

# Welfare for the Future

Framework for sustainable development  
in Icelandic society

Priorities 2006-2009



## Address by the Minister for the Environment

This report is the first update of the Icelandic Government's 2002 strategy for sustainable development, which bears the title *Welfare for the Future*. Though the original strategy presented a framework for sustainable development in Icelandic society until the year 2020, it also specified that the intention was to review and update the strategy and its main priorities on a regular basis during that period. In this report are the Government's main priorities for the next few years – 2006-2009 – with respect to 17 environmental protection and resource utilisation goals that form the basis for the strategy. The priorities presented here are based on the recommendations of an advisory committee consisting of members from nine ministries. Comments submitted in response to the committee's recommendations have been incorporated into this update.

*Welfare for the Future* has its roots in the United Nations' 1992 Rio Conference on Environment and Development. At the Rio Conference, the nations of the world agreed to have sustainable development as a guiding principle and to prepare plans for its implementation in their own countries. The term *sustainable development* refers to development that meets the needs of the present without compromising the ability of future generations to meet their own needs. This means that environmental protection, social welfare, and the pursuit of economic gain must go hand-in-hand. Maintaining a high standard of living for the long term must be based on a healthy environment and robust ecosystems that can guarantee food production and other things that are necessary and desirable.

The word "welfare" in the name of the strategy for sustainable development denotes the quality of life in the broadest sense. The struggle against poverty is a priority issue in developing countries, but in wealthier countries like Iceland, the emphasis is no longer solely on economic growth, but also on social qualities – such as equal rights and cultural richness – and environmental qualities – such as clean water, unpolluted air, and access to outdoor recreation areas and unspoiled wilderness.

Experience has reinforced our belief that the guidance offered by the principles of sustainable development is no less relevant to us now than it was fourteen years ago. We have gained much in the global battle against poverty and the ills associated with it, particularly in terms of surging economic growth in the largest developing countries and the enhanced quality of tens of millions of lives as a result. But at the same time, there is considerable strain on the earth's ecosystems, and climate change triggered by human activity is cause for real concern. We need new technology and new ways of thinking in order to unify the need for environmental protection and the desire for an improved standard of living. This cannot be achieved through governmental policy alone; it is an undertaking that requires participation from all members of society.

A draft of these main priorities was presented for discussion at the IVth National Environmental Assembly, which was held in the fall of 2005, and offered participants the chance to submit comments and proposals. Many excellent suggestions were received; however, the Government considers it important not to include too many issues under the aegis of sustainable development. It is relatively easy to link most matters addressed by governments to the principles of sustainable development; however, a strategy that attempts to address all projects related to environmental affairs, economic issues, and social development will inevitably prove unwieldy and will not achieve its aims.

If successful, a strategy of this kind can make it easier for governmental authorities, non-governmental organisations, and the general public alike to gain a comprehensive view of the primary goals related to environmental protection and resource utilisation, and to identify the most important work that must be done in order to achieve them. A regular update of projects and indicators of progress will form the basis for discussion, clarify priorities, and direct attention towards key long-term objectives rather than short-term issues.

It is my hope that these Main Priorities 2006-2009 will establish *Welfare for the Future* as a valuable guide to Icelanders in their quest for sustainable development and that it will prove a useful source of information, as well as exerting appropriate restraint on the Government. We must ensure that our welfare today is not achieved at the expense of future generations, but is built on a solid foundation for the future.

Jónína Bjartmarz

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## **Introduction**

In 2002 the Icelandic Government approved a strategy for sustainable development in Icelandic society under the title *Welfare for the Future*. The time horizon for the strategy was set at the year 2020. That time frame implied that the strategy would be a living project that would undergo regular review. Though its overall structure is to remain largely unchanged, its success will be evaluated at regular intervals, based on statistical indicators, and new short-term projects will be specified in view of the progress made and the Government's priorities at any given time. This report is the first update of the strategy.

The original strategy contained 17 main objectives that were divided into four groups: I. A healthy and safe environment, II. Protection of Icelandic nature, III. Sustainable use of resources, and IV. Global issues. This chapter division, together with the primary objectives, remains unchanged in this first update. What has changed are the "Means of Implementation," which are conceived for the short term and were not assigned a time frame in the original strategy. This report presents The Means of Implementation for the period 2006-2009. Also included in the present report is a short summary of the policy instruments that can be used to foster sustainable development, and some brief remarks on the development in various matters over the past few years. The statistical indicators that were included in the 2002 strategy were updated and presented in a special report that was published and issued at the IVth National Environmental Assembly in 2005.

### ***Sustainable development***

The term *sustainable development* has its roots in the discourse of the 1980s; however, it was formally adopted in international treaties drafted at the United Nations Conference on Environment and Development, held in Rio de Janeiro in 1992. Sustainable development has been defined as development that meets the needs of the present without compromising the ability of future generations to meet their own needs. This implies that the pursuit of economic and social well-being must go hand-in-hand with the protection of the environment and the basic condition of the Earth.

The preparation of Iceland's strategy for sustainable development accords with the provisions of Agenda 21 from 1992 and the Johannesburg Plan of Implementation, which was approved at the World Summit on Sustainable Development in Johannesburg in 2002. There is no co-ordinated prescription concerning such strategies and how they should be structured; rather, the nations of the world are encouraged to set policy based on their own premises and the objectives that they deem most important. In many respects, Iceland's strategy is similar to comparable plans adopted by other nations. It should be borne in mind, however, that the issues and priorities here in Iceland differ in many ways from those in our neighbouring countries.

### ***Update of the strategy***

An advisory committee on sustainable development, with members from nine Government ministries, prepared the draft of this update in consultation with various experts from ministries and related agencies. The committee includes representatives of the Prime Ministry, the Ministry of Industry and Commerce, the Ministry of Finance, the Ministry of Agriculture, the Ministry of Education, Science and Culture, the Ministry of Communications, the Ministry of Fisheries, the Ministry for the Environment, and the Ministry for Foreign Affairs. The Ministry for the Environment chairs the committee and will monitor the implementation of the strategy.

When *Welfare for the Future* was approved in 2002, it was decided that, as a general rule, the document should be reviewed and revised as necessary at intervals of four years. In keeping with this decision, the objectives set forth in *Welfare for the Future* were reviewed and updated in 2005.

National Environmental Assemblies are held every two years. At every other Assembly – that is, every four years – the intention is to discuss the revision of the Government's policy on sustainable development. At the IVth National Environmental Assembly in November 2005, proposals for new means of achieving objectives were presented. These proposals are included here, under the heading "Main priorities 2006-2009." On the same occasion both updated and newly created statistical indicators related to the chapters in *Welfare for the Future* were presented. These indicators were issued in a separate publication at the IVth National Environmental Assembly and can be found on the website of the Ministry for the Environment: <http://eng.umhverfissraduneyti.is/publications/nr/869>.

After the National Environmental Assembly, NGOs, agencies, and individuals were given the opportunity to submit proposals and comments on the draft strategy. Representatives from the Association of Local Authorities in Iceland were also consulted. With consideration given to the discussions at the Assembly and the comments and proposals that were submitted, the draft was reviewed by the advisory committee on sustainable development and sent to the Government for examination.

*Welfare for the Future* is a long-term strategy extending to the year 2020. Though a number of things have been accomplished in recent years, the objectives and the means of implementation set forth in 2002 are still fully valid, as are the new main priorities for the next four years, which are presented in this report.

## **Policy instruments**

In the introduction to *Welfare for the Future* there is a discussion of policy instruments and means of achieving the objectives of sustainable development. It mentions administrative tools such as, for example, plans and policies drafted in various areas of society, statutory provisions, international agreements, economic instruments, physical planning, environmental impact assessments, educational efforts, monitoring and research, sustainability indicators, and development aid. Numerous things have changed since 2002, when *Welfare for the Future* was adopted as Iceland's strategy for sustainable development. The following is a brief discussion of various developments that, in recent years, have made an impact on policy-making with respect to sustainable development, both in Iceland and in other countries.

### World Summit on Sustainable Development in Johannesburg

The World Summit on Sustainable Development (WSSD) was held in Johannesburg in early fall 2002. The meeting was held because ten years had passed since the Rio Conference on Environment and Development, where the nations of the world pledged to have sustainable development as a guiding principle in policy-making. The chief purpose of the World Summit in Johannesburg was to identify priorities in environmental and development affairs for the ensuing decade. The meeting approved both a political declaration wherein participating nations reiterated their obligation to implement sustainable development strategies and a special plan of implementation containing deadlines for achieving objectives related to environmental, economic, and social matters. The plan of implementation is based on, among other things, the so-called Millennium Development Goals, which world leaders approved at the United Nations Millennium Summit in September 2000. The Millennium Development Goals touch on a wide range of global issues in addition to environmental protection; for example, reducing poverty, enhancing education, improving health, and lowering infant mortality rates.

### Statistical indicators

In recent years, many nations and international organisations have developed statistical indicators that are intended to measure the progress made in adopting practises consistent with the concept of sustainable development. Though the process itself is not always a simple one, the primary goal in developing such indicators is to present scientific findings in a simple way so as to render them more useful to government authorities in policy-making. In relation to the review of *Welfare for the Future*, the Ministry for the Environment invested significant effort in updating the indicators from the original report and developing new ones. When examined together, these statistical indicators should give some idea of the condition of the environment, the strain on nature and wilderness, and governmental authorities' response to these. The indicators will be updated in view of the Icelandic Government's policy on sustainable development so that it will be possible to determine, on a regular basis, what progress is being made in achieving set objectives. In addition, new indicators will be developed with the aim of linking environmental affairs to economic and social issues in a more effective manner.

### Local Agenda 21

The strategy presented in this report has been prepared on behalf of the Icelandic Government. The two administrative levels in Iceland – that is, national and municipal authorities – place strong emphasis on sustainable development in their policy-making and planning. At year-end 2005, an agreement was renewed between the Ministry for the Environment and the Association of Local Authorities in Iceland. That agreement concerned collaboration for the purpose of assisting Icelandic municipalities in formulating policy in the spirit of Local Agenda 21. In the past two years, special emphasis has been placed on fostering the incorporation of Local Agenda 21 in sparsely populated communities. The work related to this endeavour takes place within the framework of the Regional Development Strategy, with a special agreement between the Ministry for the Environment and the

Ministry of Industry. A steering group whose members include representatives from the Ministry for the Environment and the Association of Local Authorities in Iceland oversees these projects.

Though it is difficult to quantify the progress made in relation to Local Agenda 21, its impact on municipal authorities' handling of environmental affairs is undeniable. The work related to Local Agenda 21 has called for new work habits and approaches. It requires that policy-makers look farther ahead than they have been accustomed to doing, that they examine various issues in light of their interplay with one another instead of considering each issue separately, and that they take global viewpoints into account. At its national assembly in September 2002, the Association of Local Authorities in Iceland agreed that Local Agenda 21 should form a "fundamental tone in the work of municipalities".

The combined population of the municipalities that had approved Local Agenda 21 by year-end 2005 totalled 234,534, or around 80% of the Icelandic nation. In addition, 42 municipalities have approved the Ólafsvík Declaration, thereby formally declaring their sincere intent to work towards sustainable development. The group of participating municipalities has been growing steadily since that time.

#### Strategic environmental assessment

A legislative bill on strategic environmental assessment was presented at the Icelandic Parliaments 132<sup>nd</sup> legislative assembly. Its aim is to promote sustainable development by requiring that an environmental impact assessment be conducted during the preparation of plans and programmes that are likely to have a significant impact on the environment. To that end, the bill assumes that the environmental impact of physical planning and development projects will be assessed before they are carried out. The bill covers physical plans and development programmes involving agriculture, forestation, aquaculture, energy matters, industry, transport, handling of waste, water utilisation, electronic communications, tourism, community planning, and land use. Carrying out an environmental impact assessment at the planning stage can foster more systematic environmental protection and can make it easier for developers to adapt their plans to the principles and aims of sustainable development.

#### Environmental education

A general understanding and knowledge of environmental and societal issues is a prerequisite for democratic discussion and decision-making aimed at implementing sustainable development as a policy. In order to promote such understanding and knowledge, it is necessary to offer high-quality education on the fundamentals of sustainable development in the public school system and to provide for effective dissemination of information by Government authorities, non-governmental organisations, and other parties. Environmental education should aim at providing all individuals with a knowledge of their immediate environment and the hazards posed to that environment by human activities, as well as making people aware of the link between their activities and the state of the environment.

Environmental education takes place at all educational levels, from pre-school to university, as appropriate for each level. Iceland's National Curriculum Guides for pre-school, compulsory school, and upper secondary school set guidelines for study and teaching at these levels. One of the subject areas in the National Curriculum Guide for the pre-school level is Nature and Environment, wherein emphasis is placed on teaching children about nature and the environment and how to protect them. In recent years, many pre-schools have designed ambitious projects focusing on the environment.

At the compulsory school level, education on environmental issues and sustainable development is interwoven with the objectives of courses in natural and social science, especially those related to geography, home economics, and life skills. Emphasis is placed on relating the subject matter in these courses to the interplay between man and nature, the concept of responsible citizenship, and the role of individuals as consumers, with reference to healthy consumer habits and other considerations. The aims of environmental education are presented within the framework of these courses, but the schools are encouraged to develop them further in their school curricula. Many schools have demonstrated a great deal of initiative in integrating education on environmental issues with their overall educational programmes. For example, numerous pre-schools and primary schools participate in *The Green Flag*, an international initiative aimed at enhancing environmental education and bolstering environmentalism in the school system. The Icelandic environmental association Landvernd has overseen this project, which is subsidised by the Ministry of Education, Science and Culture and the Ministry for the Environment.

A number of upper secondary schools and special schools offer elective courses in environmental studies or place special emphasis on environmental issues in various core courses and areas of specialisation at the upper secondary level. In the fall of 2006, Landvernd formally recognised the first upper secondary school for its participation in *The Green Flag* and presented a green flag to the school.

University-level institutions are responsible for structuring their own study programmes and preparing their own course catalogues. Some schools offer areas of specialisation in natural science, ecology, and environmental studies, and elective courses in these subjects are offered widely. Various courses related to these fields are offered as well, many of them extremely useful in teacher education at both undergraduate and graduate levels. It is clear that there is still room to expand and develop education on sustainable development in Iceland – particularly in teacher education programmes – with the aim of strengthening individual citizens’ understanding, knowledge, and sense of responsibility for the environment in the future.

In recent years, the National Centre for Educational Materials (NCEM) and others have published a considerable amount of study materials in the field of environmental education. In this context, it is also worthwhile to point out the website <http://www.heimurinn.is/>, where educational material on environmental issues for all primary school age groups can be found.

The environmental education committee is appointed by the Minister for the Environment for a term of three years. The aim with the committee’s work is to raise citizens’ awareness of their environment and its value, and the importance of treating it with consideration, as well as teaching the public how to interact with the environment in a manner consistent with sustainable development. The committee works toward its objectives by promoting collaboration on environmental education. To that end it holds conferences and presentations on environmental education and an environment-friendly lifestyle. Furthermore, the committee carries out surveys on the status of environmental education in the schools, with the aim of increasing and improving the environmental education that is offered.

#### Co-operation with developing countries

As a result of rapid population growth and economic growth, mankind makes an ever-increasing impact on his environment and on the biosphere of the Earth. In some areas, resources are utilised in an unsustainable manner, and some places the environment is polluted. This usually affects the poorest people in the world’s poorest countries most dramatically. Chaotic conditions in poor countries can threaten economic prosperity, security, and stability at a global level. Therefore, development aid not only helps the nations that receive it; it also has a positive effect on the countries that provide it.

In the next few years, there will be a substantial increase in public contributions to development co-operation. In April 2004, the Icelandic Government decided that development aid as a proportion of the gross domestic product (GDP) should rise from 0.19% in 2004 to 0.35% in 2009. When that threshold has been reached, Iceland’s contributions to development co-operation will have increased nearly fourfold – from 0.09% to 0.35% – in approximately a decade.

The Icelandic Government supports the United Nations Millennium Declaration. As a result, Iceland’s co-operative efforts in development work will be carried out in the spirit of the declarations made at summit meetings on sustainable development, development funding, and the UN’s Millennium Development Goals. It is important that Iceland’s policy on development issues be based on a comprehensive view of the subject; therefore, the development work carried out in the years to come will take account of four fundamental principles. They are:

- Human resources, equal rights, and economic development
- Democracy, human rights, and political administration
- Peace, safety, and development
- Sustainable development

The Government's policy on development co-operation contains a chapter on sustainable development, which states that basing economic development, social welfare, and environmental protection on the principles of sustainable development is in the interests of wealthy and poor nations alike. Almost without exception, international agreements and resolutions on affairs related to the sea make special mention of the concerns of developing nations. Implied in the Johannesburg Plan of Implementation is a recommendation that international financial institutions engaged in development co-operation take increased part in bringing about sustainable fishing in developing countries.

By participating in international co-operation and by ratifying international agreements, the Icelandic Government has pledged to contribute to the sustainable utilisation of natural resources. From the outset, this has been one of the major focuses of Iceland's development co-operation. For a long time, the activities of the Icelandic International Development Agency (ICEIDA) centred almost solely on fishing, but as an element in the increased focus on sustainable development, the field of energy was added, with particular emphasis on renewable energy sources.

In addition to ICEIDA's two areas of concentration, the Icelandic Government has supported developing countries in the sustainable utilisation of natural resources through its operation of the UN University's Geothermal Training Programme and Fisheries Training Programme, both of which are located in Iceland. Since 1979, the Geothermal Training Programme has built up a base of knowledge about the utilisation of geothermal energy in developing countries, and in the same manner, the Fisheries Training Programme has shared knowledge about fishing and fisheries since its inception in 1997. Increased emphasis will be placed on the programmes' operations, including enabling them to admit a larger number of students.

#### The Global Action Plan for the Earth

The Global Action Plan for the Earth is an international environmental project aimed at households. The objective of the project is to support and encourage people in their efforts to adopt a more environment-friendly lifestyle. Iceland is one of 19 countries where the project has gained a foothold. As of year-end 2005, some 560 Icelandic households were participating in The Global Action Plan for the Earth. The project is a genuine grass-roots initiative and is therefore entirely compatible with the Government's policy on Local Agenda 21. In recent years, the Ministry for the Environment has subsidised the project, which is administered under the aegis of the Icelandic environmental association Landvernd.

# **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.**

- In November 2006, a work group in the Ministry for the Environment published recommendations on airborne particulate matter. These will be followed up in the years to come. Among other things, various ways to use policy instruments to diminish the use of studded tyres will be investigated. In addition, rules will be set requiring that diesel engines in large industrial machinery and transport vehicles be equipped with soot filters. Municipal authorities and the Public Road Administration will be encouraged to adopt measures to prevent pollution caused by airborne particulate matter.

- Mobile equipment will be used to measure air quality in rural communities, especially in larger towns and in areas where pollution-generating industry is situated. In addition, background measurements will be conducted so as to investigate the level of pollution in areas far from sources of pollution.

- Daily information on air pollution in the Reykjavík area, which is currently published on the Environment Protection Agency website, will be presented in a clear and comprehensive manner in order to make it readily accessible to as many people as possible. This will enable visitors to the website to determine the level of air pollution in comparison with average figures and health limits at any given time.

## **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.**

- Monitoring of drinking water will be improved so as to make information on water quality accessible to consumers.

- Information on water supplies that serve communities and food manufacturers will be documented, with the aim of completing the documentation process by year-end 2009.

### **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.**

- Labelling of genetically modified food products will be adopted at the beginning of 2007, in keeping with the rules of the European Union.

- Work will be done toward the implementation of EU food products legislation, and rules will be set concerning traceability of food products. Among other things, it will be required that it be possible to trace food products to their manufacturers so as to facilitate swift, appropriate responses in case of contamination or other problems, and to enhance food safety.

- The requirement that all food manufacturers conduct vigorous internal monitoring will be followed up.

#### **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.**

- An action plan will be drafted, detailing how Iceland will implement the provisions of the Stockholm Convention on the limitation of persistent organic pollutant emissions.

- The public will have increased access to information on the chief categories of hazardous substances, and the risks they pose to human beings.

- The documentation of chemicals will be required by law. The legislation concerned shall stipulate that it is possible to require that manufacturers and other companies apply the substitute principle; that is, they must substitute less hazardous substances for those that may have an undesirable effect on human health. Furthermore, the utmost caution shall be exercised, and the authorities will be permitted to prohibit or limit the use and marketing of specific substances while further research is conducted on them, even though their harmfulness has not yet been established unequivocally.

## **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.**

- In response to the results of research on the carrying capacity or tolerance limits of tourist destinations, an action plan will be drafted for those destinations where action is deemed necessary, in order to protect the areas concerned from damage due to heavy tourist traffic.

- There will be a campaign aimed at laying and marking walkways in national parks and specified protected areas so as to enhance public access to nature and enable the areas concerned to handle a growing stream of tourists.

## **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.**

- The Icelandic Meteorological Office will commence work on an organised nationwide programme of risk assessment for natural disasters, such as volcanic eruptions, earthquakes, floods, storms, etc.

## **II. PROTECTION OF ICELANDIC NATURE**

### **7. Protection of Iceland's biota**

#### **Objectives**

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

- A programme for the reclamation of natural ecosystems, including birch forests, will be prepared on the basis of a policy for the conservation of biodiversity. The programme will be incorporated into the next Nature Conservation Strategy, which will take effect in 2009.

- A plan for increased wetland reclamation will be drafted.

- In accordance with the Ramsar Convention on Wetlands, the Environment Protection Agency will be assigned the task of working with the Icelandic Institute of Natural History to prepare for the designation of three new wetland areas as protected sites before year-end 2007.

## **8. Protection of unique geological formations**

### **Objectives**

- 8.1 The diversity of geological formations should be conserved by protecting those formations that are distinct or unique regionally, nationally or globally.**
- 8.2 A methodical survey of geological formations in Iceland should be conducted, which will provide a basis for their systematic preservation.**

- An assessment of the protection value of geothermal areas will be completed.
- An assessment of landscape types will be completed.

## **9. Wilderness conservation**

### **Objectives**

- 9.1 Large areas of wilderness should remain untouched in uninhabited areas of Iceland.**
- 9.2 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.**

- The Vatnajökull National Park will be established in accordance with existing proposals. The Park will cover a large area north of Vatnajökull glacier, in addition to the ice cap itself and the area south of the glacier.

- The Environment Protection Agency and the National Land Survey of Iceland will engage in a co-operative effort to update and publish, on a regular basis, maps of areas that are defined as wilderness according to recognised criteria.

- Work will be done toward closing specified paths on the basis of information yielded from the mapping of roads and paths in the highlands. This measure could result in the reclamation of areas that fall under the definition of wilderness.

### **III. SUSTAINABLE USE OF RESOURCES**

#### **10. Sustainable use of living marine resources**

##### **Objectives**

- 10.1 The utilization of fish stocks and other living marine resources should remain on a sustainable basis and based on the best available scientific findings.**
- 10.2 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.**
- 10.3 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.**
- 10.4 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.**

- The review of existing catch rules will be completed, and catch rules will be developed for other species in addition to cod.

- An ecosystem approach will be applied. Work will be done toward defining this term and strengthening the foundation of knowledge on which it rests. This knowledge-based work will be developed, both within Iceland and through Nordic and international co-operation.

- The conservation of biodiversity will be promoted, as will the protection of those elements of the marine ecosystem that are defined as unique, in accordance with scientific findings and a comprehensive assessment that takes into consideration the utilisation of each given area.

## **11. Sustainable use of vegetation and reclamation of land**

### **Objectives**

- 11.1 The land's soil and vegetation resources, including forests, should be sustainably utilized according to the best scientific information available.**
- 11.2 Grazing should be controlled in accordance with the land's tolerance levels and the risk of erosion.**
- 11.3 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.**
- 11.4 The development of farm forestry should strengthen rural settlements and employment, and fit in with the country's landscape and ecosystem.**

- The planting of forests during the period will serve multi-faceted purposes, including reclamation of Iceland's diverse ecosystems, conservation of the soil, carbon sequestration, enhancement of opportunities for outdoor activities, development of forest resources, and the promotion of sustainable regional development and rural employment opportunities.

- Work shall begin on the Mt. Hekla forests in the next few years; that is, the reclamation of up to 100,000 hectares of birch woodlands to the north, west, and south of Mt. Hekla. Among other functions, these forests will bind falling volcanic ash and reduce the damage it causes.

## **12. Increased utilisation of renewable energy**

### **Objectives**

- 12.1 Iceland's renewable sources of energy should be further utilized, using economic and environmental considerations as a guiding light.**
- 12.2 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.**
- 12.3 Electricity and geothermal heating systems should be managed in a way that ensures effectiveness, safety and optimum economic efficiency.**

- Further work will be done on the Master Plan on Hydro and Geothermal Energy. The necessary preliminary studies on the impact of possible power plant options on the natural environment will be carried out. Preliminary research and planning related to the power plant options discussed in the Master Plan will also be carried out. Every effort will be made to integrate utilisation considerations and conservation viewpoints in the continuing work on the project. The Master Plan will be completed in 2009.

- The search for geothermal heat in cold areas of the country will continue, and new geothermal heating utilities will be developed where feasible.

- Legislation will be passed concerning the operations of geothermal heating utilities, with emphasis on protecting users' interests and safety. Attempts will be made to enhance the reliability and quality of energy insofar as is possible.

- The means will be sought to create incentives for greater energy efficiency through improved technology, among other things. 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.

### **13. Reduction of and improved handling of Waste**

#### **Objectives**

- 13.1 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.**
- 13.2 Current and future legislated targets for the recycling of different kinds of waste, including packaging, organic waste, electronic devices and equipment, should be met.**
- 13.3 Disposal expenses should be taken into account in the pricing of goods.**

- Manufacturers' responsibility for waste handling will be increased.

- It must be ensured that municipal plans for waste collection conform to the national strategy for waste handling.

- Beginning on 1 January 2009, it will be prohibited to dispose of slaughterhouse waste in landfills. It will be prohibited to dispose of other organic waste in landfills as of 2015. Secure and safe ways to recycle or dispose of this waste will be sought.

-The utilisation of energy generated at waste incineration plants shall be increased.

## IV. GLOBAL ISSUES

### 14. Clean ocean

#### Objectives

- 14.1 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.**
- 14.2 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.**
- 14.3 Iceland should continue to show leadership in international cooperation on marine pollution prevention.**

- In accordance with an agreement with the Ministry for the Environment Drainage Committee, and in collaboration with the Environment Protection Agency, the Marine Research Institute will map pollution caused by nutrients in Icelandic coastal waters over the next few years. It is believed that such pollution is infinitesimal in most places; however, if it proves unacceptably high in any location, appropriate action will be taken.

- Construction related to improvements in drainage systems will continue over the next few years, though such projects are complete or well underway in most towns and villages in Iceland.

- Iceland will support the drafting of an international agreement or action plan to combat mercury pollution and will promote the inclusion of further persistent organic pollutants in the Stockholm Convention, in addition to the twelve that are currently listed.

## **15. Limitation of climate change stemming from human activities**

### **Objectives**

- 15.1 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.**
- 15.2 The use of fossil fuels should be decreased.**
- 15.3 Icelandic expertise in the utilization of renewable energy sources should be transferred to developing countries.**

- More research will be done on climate change and the natural environment in Iceland and the surrounding area, including research related to the International Polar Year 2007-2008. Regular monitoring of climate change and the possible consequences of climate change for the Gulf Stream, glacial melting, and land and marine ecosystems will be introduced.

- The Government will place increased emphasis on the exportation of climate-friendly technology, including that related to the harnessing of geothermal energy and increased energy-efficiency on ships.

- The use of economic incentives to encourage the use of environment-friendly motor vehicles and fuel will continue.

- In addition to campaigns directed at soil conservation and forestation, a campaign dedicated to wetland reclamation will be mounted with the aim of increasing carbon sequestration in the soil.

## **16. Protection of the ozone layer**

### **Objectives**

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

**16.2 Iceland should cease using ozone-depleting substances by 2010.**

- As of 1 January 2010, it will no longer be permissible to import ozone-depleting refrigerants. Beginning in 2015, this restriction also applies to the importation of recycled ozone-depleting substances.

## **17. Protection of biodiversity**

### **Objectives**

- 17.1 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.**
- 17.2 All utilization of living natural resources should be sustainable.**
- 17.3 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.**

- In 2007, the strategy on the conservation of biodiversity will be completed and approved by the Government.

- The Cartagena Protocol to the Convention on Biological Diversity, which focuses on genetically modified organisms, will be ratified by Iceland in 2007.

- It is planned that, during the period 2006-2009, several areas will be designated as protected so as to conserve cold-water coral and other benthic fauna that have significant conservation value.

- Regular monitoring of the disposal of ballast water into Icelandic waters will commence by 2009. It will be required that ships change or clean their ballast water on their open-sea voyages so as to prevent the transport of non-indigenous organisms to Icelandic coastal waters.