation Commission (SIC) on the collapse of the banks highlights the need for review of all administrative procedures and Government functions, not least in the interest of sustainability and environmental points of view. We must decide what methods to use to measure the health of our society. We need new metrics, new indicators, to measure its health and our quality of life. A constantly growing number of countries are realising that economic policy based on growth without sustainability is doomed to fail. We must consider cultural and social values and, no less, the resources provided by nature, which can be the foundation for human welfare for the foreseeable future if we treat them with respect and moderation. These issues concern the future of life on earth and the possibility that we can make a contribution to that future.

Svandís Svavarsdóttir, Minister for the Environment

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Introduction

Welfare for the Future is the name given to Iceland's national strategy for sustainable development, which was approved by the Government shortly before the World Summit on Sustainable Development held in Johannesburg in 2002. The original strategy set forth 17 objectives for environmental protection and resource utilisation, together with ancillary goals, and was intended as a framework for Iceland's policy on sustainable development through 2020. The first version of the strategy contained a summary of short-term measures and realistic steps towards the achievement of the 17 objectives. The top-priority tasks for the achievement of the 17 objectives are reviewed every four years. New four-year priorities were thus defined following the Environmental Assemblies of 2005 and 2009.

This publication describes some key projects under the objectives of Welfare for the Future over the four-year period from 2010-2013. As before, this is not an exhaustive list of all measures that are planned or desired, but rather a selection of priority tasks in each area. Many of the objectives will be very difficult to achieve in full; thus it is critical to prioritise tasks and concentrate our efforts on the measures that are most efficient and effective. Significant progress has been made in some areas – for example, regarding protection of the ozone layer – and there is no need to define a large number of tasks in this area in the near future.

The first version of *Welfare for the Future* included a discussion of the various ways to achieve the objectives: regulatory instruments, economic incentives, physical planning, international agreements, and education and instruction, among others. While these means of implementation are not all explored in detail here, two that are to be emphasised in particular and promoted in the next four years are discussed in some depth. One is sustainable production and consumption, and the other is education in sustainable development. Both of these are closely linked to people's awareness of their environment, lifestyle, and sense of the impact of human activity on the environment, and they centre on enhancing knowledge of possible ways to reduce strain on the environment.

This report contains a new chapter (Chapter 7) on protection against accidents and violence.

Sustainable consumption and production have become ever more prominent elements in the formulation of sustainable development policy; for example, the United Nations has been preparing a special master plan for sustainable consumption and production and will present the plan for discussion by the UN's Division for Sustainable Development at its meetings in 2010 and 2011.

Education in sustainable development is a focal point in international co-operation, and UN has designated the decade from 2005 to 2014 as the Decade of Education for Sustainable Development. The purpose of dedicating an entire decade to education in sustainable development is twofold: to work towards furthering the values included in the concept of sustainable development and to enhance the general understanding of what sustainability entails. Consequently, it is necessary in all courses of study to promote changed attitudes and responsible conduct so that societies around the world will be fairer

and more sustainable for all. Governments in UN member countries are expected to promote increased awareness and participation in measures for sustainable development, including collaboration with schools, NGOs, and other stakeholders. The main emphases concerning these two aims – sustainable consumption and production, on the one hand, and education in sustainable development, on the other – are discussed below. This is followed by a discussion of the principal measures to be emphasised in 2010-2013, with the aim of achieving the 17 objectives set forth in 2002, in Iceland's original strategy for sustainable development, and the chapter on protection against accidents and violence.

Sustainable production and consumption

Objectives:

- **Substantially greater importance shall be given to environment-friendly purchasing.**
- **Icelandic firms and institutions shall adopt the Swan eco-label or comparable eco-labelling for their goods and services.**
- **Consumers shall be able to choose eco-labelled goods and services.**
- **Instruction and information on the value of sustainable day-to-day consumption shall be increased.**
- **Consciousness of environment-friendly physical planning and man-made structures shall be raised among stakeholders and the general public.**

Priorities 2010-2013:

- The Government's policy on environment-friendly purchasing shall be put in place with an Icelandic action plan on the adoption of environment-friendly purchasing practices as a collaborative effort of the State and municipal governments.
- The share of Government tender offers subject to environmental conditions will be 30% in 2010, 60% in 2011, and 80% in 2012.
- Three key institutions will complete the first stage of the adoption of environment-friendly purchasing practices in 2010.
- All Government institutions shall have implemented the first phase of the Government strategy for environment-friendly purchasing practices by 2012.
- Work shall be done in accordance with Government policy on man-made structures, and the public sector shall set a positive example and formulate ambitious objectives for sustainable development in construction projects.
- Emphasis shall be placed on the inclusion of environment-friendly objectives in the procedures for physical planning, design, construction, and maintenance of buildings and other man-made structures.
- Companies whose goods and/or services bear the Swan eco-label shall at least triple in number.
- The Government shall place increased emphasis on enabling the general public to make environment-friendlier decisions in their daily lives than they have hitherto, thereby contributing to sustainable consumption and lifestyles.
- Emphasis shall be placed on electronic medical records and the establishment of a healthcare network that entails, among other things, providing healthcare workers with electronic access to medical records, irrespective of geographical location.

The lifestyles and consumption patterns of citizens at large are important determinants of the status and development of environmental affairs. Although the activities of each individual may seem small and insignificant, in the aggregate they make a great impact on our environment. Environmental protection is therefore the daily task of all: individuals, companies, and institutions. Decisions on purchasing and consumption in daily life can contribute to sustainable resource utilisation and reduce both refuse and wasteful behaviour. Governmental authorities can create the conditions so that people can

choose a sustainable lifestyle in their daily lives and institutions will see the benefits of engaging in eco-management, eco-labelling, and environment-friendly purchasing. Sustainable consumption also implies that people have the option to consume safe and healthy food that does not lead to undue weight gain, obesity, or other lifestyle-related illnesses. Promoting sustainable consumption and production is therefore an extremely important element in the Government's attempt to promote sustainable development. Eco-labelling is a positive and effective way to promote sustainable production and consumption, making it easier for consumers to choose environment-friendly goods and services. The Swan, the official eco-label of the Nordic countries, was established by the Nordic Council of Ministers in 1989. The Swan is trusted by consumers and producers and is considered a leader among eco-labels worldwide, as it sets stringent requirements for environmental quality and healthfulness.

Environment-friendly purchasing is a systematic way to consider environmental views and link them to quality and cost. Finally, environment-friendly purchasing is conducive to the production of environment-friendly goods and services that are useful to society as a whole and encourages green innovation. By carrying out purchasing in the best interests of the environment, institutions and corporations can contribute to sustainable development.

The Icelandic Government purchases goods, services, and projects for over 100 billion Icelandic krónur per year. This is one-fourth of Iceland's total Government expenditure. Clearly, the Government can contribute substantially to improvements in environmental affairs by using environmental points of view as a guideline in public sector purchasing, in utilising and disposing of supplies, and in employees' travel options.

The Government's strategy on environment-friendly purchasing, formulated in April 2009, is an important step towards sustainable development and an important example for the entire nation to follow. The strategy describes how environmental points of view shall be integrated into public sector purchasing. At the global level, certified eco-management systems based on international standards have long been a way for corporations to demonstrate their commitment to the environment. The best-known international eco-management standards are ISO 14001 and EMAS. The standards are tools for firms to use in order to operate an effective eco-management system and integrate it with other management systems within the company. The objective of eco-management is to reduce strain on the environment through effective steering of major environmental factors.

In order to ensure better utilisation of supplies and provisions and to reduce waste in the healthcare system – such as that generated by printing out test results and repeating tests and studies – emphasis will be placed on electronic medical records and the establishment of a healthcare network that, among other things, provides healthcare employees with electronic access to medical records, regardless of their geographical location.

Education

Objectives:

To create a society characterised by solidarity. This entails developing each individual as an effective citizen who is acquainted with and conscious of his or her values, attitudes, and feelings about:

- **the global impact of human beings and the equal status of all of Earth's inhabitants**
- **nature and environment**
- **democracy, human rights, and justice**
- **equal rights and multi-culturalism**
- **welfare and public health**
- **economic development and vision for the future**

Education for sustainability takes place through life and work; it takes place in the formal school system and in continuing education, employment, and daily living. The educational system and its emphases are the responsibility of national and municipal governments, school administrators, teachers, and the school community. An environment-friendly economy depends on formal education, on continuing education of employers and employees. Clearly, then, education for sustainability is the responsibility of a number of parties, and defining and presenting priorities, as is done in other sections of this report, is a complex task.

Below are some examples of objectives. They are classified into six categories of education for sustainability. The objectives are diverse and may differ depending on whether they centre on, for example, the school system, associations and NGOs, continuing education centres, or the general economy. It is the responsibility of each party to present its own objectives.

The global impact of human beings and the equal status of all of Earth's inhabitants:

- To gain an understanding of the responsibility borne collectively by all of Earth's inhabitants to comprehend the significance of thinking globally and acting locally and to respect the diversity of humanity, both locally and globally.

Nature and environment:

- To respect life on Earth.
- To be conscious of one's values, attitudes, and feelings towards nature and the environment.
- To become acquainted with nature and have an opportunity to develop an emotional relationship with it.
- To develop an understanding of and interest in environmental protection.
- To understand why protection of biodiversity and ecosystems is important in guaranteeing the preservation of nature in the future.
- To acquire knowledge based in science, social science, and technology that can affect the utilisation of nature in the future.

- To be able to evaluate various attitudes towards nature and the environment and distinguish among them as regards, for example, how sustainable they are.

Democracy, human rights, and justice:

- To possess social and communication skills.
- To be able to engage in critical thought.
- To attempt, through democratic means, to affect decisions about one's own life and the lives of others, as well as the immediate environment, so that they will be as sustainable as possible.
- To be an active and responsible participant in the school community, in the immediate community, and in society at large.

Equal rights and multi-culturalism:

- To gain understanding and tolerance for the diversity of human life in Iceland and elsewhere.
- To respect the right to education, irrespective of sex, financial position, culture, sexual preference, or other factors that may distinguish people from one another.
- To understand that gender equality is important for sustainable development.

Welfare and public health:

- To adopt sustainable consumption habits.
- To adopt habits that contribute to physical, mental, and social health.
- To promote consciousness of social welfare in Icelandic society.

Economic developments and vision for the future:

- To understand what effect present consumption has on the future.
- To link the understanding of global affairs with the future prospects for sustainable human habitation on Earth.
- To understand economic development and the correlation between present and future in sustainable development.

Priorities 2010-2013:

Because education for sustainability is the responsibility of many parties and because it is difficult to define priorities, the following section sets forth objectives and means by which various parties can achieve them.

Governmental authorities

Icelandic legislation on pre-school, compulsory school, and upper secondary school, which dates from 2008, stresses that formal education should promote the overall development and welfare of the individual. It also stipulates that the schools should work closely with the parents of children and underage youth. The welfare and best interests of children and youth shall be the guideposts for all work done in the educational system, and procedures shall be formulated with an eye to tolerance, democratic cooperation, responsibility, solicitude, and respect for human values. School activities shall contribute to physical, mental, and social health. They shall lay the groundwork for initiative and independent thought among children and youth. They shall teach students disciplined and

independent work habits, equality, and critical thought, as well as teaching them to enjoy cultural values and encouraging them to seek out knowledge. At all educational levels, the schools shall enhance students' ability to interact and express themselves in Icelandic and reinforce their understanding of Icelandic society and its history and unique characteristics. They shall lay the foundations for young people to become independent, effective, and responsible participants in a constantly and rapidly developing democratic society. Furthermore, they shall cultivate children and young people's capacity for expression and creation so as, among other things, to strengthen their self-image, health-consciousness, security, and ability to communicate, and to promote broad-mindedness and a strong sense of ethics. In addition, upper secondary schools have the role of preparing students for participation in the labour market and further study. All of these factors are linked to education for sustainability.

- The curriculum guides for pre-school, primary school, and upper secondary school are important tools for Government authorities to use in formulating a strategy for education for sustainability. In the summer of 2008, new legislation for these three educational levels was passed (Acts no. 90/2008, 91/2008, and 92/2008), and the Ministry of Education, Science and Culture is now preparing curriculum guides for all three levels. The aim is to issue the new curriculum guides in 2010. Education for sustainability will be one of the focuses in the new guides.
- The Ministry of Education, Science and Culture will collaborate with teacher education institutions on strengthening the emphasis on sustainability in the education of pre-school, primary school, and upper secondary school teachers.
- The Ministry of Education, Science and Culture will instruct athletic and youth groups to make education for sustainability a discernible emphasis in their activities.
- The Ministry of Health will encourage healthcare employees to instruct the public on sustainable lifestyles and their impact on mental and physical health.

Educators and schools

Because education for sustainability involves knowledge and training that is conferred through various subjects, schools, and social activities, the Ministry of Education, Science and Culture encourages the parties concerned to ensure that sustainability is reflected in all studies, formal and informal. At the same time, it is important that educators not be the only parties involved but that sustainability be emphasised in cooperative activities with the smaller and larger community.

- According to the new school legislation, administrators have considerable latitude to shape school activities around various focuses and conditions. The Ministry of Education, Science and Culture encourages school administrators to mould school activities so that they will be a forum for knowledge and training that emphasises active student participation and a study environment conducive to a sustainable society.
- According to the new Act on Continuing Education, no. 27/2010, continuing education shall focus on individuals' needs as regards active participation in society. Educators, companies and non-governmental organisations are encouraged to mould their educational activities so that they will be a forum for

- knowledge and training that emphasises active student participation and a study environment conducive to a sustainable society.
- According to the new Upper Secondary School Act, no. 92/2008, the preparation of study programme descriptions is transferred from the Ministry of Education, Science and Culture to the upper secondary schools themselves. This implies as well that the schools are entrusted with presenting recommendations concerning the structure, context, and substance of the courses of study, under the guidance of the Ministry. Upper secondary schools are encouraged in particular to create a sustainable working environment and set of procedures and to incorporate the emphases of education for sustainability into all of their programme descriptions, whether they concern academic studies, vocational studies, vocational tracks for the disabled, or adult education.

Municipalities

The new legislation on pre-schools and primary schools gives municipalities increased authority over school operations and requires that they set general school policy and present it to local residents. Thus the local authorities are entrusted with greater responsibility for the professional activities of the schools. They are required to formulate general policy on schools and to ensure that the schools work systematically towards improvements in their operations and fulfil the requirements made of them. The new legislation establishes a new consultative forum in the form of school councils comprising representatives of teachers and other employees, parents, the immediate community and, as appropriate, students. This structure represents an attempt to enhance the democratic effectiveness of the parties connected with the schools and to strengthen their influence on policy-making, operations, and the general framework of school activities. It is very useful to link provisions on education and school policy that are usually included in Local Agenda 21.

- The Ministry of Education, Science and Culture encourages municipalities to ensure that their local school policy includes education for sustainability and that guidelines are presented for its implementation.
- The Ministry of Education, Science and Culture encourages municipalities and athletic and youth groups to work in the spirit of sustainable development and to present guidelines for implementation of education for sustainability.

The general economy

The Upper Secondary School Act, no. 92/2008, provides for the involvement of members of the general economy in organising vocational education at the upper secondary level. This involvement takes place through a vocational council whose focuses include overall policy-making for vocational education, as well as sectoral councils that focus on vocational education in individual industries or categories. One of the sectoral councils' tasks is to consider what requirements should be made of firms and institutions that provide on-the-job training or workplace instruction. It is common that educators from the general economic sector oversee the preparation of apprenticeship agreements for on-the-job training or workplace instruction. The Ministry of Education, Science, and Culture will emphasise education for sustainability in all study programme descriptions for upper secondary vocational education, both in-school education and workplace

instruction. Furthermore, the Ministry will encourage all of the above-specified parties involved in vocational education to give particular consideration to improving their procedures and work environment in the spirit of sustainability.

- The Ministry of Education, Science and Culture will pursue an agreement with labour market entities concerning the inclusion of education for sustainability and the presentation of guidelines for emphasis on sustainable development in adult education.
- The vocational council, sectoral councils, and administrators of workplace instruction are encouraged to consider education for sustainability and present guidelines for the inclusion of emphasis on sustainable development in workplace education.

I. A HEALTHY AND SAFE ENVIRONMENT

1. Clean air

Objectives:

- 1.1 To ensure that Iceland's inhabitants breathe clean air, with air pollution levels below the strictest levels in the European Economic Area.**
 - 1.2 To minimize air pollution caused by traffic, industry and other activities.**
 - 1.3 To reduce air pollution in the greater Reykjavik area with the aim of significant improvement in the next few years.**
- Attempts will be made, in cooperation with the State and with municipal governments in the greater Reykjavík area and Akureyri, to reduce particulate pollution to a level below the reduced reference limits that take effect in 2010. The means of achieving this include encouraging reduced use of studded tires, cleaning and sealing street surfaces, and finishing open construction foundations. In addition, the possibility of using stronger substances in pavement will be investigated, with the aim of reducing wear and thereby reducing particulate pollution.
 - Rules will be set stipulating maximum levels of hydrogen sulphide (H₂S) in the atmosphere, and ways will be sought to reduce H₂S emissions from geothermal power plants.
 - The health and environment ministries will work together to improve air quality in the greater Reykjavík area, not least with children's health in mind.
 - Studies will be conducted on the volcanic ash and other substances emitted during the Eyjafjallajökull eruption and their impact on health.

2. Clean freshwater

Objectives:

- 2.1 All inhabitants of the country should have access to abundant clean water unpolluted by chemicals and micro-organisms, for drinking and other uses.**
- 2.2 Incidents of drinking water contamination should be rare or non-existent.**
- 2.3 Pollution of rivers and lakes should be non-existent or so miniscule that it does not affect freshwater ecosystems, fish migration or the recreational value of an area.**

- The EU Framework Directive on water will be implemented and adapted to Icelandic conditions with the adoption of water management legislation that guarantees the protection and sustainable utilisation of freshwater. Monitoring of water for human consumption will be improved in accordance with the provisions of the Directive.
- A water management plan will be prepared, together with an action plan aimed at ensuring the protection of groundwater, surface water on land, estuaries, and coastal waters, as well as comprehensive protection of water sources and marine ecosystems.
- In reviewing legislation on nature conservation, special emphasis will be placed on protection of hydrology and on declared objectives for protecting water sources and marine ecosystems.

3. Safe food products

Objectives:

3.1 Consumers should always be able to trust that they are offered only products safe for consumption.

3.2 The labelling of food products should give sufficient information on the contents of the product.

3.3 Iceland must continue to be esteemed as a producer of healthy and safe food products made in an unpolluted environment.

- Attempts will be made to secure the position of Icelandic goods in the global markets, and emphasis will be placed on animal welfare, healthfulness, and the reputation of Icelandic products.
- Icelandic foodstuffs legislation will be reviewed, and rules governing the manufacturing process from primary production to distribution of the finished product will be coordinated. These rules cover feed, animal health and welfare, production, processing, and distribution of foodstuffs.
- Rules will be set concerning traceability of foodstuffs so as to ensure that it is possible to inform consumers and recall products if it is discovered that products do not meet requirements concerning food safety and correct information on the nature and composition of the food.
- Emphasis will be placed on maintaining Iceland's strong position as regards low frequency of food-related illnesses and on making comparable food safety requirements of domestic and imported foodstuffs.
- Consumers will be encouraged to consume healthy and safe foods by enhancing their knowledge of the connection between nutrition and health.
- Attempts will be made to ensure that responsibility for food safety rests with food manufacturers and that official monitoring is independent of the interests of producers and distributors. Food inspection shall be based on risk assessment and on coordinated monitoring plans.
- Rules on labelling of genetically modified foods will be aligned with EU rules.
- Work will continue with the other Nordic countries on the project "Ny nordisk mad." The objective of the project is to retain expertise in the production of traditional Nordic food; to maintain and increase its consumption, both within the Nordic countries and elsewhere; and simultaneously to adapt its treatment and content to modern consumption patterns and culinary conventions.

4. An environment free of hazardous substances

Objectives:

- 4.1 The use of chemicals and chemical products should not threaten the environment or human health.**
 - 4.2 Consumers should have access to conclusive information on how to utilize products with chemicals, and information on potential hazards that may arise from chemicals in the product.**
 - 4.3 The use of biocides and pesticides should be decreased.**
 - 4.4 The disposal of materials hazardous to health and the environment should be limited as much as possible, and cease completely within 25 years.**
- Legislation will be adopted on chemicals and chemical products in 2011 so as to ensure that the utmost caution is observed concerning their handling, so that neither health nor the environment is damaged by them. The purpose of the legislation will be twofold: on the one hand, to protect human health and the environment, and on the other, to facilitate competition in the chemicals industry and promote the development of new chemicals in the European Economic Area.
 - It will be ensured that sufficient information on the toxic effects of chemicals and chemical products is accessible, as well as information on the risks associated with handling such substances. Furthermore, emphasis will be placed on ensuring that the authorities oversee hazardous substances.
 - Systematic work will be done to eliminate toxic and hazardous substances in favour of substances or methods that pose less danger to health and environment.
 - Legislation will be implemented that will lay the foundations for a global harmonized system (GHS) of classification and labelling of chemicals and chemical compounds.
 - Provisions prohibiting and restricting the use of bisphenol A (BPA) will be adopted in a regulation. The prohibition will extend to the use of the substance in baby bottles.

5. Outdoor activities in harmony with nature

Objectives:

- 5.1 The public's right to free access to common land should not be restricted, unless it is vitally necessary for the purposes of nature conservation.**
- 5.2 Outdoor activities considerations should be taken into account in planning and decisions on land use.**
- 5.3 The growth in tourism in Iceland should be further encouraged, and accompanied by preventive measures to protect nature from damage caused by increased traffic.**

- The grounds for imposing a tourism-related environmental levy will be investigated. Such a levy would be used to fund the measures necessary to reinforce land protection and to improve walkways, signage, and other facilities at popular destinations of natural beauty and in sensitive areas.
- Research and further development of methodologies to determine the carrying capacity of tourist sites will be supported, and attempts will be made to assess systematically which sites are in greatest danger due to traffic and require special measures.
- Systematic attempts will be made to prevent off-road driving, including completing the mapping of highland roads and trails in 2012, indicating on maps which roads and trails are approved for driving, and closing those where driving is prohibited. A special action plan for prohibition of off-road driving will be prepared, instruction on off-road driving will be increased, and monitoring will be stepped up.
- In reviewing nature conservation legislation, emphasis will be placed on strengthening provisions concerning the right of public access.
- An emergency plan will be prepared so as to prevent overstraining tolerance limits at popular tourist sites.

6. Protection against natural disasters

Objectives :

6.1 All inhabitants of the country should live in reasonable safety from natural disasters.

6.2 The risk of natural disasters should be taken into account during planning of land use.

- Work will continue on structures to defend against avalanches in locations including Bolungarvík, Ólafsfjörður, and Neskaupstaður, and attempts will be made to complete the structures as soon as possible, in line with the authorities' long-term strategy.
- Avalanche risk assessments in densely populated communities will be completed, and risk assessment work will continue in sparsely populated areas.
- The Iceland Meteorological Office will continue mapping flood risk in South Iceland, and the possible implementation of the EU Floods Directive will be assessed.
- Forest fires will be defined as a natural disaster.
- Work will begin on co-ordinated responses to brush and forest fires in Iceland.
- The co-ordination of healthcare institutions' contingency plans, including those relating to natural disasters, will be completed.

7. Protection against accidents and violence

Objectives:

- 7.1 Continued systematic efforts should be made to reduce the number of accidents sustained by children and youth, workplace accidents, traffic accidents, and accidents at sea, as well as accidents at home, in school, and during athletic activities and other recreational events.**
- 7.2 Efforts should be made to reduce the frequency of domestic violence, sexual violence, and other violence, as well as reducing the number of deaths resulting from such violence.**
- In the National Health Plan until 2020, emphasis will be placed on protection against accidents and all forms of violence.
 - The Public Health Institute of Iceland will work on a plan based on World Health Organization (WHO) ideology, where societies are encouraged to take necessary measures to reduce the probability of accidents and violence. In 2010, the Public Health Institute was formally appointed by WHO as a Safe Community Centre in Iceland.
 - Continued efforts will be made to reduce significantly and permanently the injuries, disabilities, and fatalities resulting from accidents and violence.
 - Co-operation among professionals working with accident reporting, investigation, and prevention will be strengthened.

II. PROTECTION OF ICELANDIC NATURE

8. Protection of Iceland's biota

Objectives:

- 8.1 The diversity of species and habitat types should be conserved.**
- 8.2 Further diminishing of wetlands, birch woodlands and other key ecosystems in Iceland should be avoided.**
- 8.3 Attempts to reclaim wetlands and other important ecosystems should be made where possible.**

- Work will be done on the implementation of the Nature Conservation Strategy for 2009-2013, which focuses in particular on the protection of vegetated areas and habitats in the highlands and the protection of rare species of vascular plants, mosses, and lichens. Further work will also be done to protect areas not covered in the previous strategy and to aim at protecting important bird habitats.
- The Nature Conservation Act will be reviewed so as, among other things, to strengthen conservation provisions, ensure public rights, and promote nature conservation in coastal areas and the sea.
- Work will be done towards the expansion of the Þjórsárver protected area, with reference to the pertinent recommendations in the draft Nature Conservation Strategy, and this work will be concluded in 2010.
- Registration of wetlands will be improved and a campaign for wetland reclamation prepared, both to reduce greenhouse gas emissions and promote biodiversity.
- A work group will be established to evaluate the success of the Act on the Protection of Breiðafjörður, no. 54/1995, in part to determine whether the implementation of the Act reflects its purpose and the fundamental principles of environmental law, such as the precautionary rule and the Polluter Pays Principle as these are defined in international agreements. Furthermore, an assessment will be made of how the protection of the area can be best achieved as regards monitoring, steering, administration, and regulatory framework.
- Work will be done on a comprehensive plan for extraction of materials from the land and the sea, for the purpose of protecting biota and unique geological formations.

9. Protection of unique geological formations

Objectives:

9.1 The diversity of geological formations should be conserved by protecting those formations that are distinct or unique regionally, nationally or globally.

9.2 A methodical survey of geological formations in Iceland should be conducted, which will provide a basis for their systematic preservation.

- Further criteria for systematic protection of geological formations will be prepared for the 2014-2018 Nature Conservation Strategy.
- Work will be done to protect high-temperature geothermal areas, based on an assessment of their conservation value and the conclusions in the Master Plan on the protection and utilisation of natural surroundings.
- Preparation will begin for the protection of Gjástykki.

10. Wilderness conservation

Objectives:

10.1 Large areas of wilderness should remain untouched in uninhabited areas of Iceland.

10.2 Man-made structures should preferably be built outside of defined wilderness areas. When this is not deemed possible, care should be taken that the structures cause minimal damage and minimal visual effect.

- Work will be done towards the expansion of Vatnajökull National Park, with particular emphasis on protection of Steinadalur and areas adjacent to Langisjór, as well as land areas north of Vatnajökull.
- In reviewing the Nature Conservation Act, particular attention will be given to reinforcing the protection of wilderness areas and unique geological formations.
- In reviewing the Nature Conservation Strategy, particular emphasis will be given to protection of landscape and the reinforcement of provisions pertaining to planning and development. Emphasis will be placed on protecting landscape and land areas, with particular focus on protection of culturally significant landscape.
- Preparation will begin for the implementation of the European Landscape Convention.

III. SUSTAINABLE USE OF RESOURCES

11. Sustainable use of living marine resources

Objectives:

- 11.1 The utilization of fish stocks and other living marine resources should remain on a sustainable basis and based on the best available scientific findings.**
 - 11.2 Fishing of stocks that call for a limitation of harvesting, according to scientific assessment, must be managed and a cautionary viewpoint taken to achieve the maximum yield of stocks in the long run.**
 - 11.3 Long-term policies for the utilization of certain stocks should be developed, for instance by applying catch rules and the use of a multi-stock approach where possible.**
 - 11.4 Methods and management for the utilization of living marine resources should take into account the diverse interplay of the marine ecosystem and should aim to minimize negative effects of utilization on other sections of the ecosystem.**
- Catch rules will be formulated for important species other than cod, based on the best available knowledge of the biosphere and a multi-stock approach.
 - Assessment of the marine biosphere will be carried out from a greater number of angles, and further implementation of the ecosystem approach will be considered, as will international co-operation in this area.
 - The recently approved FAO guidelines on protection of sensitive ecosystems in the open ocean will be adapted for use in Icelandic waters.
 - Continued emphasis will be placed on international co-operation concerning research and development, including that relating to environment-friendly solutions in the fishing industry, such as development of fishing equipment.

12. Sustainable use of vegetation and reclamation of land

Objectives:

- 12.1 The land's soil and vegetation resources, including forests, should be developed and utilized in a sustainable manner, in accordance with the best scientific information available.**
 - 12.2 Grazing should be controlled in accordance with the land's tolerance levels and the risk of erosion.**
 - 12.3 Systematic soil conservation activities should be conducted in eroded areas, in accordance with policies on land use and nature conservation in each area. Extreme soil erosion should be curbed, especially in settled areas and in the lowlands.**
 - 12.4 The development of farm forestry should strengthen rural settlements and employment, and fit in with the country's landscape and ecosystem.**
- The Afforestation Act, no. 3/1955, and the Soil Conservation Act, no. 17/1965, with subsequent amendments, will be reviewed.
 - Emphasis will be placed on promoting participation among landowners and strengthening co-operation with them concerning measures to ensure revegetation and sustainable land use.
 - Afforestation will be carried out with a variety of objectives, with particular emphasis on reclaiming ecosystems, conserving the soil, sequestering carbon, increasing the public's opportunities for outdoor activities, and building up forest resources in order to promote sustainable regional development and business innovation.

13. Increased utilisation of renewable energy

Objectives:

- 13.1 Iceland's renewable sources of energy should be further utilized, using economic and environmental considerations as a guiding light.**
- 13.2 The proportion of renewable energy resources in the nation's energy budget should be increased, and the use of fossil fuels should become insignificant within a few decades. The aim is that transport will use energy from renewable energy resources as soon as it is feasible to do so.**
- 13.3 Electricity and geothermal heating systems should be managed in a way that ensures effectiveness, safety and optimum economic efficiency.**
- 13.4 More efficient energy utilization should be encouraged and promoted.**
- 13.5 Increased fuel conservation should be encouraged and promoted.**

- Further work will be done on the Master Plan on Hydro and Geothermal Energy, with the aim of completing Phase 2 before year-end 2010. Every effort will be made to integrate utilisation considerations and conservation viewpoints in the continuing work on the project.
- The possibility will be explored of setting up geothermal pumps for indoor heating in the areas where it is considered economically sound. It has been demonstrated that geothermal pumps could be a positive option and could save considerable energy in areas that use electricity for indoor heating.
- The means will be sought to create incentives for enhanced energy efficiency, in part through improved technology. Increased emphasis will be placed on making better use of the substantial under-utilised energy in geothermal areas where energy has been harnessed for electricity production.
- Emphasis will be placed on bringing environment-friendly motor vehicles into use. To that end, innovation and research on environment-friendly fuels will be supported. Special emphasis will be placed on using electricity to propel motor vehicles. It is necessary to investigate whether new infrastructure is needed so that electric motor vehicles and environment-friendly fuels can be introduced.
- Legislation on taxation of motor vehicles will be reviewed, in part to provide incentives for the purchase of more fuel-efficient vehicles.
- The means will be sought to reduce the use of fossil fuels in motor vehicles, through targeted education and training and through instruction in eco-driving, among other things.

14. Reduction of and improved handling of waste

Objectives:

14.1 Waste generation should be reduced as much as possible and the handling of waste should cause minimal negative impact on the environment. It should be ensured that hazardous waste does not find their way into the environment.

14.2 Current and future legislated targets for the recycling of different kinds of waste, including packaging, organic waste, electronic devices and equipment, should be met.

14.3 Disposal expenses should be taken into account in the pricing of goods.

- Regulatory instruments on waste handling and recycling will be reviewed with the aim of carrying out collection and recycling of waste with social, economic, and environmental needs as a guiding principle, so as to reduce landfill use and increase recycling.
- A new framework directive on waste will be implemented with the aim of ensuring the protection of the environment and human health. This will be achieved in part by preventing the undesirable side effects of waste creation and handling, reducing the total impact of waste handling, and improving resource utilisation.

IV. GLOBAL ISSUES

15. Clean ocean

Objectives:

15.1 The concentration of man-made pollutants in marine products from Icelandic waters should always fall below the strictest standards of domestic and foreign health authorities.

15.2 The disposal of hazardous materials into the ocean by vessels and from land should cease – especially the disposal of persistent organic substances, radioactive materials and heavy metals.

15.3 Iceland should continue to show leadership in international cooperation on marine pollution prevention.

- Iceland's policy on protection of the ocean will be reviewed with consideration given to the Arctic Council work group's findings on the usefulness of measures to protect the ocean, both internationally and in the Northern peripheral region. Iceland participates in the management of this project.
- Iceland will participate in the preparation of an international agreement on the restriction of mercury emissions.
- It will be determined whether Iceland's programme of action on pollution from land-based activities needs review based on the updated plan for the Northern peripheral region on the protection of the marine environment against pollution from land-based sources, prepared by a work group on behalf of the Arctic Council. The update is a part of an international project on behalf of the UN's Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA).
- The Icelandic authorities will support research on the acidification of the marine environment in Icelandic waters due to increased CO₂ concentration and the possible repercussions of acidification for the biosphere. The consequences of climate change for the marine environment and biota are less well-known than the effect on land and the atmosphere. Iceland will foster attempts to improve this knowledge, both nationally and internationally.

16. Limitation of climate change stemming from human activities

Objectives:

16.1 Iceland should participate actively in international cooperation to combat dangerous disturbance of the earth's climate by human activity through reduction of emissions and increased sequestration of greenhouse gases.

16.2 The use of fossil fuels should be decreased.

16.3 Icelandic expertise in the utilization of renewable energy sources should be transferred to other countries.

- The authorities will place increased emphasis on exporting environment-friendly technology, including geothermal technology and solutions for energy savings on ships.
- The UN University's Geothermal Training Programme will continue to focus on holding courses in South America, Asia, and Africa, in addition to the conventional six-month programme in Iceland.
- The use of economic incentives to encourage the use of environment-friendly motor vehicles and fuel will continue.
- A campaign will be launched to reclaim wetlands so as to increase carbon sequestration in the soil.
- An Icelandic action plan on ways to reduce climate change will be prepared, with reference to the findings in the expert panel report on reduction of net greenhouse gas emissions in Iceland (published in 2009).
- A plan for sustainable transport will be prepared in co-operation with Icelandic municipalities, with the aim of reducing the need for private automobiles.

17. Protection of the ozone layer

Objectives:

17.1 Iceland should continue to be at the forefront in the restriction of the utilization and emission of ozone-depleting substances.

17.2 Iceland should cease using ozone-depleting substances by 2010.

- Ozone-depleting substances will have disappeared from the market by 2016, and their disposal will be ensured.
- Information will be disseminated on the effects of sunbathing and outdoor activities in sunny weather, the effects of ultraviolet rays at the earth's surface on human health, and the prevention of illnesses from these causes.

18. Protection of biodiversity

Objectives:

18.1 Efforts should be made to conserve the biodiversity of Icelandic habitat types and ecosystems by the protection of animals, plants and other organisms, together with their genetic resources and their habitats.

18.2 All utilization of living natural resources should be sustainable.

18.3 The precautionary approach and ecosystem approach should be applied in all operations that may alter or disrupt ecosystems, in order to keep negative impact to a minimum.

- A national programme on monitoring of biodiversity in Iceland will be prepared in co-operation with the Icelandic Institute of Natural History and other institutions, in accordance with Iceland's strategy on biodiversity, and with reference to international monitoring programmes such as that pursued by the Arctic Council.
- A work group will be established, with representatives from the Ministry for the Environment, Ministry of Fisheries and Agriculture, and Ministry of Industry, to work towards a scheduled, sequenced plan of action on the basis of the Government's strategy on biodiversity.
- A work group will be appointed, whose role will be to formulate proposals for measures to remove lupine plants from areas where they are deemed undesirable and are considered a threat to other parts of the environment, and how those proposals should be prioritised by geographical area.
- Work will be done towards defining, documenting, and charting lowland habitat types.
- Provisions on genetic resources will be included in the Nature Conservation Act during the proposed review of the Act.
- The guidelines in the Convention on Biological Diversity concerning how biodiversity shall be discussed in environmental impact assessments will be used as a reference in preparation of environmental impact assessments.
- Particular emphasis will be placed on education on biodiversity in 2010, which is the UN's International Year of Biodiversity.