ROYAL MINISTRY
OF FOREIGN AFFAIRS
Norway

National Strategy for Sustainable Development

Foreword by the Prime Minister

This year it is ten years since the United Nations Conference on Environment and Development (the Rio conference) laid the foundation for sustainable development at the global, national and local level. It is also five years since the UN member countries agreed to draw up national strategies for sustainable development, and two years since ensuring environmental sustainability was adopted as one of the UN's main priorities for the new millennium.

Norway's first national strategy for sustainable development has been drawn up in connection with the World Summit on Sustainable Development in Johannesburg in 2002. Important topics such as poverty, consumption, health, pollution, vulnerability and social marginalization will be discussed at the summit. The links between economic development, social conditions and the environment will be highlighted, and the need for a coherent approach to the challenges of our time will be emphasized. The Norwegian Government attaches great importance to achieving international cooperation that will realize the goal of fair and just development within nature's tolerance limits.

The Nordic prime ministers have already cooperated on a strategy for sustainable development in their countries and the adjacent areas, New Bearings for the Nordic Countries. Norway's own efforts to this end are partly based on this strategy.

Norway's national strategy for sustainable development starts with the current situation in Norway and the world we are a part of. It places sectoral policies in a larger and more holistic perspective. The plans and measures we adopt must all be designed to contribute to a society of a high quality, now and in the future.

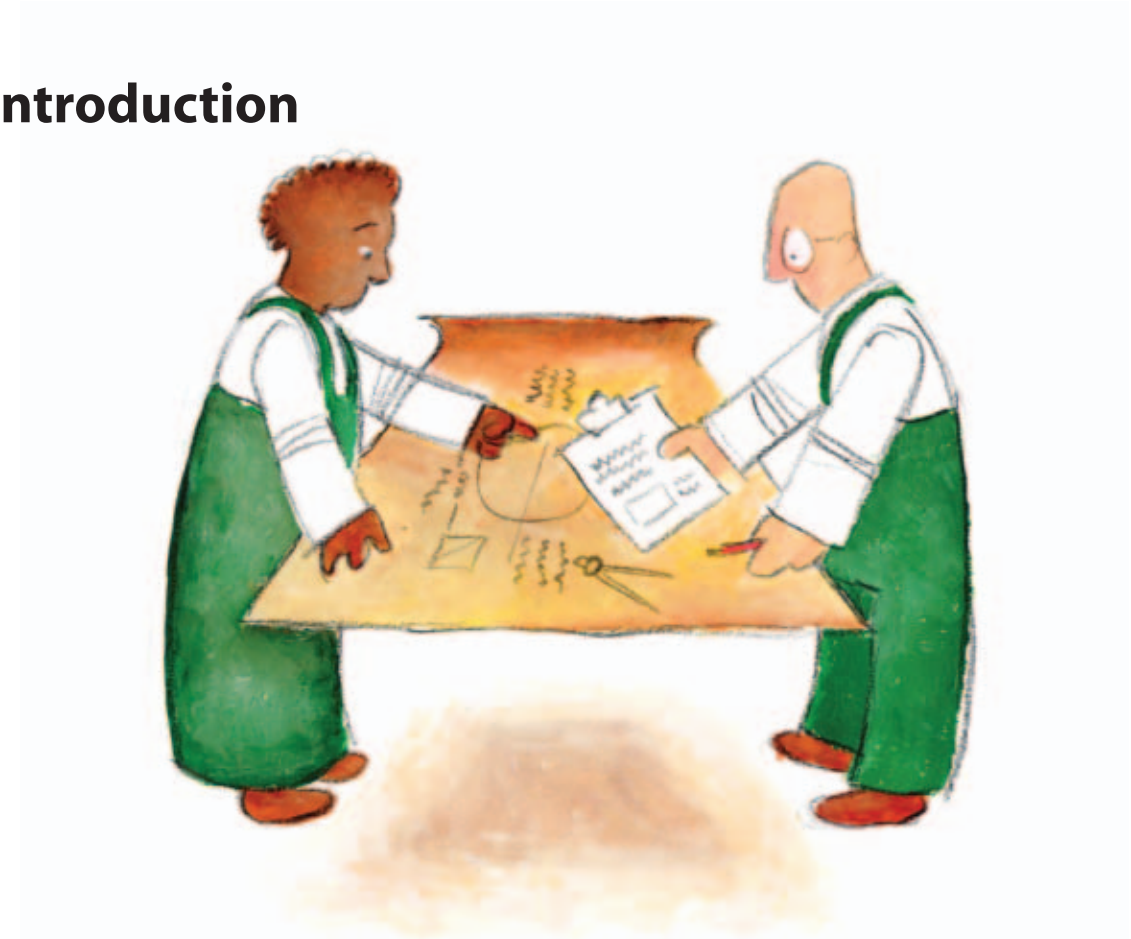
The job does not end with this national strategy. The strategy marks the beginning of a long-term process of cooperation, the process of creating and realizing our common vision of a sustainable society. Nor is the strategy limited to what the state can or should do. As the work on the strategy has shown, local authorities, the business sector, individuals and the voluntary sector all play a vital role in our efforts to achieve a sustainable society. I would like to thank them all for their contributions.

The Government will implement the strategy through the ordinary planning and budget processes. As an extra impetus, the Government has decided to submit an action plan for the implementation of the sustainable development strategy in the form of a national Agenda 21 in connection with the 2004 national budget. We are looking forward to continuing our open and broad-based cooperation when we implement the strategy for sustainable development.

Kjell Magne Bondevik

National Strategy for Sustainable Development

1. introduction



1.1 Sustainable development

The concept of sustainable development was launched by the World Commission on Environment and Development, also known as the Brundtland Commission, which defined it as "a form of development that meets the needs of the present without compromising the ability of future generations to meet their own needs".

To achieve sustainable development, we must apply a long-term perspective and be cautious in taking choices that will have a lasting impact on our descendants' freedom of choice, their ability to meet their needs, and even their prospects of survival. Thus one of our guiding principles must be to respect nature's tolerance limits and base our policy on the precautionary principle.

It is now ten years since the Earth Summit in Rio de Janeiro, which took stock of the state of the global environment and staked out the course of further development in Agenda 21. Since then, however, the environmental health of the world has deteriorated in many ways rather than improving: global warming and climate change are threatening to make large areas unproductive and to inundate other areas, deforestation is continuing, the population keeps growing, large population groups still do not have access to an adequate supply of clean water, many fish stocks have been overfished and others are being exploited to the limits of what they can bear.

We are consuming our natural capital, not just its yield, which is contrary to the principles of sustainable development. Despite the high rate of consumption, one-fifth of the world's population is still living below the poverty line, while another fifth is enjoying unprecedented material prosperity, and the gap between rich and poor is continuing to grow.

Yet there have been important successes as well: the global threat to the ozone layer is receding, all industrialized countries are eliminating the use of lead in petrol, and with it lead pollution, and local and regional environmental problems in OECD countries are under much better control then they were a generation ago.

1.2 Why draw up a strategy?

In one way or another, everyone has a hand in shaping the country and the world they will be leaving to their descendants. If the actions of individuals, enterprises, and local and national authorities are to achieve the objective of sustainable development, we must know where we want to go and agree on how to get there. We must draw up a strategy.

Although Norway has not formulated a single, cohesive strategy for sustainability until now, there is a patchwork of plans and reports, agreements and official decisions that do provide a basis for such a strategy. At the international level there is not only Agenda 21, but also the Millennium Development Goals, various fisheries agreements and treaties dealing with pollution and emissions of greenhouse gases. The Nordic countries have already adopted a joint sustainable development strategy that addresses environmental concerns in depth, defines short and long-term targets, and prescribes specific follow-up in a range of sectors.

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Article 110 b of the Norwegian Constitution

Every person has a right to an environment that is conducive to health and to natural surroundings whose productivity and diversity are preserved. Natural resources should be made use of on the basis of comprehensive long-term considerations whereby this right will be safeguarded for future generations as well.

In order to safeguard their right in accordance with the foregoing paragraph, citizens are entitled to be informed of the state of the natural environment and of the effects of any encroachments on nature that are planned or commenced.

The State authorities shall issue further provisions for the implementation of these principles.

At the national level, white papers have been published on the state of the environment in Norway, on the marine environment, on biological diversity, on climate policy and on energy policy. And not least there is the Long-term Programme, which is issued every four years and provides a review of the main challenges and the government's priorities in the most important areas of policy for the coming four-year period. Taken together, these reports comprise a central element of the government's efforts to bring about sustainable development. The Norwegian Constitution also contains a specific provision regarding the environment, resource management and the right to information on these matters. And at the local level, since the Rio conference over half of Norway's municipalities have drawn up plans of action – Local Agendas 21 – which have given us much valuable experience of cross-sectoral planning and implementation involving many actors from all segments of society. The Samediggi (Sami parliament) has carried out a similar project.

But the present document is the first attempt to formulate a coherent, unifying national strategy. Its primary objective is to ensure that all the individual plans, decisions and measures help to lead society in the same direction, towards sustainable development.

However, this strategy does not cover all aspects of every policy area. It is restricted to factors that are of crucial importance for ensuring that future generations too have real freedom of choice. It does not go into as much detail as the Nordic strategy, on which it is partly based, but its scope is broader, particularly in the economic and social fields. It is intended as an overall strategy, not a detailed programme. And it is not intended only as a guide for the state sector, but for all actors in Norwegian society.

Municipalities, the Samediggi, the social partners and a wide selection of organizations of all kinds have therefore been invited to take a hand in shaping this first national strategy. Further dialogue will take place when the strategy leads to action. The experience gained through this approach should prove valuable when the time comes to revise the strategy.

2. Norway´s main objectives

This strategy outlines how we can ensure that the decisions we make over the next 30 to 50 years – as individuals, business leaders or politicians – are conducive to sustainable development. The first thing we must agree on are the objectives: what do we want Norway and the rest of the world to be like in the future? This question can be answered in both idealistic and material terms. The objectives set out below focus more heavily on the latter aspect, which is easier to measure, but the basic values are the ones that have prevailed in Norway throughout the last century and have been the basis for nearly all international cooperation since World War II.

The overriding objective for Norway and the international community is to make development ecologically, economically and socially sustainable. The basis for continued utilization of nature and natural resources must be maintained. Within these constraints we will promote stable, healthy economic development and a society with a high quality of life, and we will play a part in helping the poor people of the world to achieve material welfare and a higher quality of life.

Achieving this objective will require efforts in the field of environment and natural resources, efforts that embrace society as a whole, and efforts at both national and international level. Our overriding objective is also an expression of sustainable development based on solidarity in time and space. Solidarity in time (i.e. with future generations) means that we use this earth in such a way that it will also be able to provide food and shelter and a good life for our descendants. Solidarity in space (i.e. within and across national borders) is needed because sustainable development today requires more equitable distribution of the world's goods.

THE WORLD AROUND US puts constraints on what we can do. Norway's climate is affected by greenhouse gases from every country, and the reverse is equally true. Radioactive waste from other countries endangers us, and fishermen from other countries catch fish from the same stocks as we do. The Norwegian economy is dependent on relations with other countries and is strongly influenced by international framework conditions and by fluctuations in the world economy.

One of the greatest problems of our time is poverty in the developing countries. Norway has made the war on poverty one of its top development cooperation policy goals, and the government has drawn up an action plan for combating poverty in the South on a broad front. Norway will promote global cooperation to achieve these goals.

While a large part of the world population is living at or near the existence minimum, total production and consumption have reached levels that threaten the natural resource base. A global sustainable development policy must therefore give priority to people's fundamental needs now and in the future, and it must promote more equitable distribution between countries and social groups.

Sustainable development is dependent on social and political conditions. This is why efforts to promote democracy and human rights are incorporated into development efforts.

The Millennium Development Goals

In 2000 the UN adopted the Millennium Declaration, which sets out development goals for the coming decade. Many of these goals are further divided into highly specific targets. For example, one of the targets under goal 1 is to halve the proportion of people whose income is less than one dollar per day by 2015.

1. Eradicate extreme poverty and hunger.
2. Achieve universal primary education.
3. Promote gender equality and empower women.
4. Reduce child mortality.
5. Improve maternal health.
6. Combat HIV/AIDS, malaria and other diseases.
7. Ensure environmental sustainability.
8. Develop a global partnership for development.

• International cooperation to promote sustainable development.
One of the goals of Norway's foreign policy is to make the principles of sustainable development, equitable sharing of global public goods and fair burden-sharing basic premises of international cooperation.

Norway will seek to promote binding international cooperation to resolve global and regional problems linked to environment and development issues, and will work actively for the fulfilment of the UN Millennium Goals. Our close cooperation with our neighbouring countries, long experience of development cooperation and strong popular enthusiasm for involvement in these efforts provide a sound basis for such an endeavour, and we intend to build further on this foundation.

SUSTAINABLE DEVELOPMENT thus requires a healthy economy that gives freedom of choice, but given current patterns of production and consumption, the affluence of the industrialized world is just as great a threat to the environment and natural resources as poverty in developing countries. A healthy economy, where prices reflect true costs, including environmental costs, and that is in balance with the environment and natural resource base and in harmony with human needs and abilities, is essential to sustainable development. An affluent society does not necessarily mean a society with a high level of material consumption. After all, any waste of natural resources, cultural heritage, labour or capital makes a society poorer in the long term.

• Healthy and stable economic development within a sound environmental framework.
Within these bounds, the main goals of economic policy are jobs for all, increased value creation, continued development of the welfare society and equitable distribution of wealth.

To achieve this, we are dependent on strong, competitive Norwegian business and industry in a world economy that also meets the needs of developing countries. Business owners, leaders and employees must have the qualifications, the abilities and the will to adapt to constantly changing demands and opportunities so that value creation promotes sustainable development and benefits society. This requires greater knowledge and the ability to translate this knowledge into action. Society must also establish a framework that encourages environmentally sound investments and operating methods and that is stable and predictable.

A SOCIETY that gives its members the opportunity to utilize and develop their abilities to their own benefit and to the benefit of the community as a whole, is well-equipped to ensure sustainable development. The goals relating to quality of life described below are in close agreement with the ideals that have guided social development in Norway and that should be maintained.

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Proper stewardship of environmental goods provides a good basis for value creation, jobs and homes, lower costs, improved welfare and greater freedom of choice in the future.

• Security and personal development.
Everyone must be ensured the fundamental necessities that will allow them to live in dignity and give them opportunities to shape their own future. We must secure good and equal access to health, social and other public services and make them available in ways that take account of our scattered pattern of settlement and are consistent with the need for professional expertise. We must fight social marginalization and prevent the damage caused by poverty, poor housing, unemployment, occupational hazards, insufficient physical activity, pollution and cultural deprivation.

SOCIETY HAS TO EVOLVE within the bounds set by nature. Proper stewardship of environmental goods provides a good basis for value creation, jobs and homes, lower costs, improved welfare and greater freedom of choice in the future.

• Strong, cost-effective environmental protection.
We must ensure that the environmental wealth we pass on to the next generation is at least as great as the wealth that we ourselves inherited, and Norway's impact on global ecosystems must be reduced. We must reduce such global environmental threats as climate change, hazardous chemicals and the loss of biodiversity. We must avoid pollution and developments that constitute health hazards, and instead protect environmental assets such as landscapes, opportunities for recreation and the cultural heritage as a source of aesthetic and emotional experience.

• Long-term natural resource management.
Non-renewable resources such as minerals, oil and natural gas must be utilized as efficiently as possible. We must step up the use of renewable resources in order to relieve the pressure on the natural resource base. The utilization of water, soil and biological resources must be kept within the limits of their capacity for renewal. Resources should be managed for the benefit of the present population and of future generations.

3. status, trends and problems

3.1 International cooperation should promote sustainable development

Norway's sustainable development strategy must reach far beyond its own borders. Environmentally hazardous substances and other forms of pollution are not stopped by national borders, and we are dependent on natural resources that we exploit jointly with others. Forty per cent of the Norwegian economy is based on the exchange of goods with other countries, and we are increasingly subject to the same rules and conditions as the rest of the world. This applies not only to the commercial sector but to social and political issues as well.

3.1.1 *Agenda 21*

In his report *Implementing Agenda 21*, issued in December 2001, UN Secretary-General Kofi Annan declared that Agenda 21, as a powerful long-term vision, is as valid as it was 10 years ago, but the state of the world's environment is still fragile and conservation measures are far from satisfactory. The report describes some major trends and developments as follows:

- World population passed 6 billion in 2000, up from 2.5 billion in 1950. World population is projected to reach about 8 billion in 2025 and 9.3 billion in 2050.
- The 15 per cent of the world's population living in the high-income countries account for 56 per cent of the world's consumption, while the poorest 40 per cent, living in developing countries, account for only 11 per cent. Household consumption in Africa has dropped by 20 per cent in the past 25 years.
- The proportion of people living in poverty in developing countries declined from 29 per cent in 1990 to 23 per cent in 1998, but there are still 1.2 billion people living on less than one dollar a day.
- Of the estimated 815 million undernourished people in the world, 777 million live in developing regions. In Asia the number is declining; in Africa it is on its way up.
- 1.1 billion people still lack access to safe drinking water and about 2.4 billion to adequate sanitation. More than 8 per cent of children in developing countries still die before the age of five.
- Over 80 per cent of all cases of disease in developing countries are attributable to contaminated water, inadequate sanitation and poor hygiene. Over one million people every year die of malaria alone.
- In the next two decades, it is estimated that 17 per cent more fresh water will be needed to grow food for growing populations in developing countries and that total water use will increase by 40 per cent. By 2025, as much as two-thirds of the world's population could live in countries with moderate to severe water stress.
- More than 113 million primary school-age children in developing countries, of whom 60 per cent are girls, currently do not receive a basic school education.
- More than 11 000 species are listed as threatened with extinction, and more than 800 have already become extinct. About 5 000 other species are potentially threatened unless major efforts are undertaken to reverse their population declines.
- About 50 per cent of all marine capture fisheries are

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Net annual loss in forest area worldwide is 9.4 million ha. Excluding the establishment of forest plantations, the annual rate of deforestation is an estimated 12.5 million ha per year.

fully utilized and another 25 per cent are overfished.

- Net annual loss in forest area worldwide is 9.4 million ha. Excluding the establishment of forest plantations, the annual rate of deforestation is an estimated 12.5 million ha per year.
- Per capita energy use is almost 10 times as high in developed countries as in developing countries.
- Petroleum accounts for 95 per cent of energy use for transport purposes. Energy use in the transport sector is increasing at a rate of 1.5 per cent annually in developed countries and 3.6 per cent in developing countries. Carbon dioxide (CO_2) emissions from the transport sector are expected to increase by 75 per cent between 1997 and 2020.

Though the benefits of globalization have not been distributed evenly, its overall impact on the world economy during the 1990s has been positive. World trade grew at an average rate of 6.4 per cent a year to reach USD 6.3 trillion in 2000. Developing countries took a share of this growth, with GDP growth rates averaging 4.3 per cent for the period, up from 2.7 per cent in the 1980s. Much of this growth was confined to a few countries, however, and African countries and other economies in transition benefited little; instead they experienced economic decline.

Problem areas

The Secretary-General's report outlines a number of goals for the coming World Summit in Johannesburg and for the subsequent efforts. They range from the eradication of poverty and the move to sustainable patterns of production and consumption to a more equitable distribution of water resources and steps to strengthen the system of international governance for sustainable development.

One cross-cutting challenge is to mobilize the political will to translate these goals into action. The Johannesburg Summit will have a decisive impact on what sort of basis we will have for coping with these challenges in the coming decades. No single organization has overall responsibility for sustainable development. It is therefore essential to ensure better coordination between the various UN agencies and between them and the international finance institutions.

The war on poverty is generally regarded as the greatest single challenge facing the world in the next few decades. The Norwegian Government has therefore recently issued an Action Plan for Combating Poverty in the South and has made this its main approach to the task of promoting sustainable development in the years ahead. Poverty is inimical to sustainable development in many ways. Recent research has shown a clear link between poverty and environmental degradation. Environmental degradation often affects poor population groups more than others and it both creates and perpetuates poverty. At the same time, poor people are often forced to put short-term benefits first in order to survive. This is bad for the environment and weakens the foundation for value creation. The links between poverty, health and the environment are especially close: unsafe water sources, erosion, etc. affect people's health and thus also their ability to live a productive life. This is why the Government wishes to focus on the health sector.

The supply of fresh water is precarious in many areas and for large population groups. It is therefore an essential

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The war on poverty is generally regarded as the greatest single challenge facing the world in the next few decades.

task to ensure that people everywhere have access to adequate supplies of freshwater of satisfactory quality.

"Trade, not aid!" is a well-known catch-phrase, but both trade and aid will be necessary for many years to come: what is needed is aid for fair trade. Even where poverty, disease, illiteracy and poor governance dominate the scene, we see communities labouring to create a better future. Every year the world population increases by three times as many people as live in the whole Nordic region. If these people are to have the same standard of living as we have, this would require an effort equivalent to the building of all the Nordic countries from scratch three times a year, complete with houses, schools, health services, offices, roads, factories and everything else we take for granted.

Persuading affluent countries to fulfil their old pledge to raise development assistance to 0.7 per cent of GNI is a long-term challenge. However, development assistance alone will not solve poverty problems. It is also important to influence the rules and practices of the international economy in a direction consistent with the demands of sustainable development. The liberalization of world trade could have both positive and negative impacts in this regard. Poor countries, too, could very well see an increase in export incomes. But in order to reap environmental and development benefits, developing countries must have good administrative regimes that take care of the basic needs of the population and of the environment. The industrialized countries will also have to adjust their business sectors to meet wider competition, and all countries must see to it that environmental costs are incorporated into the price of goods.

3.1.2 *Europe*

The EU now has a dominating role in Europe politically, economically and environmentally. This dominance will be reinforced as additional countries are admitted to the Union. The EU has developed its own sustainable development strategy and placed it on the agenda of the spring European Council meetings held between the heads of state or government. This strategy is part of the Lisbon Strategy, in which the EU set out the aim of becoming the most dynamic and competitive knowledge-based economy in the world by 2010. This goal is to be reached through a greater focus on employment, economic reforms, social cohesion and environmental sustainability.

The European Environment Agency (EEA) has performed a series of studies that conclude that despite 25 years of increasingly stricter environmental standards, no general improvement in the quality of the environment can be detected, and in some areas the quality of the environment has actually deteriorated. Stronger growth and global changes have offset the gains from greater eco-efficiency. On the basis of these and other studies, the European Commission has identified six areas in which grave problems are likely if swift action is not taken:

- climate change,
- poverty and social marginalization,
- ageing of the population,
- transport congestion and regional imbalances,
- depletion of natural resources and loss of biodiversity,
- threats to public health.

Norway has close ties to the EU, chiefly through the EEA Agreement, but also because we are neighbours. Therefore, the way in which the EU organizes its sustainable development efforts is of major significance to Norway. It will be of the utmost importance for us to collaborate with the EU and its member states to ensure that these efforts are sustainable and coincide as far as possible with our own interests and priorities.

3.1.3 *The Nordic countries*

The Nordic countries are among the richest in the world, and like other rich groups, we have a special responsibility to promote sustainable development. The Nordic Council adopted a sustainable development strategy in 2001, which has been published by the Nordic Council of Ministers under the title New Bearings for the Nordic Countries. It focuses on five cross-sectoral issues: climate change, biological diversity, the sea, chemicals and food safety. It also focuses on the efforts to include environmental considerations and sustainable development in the energy, transport, agriculture, business and industry, fisheries and forestry sectors. In addition to the cross-sectoral issues, this strategy includes initiatives for strengthening public participation in decision-making processes, local Agenda 21 efforts, measures to strengthen the environ-

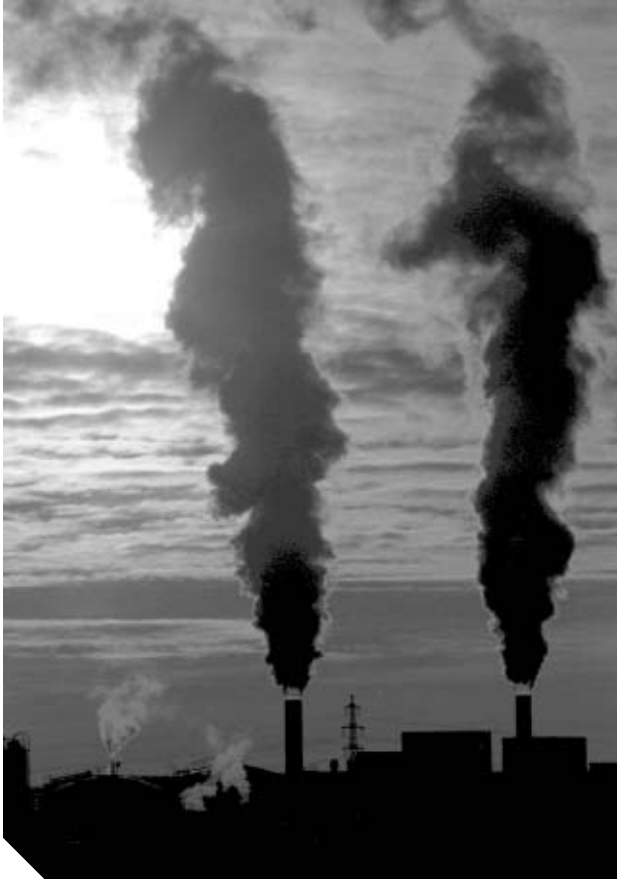
mental knowledge base, cooperation on policy instruments and resource efficiency. The strategy also proposes special support for initiatives in the areas adjacent to the Nordic countries.

One basic principle of the Nordic strategy is the "highest adjusted level of ambition", which lets the Nordic country with the highest level of ambition in a specific area take the lead, making Nordic cooperation a driving force for sustainable development.

The Nordic strategy is to be revised in the course of 2004, and new areas may then be included in Nordic efforts to promote sustainable development. The present strategy contains a proposal to develop a number of environmental and sustainable development indicators. This work will take into account similar efforts that are in progress in individual countries and in international fora such as the EU.

The Nordic sustainable development strategy will require follow-up primarily at the national and local level. In following up our own national sustainable development strategy, we will therefore take the necessary steps to meet our obligations under the Nordic strategy.

The Nordic strategy points to climate change as the greatest environmental problem today and possibly the greatest threat to sustainable development. Another important task will be to meet the basic needs of the entire population of the world while it continues to grow.



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3.1.4 Areas adjacent to the Nordic region

All the countries of the former Eastern bloc share problems inherited from the past, and unwieldy economies, run-down infrastructure and overwhelming environmental problems still present major challenges. The most serious problems are to be found in Russia, where economic and social crises make it difficult to predict future developments. The social and environmental problems are especially serious in northwestern Russia. The proximity of this region to Norway, to the Barents Sea with its rich fish stocks and to vulnerable Arctic regions gives cause for concern. The growing oil tanker traffic and the transport of radioactive material along Norway's coast are both potential risk factors.

The vulnerable Arctic environment is the life-sustaining system for the indigenous peoples who live there and for the animals from which they gain part of their livelihood. The northern seas are also nursery areas for a number of important species of fish. Airborne and waterborne pollution from regions to the south tend to accumulate in the Arctic. Climate models indicate that in addition to having a strong influence on the climate, the polar regions are particularly vulnerable to the effects of global warming.

There are positive developments as well. The countries adjacent to the Nordic region are currently in a state of rapid social, political and economic change. The Nordic sustainable development strategy states that the Baltic region is gradually becoming unified and that the EU candidate countries will approach the level of welfare found in the other countries. These countries are already in the process of adapting to the EU's much stricter environmental standards. The region will make increasing use of its natural resources, especially its petroleum and forestry resources. This will be an important means of reducing poverty and creating a better-ordered society, and will make it possible for trade in the north to become more important for the Norwegian economy.

In 1998 the Arctic Council produced a plan of action for sustainable development, which aims to protect and improve the environment and the economies, cultures and health of indigenous communities and other inhabitants of the Arctic.

Environmental problems and new opportunities in the former East bloc countries will present major challenges to Norway and the other Nordic countries for many years to come. In the Arctic, concerted efforts in a broad range of areas will be necessary to safeguard the future of the region's inhabitants and its valuable marine resources. It is encouraging that cooperation is now taking place in a relaxed political climate quite unlike the atmosphere of confrontation during the Cold War.

3.2 Healthy and stable economic development

The main goals of Norway's economic policy are jobs for all, value creation, continued development of the Norwegian welfare society and equitable distribution, all within a framework that is compatible with sustain-

able development globally. There is a general consensus on these goals today, and we have no reason to anticipate any change in the foreseeable future. A strong economy and balanced economic development are an essential basis for achieving these goals.

A strong basis…

The Norwegian economy is strong, with a solid surplus in the balance of foreign payments. Economic trends have been favourable for the past decade. Labour force participation for both men and women is higher than in most other countries, and unemployment is low. The labour pool is generally well-qualified for the production of goods and services with a large knowledge component. Norway's petroleum revenues give it a financial freedom available to few other countries. This gives us greater opportunities to develop our welfare society further, not least in anticipation of the elderly population boom that all the developed countries will have to deal with in a few years.

Norway is richly endowed with certain natural resources, especially energy, fish and forests. In some contexts, this gives us competitive advantages with regard to their processing, and these could be developed even further. Ecological processes such as natural mechanisms for purifying air and water, soil formation and the carbon, nitrogen and other natural cycles are also of enormous value, though their value is difficult to quantify.

…but caution is still necessary.

In the course of the next 30 years, retirement and disability payments will double, relative to Norway's GDP growth, assuming that benefits remain at today's levels. There are several reasons for this. The number of people aged between 25 and 54 is expected to drop by 30 000 up to 2010, while the number of people aged between 55 and 66 will rise by 196 000. In addition, there is a tendency for more people to leave paid employment on the grounds of disability or early retirement, and absence due to illness is rising. The swelling numbers of over-80s are also expected to drive up the demand for care and nursing, with the rise in expenditures that this will entail.

It will be possible to offset rising pension costs to some degree with returns from the Government Petroleum Fund, though the current high rate of inflow from petroleum activities is expected to decline as the century wears on. By paying petroleum revenues into the Fund now, we can build up a reserve that will produce a yield when growth in pension payments accelerates after 2015. If, on the other hand, we spend our petroleum revenues as they accrue, we can expect government finances to deteriorate drastically around the middle of the 2020s, with grave consequences for public services and serious repercussions for the rest of society.

Figure 1a **Central government's net cash flow** from petroleum activities and social security expenditure on old-age and disability pensions. Percentage of GDP

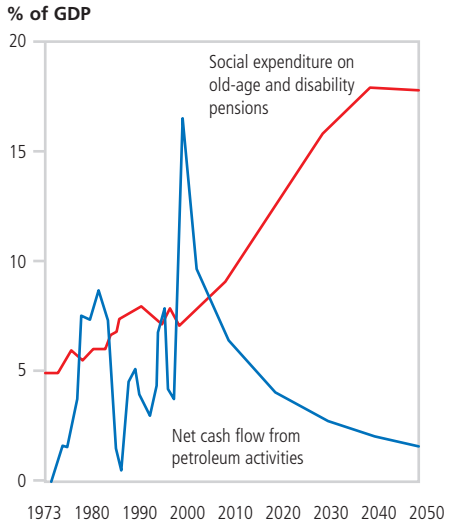
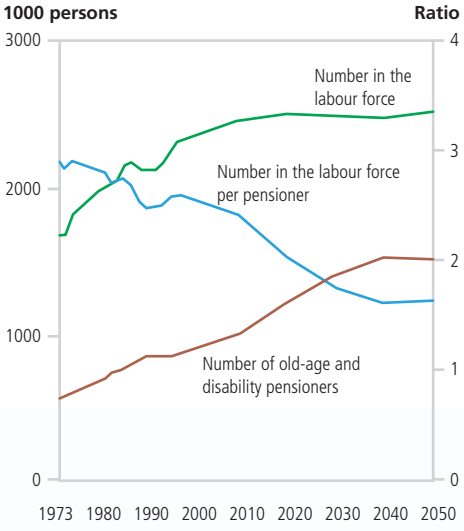


Figure 1b **Pensioners and the labour force**

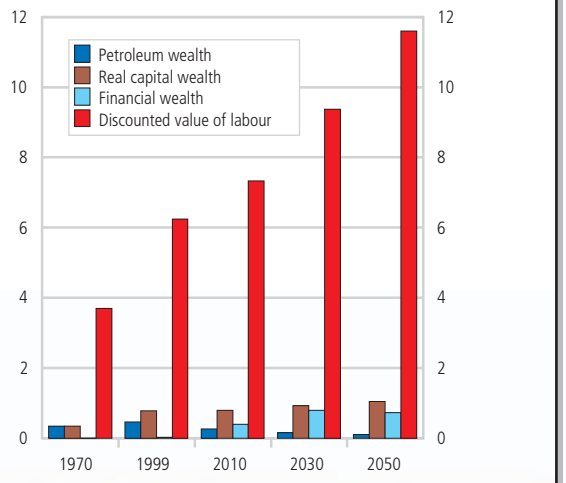


Source: Statistics Norway and Ministry of Finance

It should be remembered that mainland Norway still accounts for about four fifths of the total output of the Norwegian economy. Even a small reduction in income from the mainland economy would be enough to erode the greater freedom of action provided by petroleum oil revenues. If Norway's petroleum wealth were to lead to a passive consumer society, the Norwegian economy could eventually be weaker than if we had never had these resources.

Projections of national wealth confirm that Norway's greatest resource is its people. Over the last century the role of natural resources in Norway's economic development has declined while the importance of the human resources has climbed sharply. The calculations in the Long-term Programme 2002-2005 show clearly that a highly qualified and skilled labour force is Norway's most important economic resource. The present value of future labour accounts for 80 per cent of the four wealth components that have been estimated. A permanent 7 per cent reduction in average working hours from 1999 would have resulted in about the same reduction in society's future income as the complete disappearance of Norway's petroleum wealth. In other words, the way in which human resources are used is of crucial importance.

Figure 2 Projected trends for the various components of the national wealth



Source: Statistics Norway and Ministry of Finance

As mentioned above, there is a tendency today for more people to leave paid employment on the grounds of disability or early retirement, and absence due to illness is rising. Thus, there is a shortage of people who can provide services that are in great demand, and this tends to weaken branches of industry that are exposed to competition.

Challenges

It takes a strong character to be unaffected by wealth. The Government Petroleum Fund has put Norway in a better position than most industrialized countries to meet the "greying" of the population as the proportion of elderly people rises in the next few decades. But there are few examples of countries that have been able to manage an abundance of natural resources on the scale of Norway's petroleum wealth in a way that has produced lasting benefits. Therefore, one of the chief budget policy challenges is to achieve a consensus on the new guideline which dictates that we should not spend more than the expected real return on the Petroleum Fund. This will also help to give us room for manoeuvre in our finance policy.

If we increase the use of our oil revenues too much, we risk ending up in a situation where such a large portion of public expenditure is tied to government payrolls, social security, health, education and welfare that it will be difficult to balance the public budgets when petroleum revenues decline. This would also increase the pressure on interest rates and on the sector that is exposed to international competition, which would affect sheltered sectors as well. A competitive and varied business sector is essential for balanced economic development.

Pressure to restructure can be reduced if we are able to increase the efficiency of the public sector, so that a given level of public services can be financed by means of a lower taxation level. Budget policy must therefore be designed to boost efficiency in the public sector and to provide a stronger foundation for growth in private enterprise. Reductions in direct and indirect taxation could also help increase the available labour pool and improve the utilization of Norway's overall resources. Innovation and value creation should also be encouraged. In addition, it is important to give priority to measures to improve infrastructure, enhance the knowledge base and promote technological advances.

Good leaders and a flexible, qualified labour force are necessary to enable business and industry to adapt and change. One of the educational authorities' tasks is always to enable as many people as possible to receive an optimal education that makes use of individual aptitudes and meets the needs of society today and in the next few decades.

© Tom Schandy

One prerequisite for good health is a healthy environment.

3.3 Security and personal development in a dynamic society

Norwegians enjoy a higher standard of living today than at any time in the past. This increase in prosperity is enjoyed by most members of our society.

The aim of the Norwegian welfare society is to ensure that everyone enjoys fundamental rights and a decent standard of living. It is based on values that everyone agrees on: equality, the rule of law, popular participation, local democracy and the recognition that a society based on solidarity and a shared social responsibility for the welfare of fellow citizens is a safer and better society for everyone.

Norway's political and economic health is good, but its prosperity has put a growing burden on the environment and led to rising consumption of resources. The disparity between the richest and poorest groups has increased in recent years. Immigrants meet some of the demand for labour, particularly in the service industries. However, some immigrants find it difficult to enter the labour market, and this can result in a lack of cultural, social and economic integration. Lifestyle problems and diseases such as obesity and cardiovascular disease are on the increase. Serious crime has led to increasingly widespread feelings of insecurity, even though Norway is still a safe country.

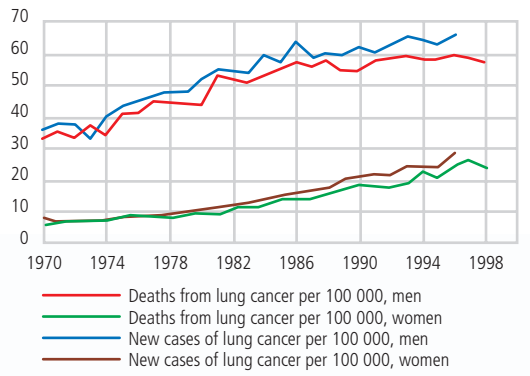
3.3.1 *Health*

Health is an important component of welfare – many regard it as the most important component. In terms of traditional public health indicators, the health of the Norwegian population is better than it used to be. Greater resources than ever are being devoted to health and social services. Yet still there is a considerable health care demand that is not being met, and people are more dissatisfied than before with their own health and with the available health care. This is due in large part to the widening gap between the technically possible – which creates expectations – and the economically feasible. Moreover, because of the expensive nature of advanced medical diagnostics and treatment, specialist personnel and services are often centralized, increasing the disparity in access to specialist services.

> "We have actively marketed our country as a welfare state that provides a level of security found nowhere else in the world. But when people need this welfare state, they do not find this security. Not in our care for the elderly, not in adequate child care capacity, not in good enough schools. The discrepancy between expectations and the services actually provided is more serious than we realize."
>
> *Minister of Labour and Government Administration Victor D. Norman (Stat & Styring, 1/2002)*

One prerequisite for good health is a healthy environment. Adverse environmental conditions are a threat to health today and in a long-term perspective. Conversely, beneficial environmental conditions give people the energy to meet the demands of their everyday lives. Health is also influenced by lifestyle, for example by stress, by unhealthy eating and by insufficient physical activity. Every day we are affected by physical, chemical and biological factors in our environ-

Figure 3 Lung cancer figures, 1970-1988



Source: Ministry of Health

ment through the food we eat, the water we drink and the air we breathe, and directly through our skin. These environmental factors can play a role in triggering allergies, cancer and other serious illnesses.

Communicable diseases are more widespread in other countries than they are in Norway, but many of them can become a threat here too, if they are imported with people, animals or food. Biological terrorism is also a threat. Permanent monitoring of the situation and the capacity to implement an immediate response are important.

Challenges

It is not very likely that the gap between society's expectations and the health care services actually provided will get any smaller, and it is very important to avoid a situation in which the quality of health care depends on an individual's income. There are basically two ways of dealing with this –by improving the general level of health care through higher funding, restructuring and other efficiency-enhancing measures, or by reducing the general demand for health care by preventing disease. The advantage of the latter is that it causes less suffering and is cheaper. But it is not easy to convince people that their health is largely their own responsibility and then get them to act accordingly. Several decades of information campaigns on diet, nutrition and the harm caused by smoking show how difficult this task is.

And it is no easy task to gain support for increased funding of preventive measures such as improvements in environmental health. These are long-term measures, they have little news value and they are largely related to other areas than the health sector itself, such as physical exercise, environmental and natural resource management, urban planning and culture.

3.3.2 *Urbanization – the development of towns and urban settlements*

Three out of four Norwegians now live in towns and urban settlements, and the proportion is rising. Growing numbers of people are seeking a good life in urban areas, and many companies are attracted to towns for the resources they provide. Thus the settlement structure is becoming denser.

Urban growth is not without its problems for health and the environment. It puts pressure on recreational areas and open spaces, agricultural land and biological diversity in areas close to towns. In its environmental performance review of Norway, the OECD states that it has become increasingly difficult in recent years to protect green spaces and areas near towns from development. It has also become more difficult to guarantee free access to beaches, particularly where urban areas are growing. Another result of urban growth is an increase in car traffic, while the percentage of people walking, cycling or using public transport declines. Today, road traffic occupies 15 per cent of urban surface area. Motor traffic using fossil fuels generates noise, dust and air pollution, increasing the risk of disease and other health problems, and is therefore a public health problem. The increase in this traffic also leads to higher greenhouse gas emissions.

At the same time, urban growth creates complex new social challenges. In the largest urban areas, especially in the Oslo region, there is greater and more obvious social inequality than in other places. Oslo offers examples of both the best and the worst living

Three out of four Norwegians now live in towns and urban settlements, and the proportion is rising.

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conditions in Norway. Poor living conditions, substandard housing and poor environmental conditions are concentrated in certain parts of the city, resulting in social segregation.

To provide guidelines for urban growth, the state and a number of municipalities have developed a set of principles conducive to a good physical environment in towns and urban settlements and to a good urban life:

- Urban development must make efficient use of space and transport facilities and must promote environmentally-friendly transport and reduce car traffic.
- The natural centre of a town and the regional centre structure must be strengthened.
- Viable local communities and good residential environments must be safeguarded.
- New housing and jobs should be located within existing building zones and close to public transport.
- The green structure and opportunities for safe access and play and other activities must be given priority.
- Urban design, aesthetic considerations, the cultural heritage and building conservation must be emphasized.

Challenges

Urban development is a field with a large number of conflicting and interacting problems and it is especially difficult to arrive at coherent solutions. The larger towns in particular face complex social and environmental problems. The main task for the planning authorities is to create residential and commercial environments that promote physical and social well-being as well as providing good conditions for value creation and high environmental standards. It is also important to take steps to limit urban sprawl. This will reduce transport needs and energy use and enhance the efficiency of public transport, water, sewage and waste collection services. Preserving the cultural heritage and maintaining green areas such as parks, open spaces and beaches will further improve people's well-being and quality of life.

It is also important to provide a framework for the development of socially inclusive urban communities and avoid the build-up of problems related to living conditions. These issues are dealt with in more detail in a white paper on a better urban environment that was published in spring 2002 and will also be discussed in a white paper on the special problems and challenges facing Norway's largest towns, which is expected to be submitted in 2003.

3.3.3 *Education*

Schools and day-care centres are of fundamental importance: they are intended to provide the best possible starting point for all children and equip them with the knowledge, skills, working habits and ability to cooperate they will need to develop their own talents and become full members of society in both social and economic terms.

The proportion of young people in Norway who complete secondary and tertiary education is high, even in comparison with other Western countries. However, a survey of Norwegian 15-year-olds has revealed that their level of proficiency in reading, science and maths is only average in comparison with other countries, and that their actual level of knowledge is not proportionate to the time they have spent in school. We should be able to expect better results in a country that is one of the richest in the world and uses most resources per pupil.

There are other discrepancies to be seen as well when it comes to the needs of the business sector. There is a shortage of qualified people in science and engineering subjects and some parts of the health sector, but an overproduction of graduates in law, the humanities and social sciences and of physical therapists. It is possible to compensate for this to some degree through on-the-job training or adult education. During periods of economic buoyancy, labour shortages in the skilled trades, especially in construction, can be severe, with supply as much as 25 per cent below demand. Moreover, Norway seems to be turning out too many graduates in theoretical subjects who are not sufficiently attuned to present and future needs.

The Norwegian school system has played a pioneering role in integrating environmental studies into the curriculum. These studies are intended to impart the fullest possible knowledge and understanding of environmental issues and to cultivate the attitudes and skills needed to work towards a society that lives in harmony with its natural resource base. The schools have been assigned an important role in local environmental efforts.

Who will make sure that we have reliable electricity supplies in the future?

Norwegian energy utilities currently employ about 5000 engineers, and about 1800 of them (36 per cent) are over the age of 50. Given that the average retirement age is 65, this translates to an annual retirement rate of around 120. This is considerably more than the number of electrical engineers graduating each year. The low number of applicants who give first priority to electrical engineering programmes at the eight colleges in Norway that offer them (the better part of our recruitment base) indicates that the output of qualified engineers will not keep up with the rate at which engineers retire.

	1997	1998	1999	2000	2001
No. of appl.	88	90	62	63	43

Source: Technology Department, Agder University College

© Ulf Isacson/Mira/Samfoto

Challenges

The school system is facing both academic and social challenges. The educational system is supposed to give pupils factual knowledge and skills that are relevant to the situation today and to future needs, and at a level that enables them to compete at the international level. More young people than before are now going on to upper secondary school after completing their compulsory schooling. They are choosing academic and vocational programmes in roughly equal numbers. Providing all pupils with an education that motivates them to learn and is tailored to their needs and abilities is a major challenge.

Schools also have a role to play in bringing up children and young people and instilling ethical and cultural values in them. They must impart an understanding of the fundamental values on which any society must be based, at a time when our population is becoming more and more diversified. This trend makes tolerance more important than ever before, and also makes it more difficult to gain acceptance for certain ethical norms.

The growing demands on the school system mean that teachers and their training and continuing education must meet new standards.

3.3.4 Culture

Our fundamental ethical values are a product of our culture. Every living culture is complex and continually changing. Each one of us is responsible for deciding how to respond to new impulses. In our globalized era, the pace of change is accelerating and national cultural identity is becoming much more complex than it used to be. Closer contact with other parts of the world has given us greater diversity, and the increasing display of cultural identity by minorities in Norway is taking us in the same direction. Cultural diversity is an asset in its own right and part of the basis for individual development and the development of society.

Cultural output is becoming increasingly standardized and commercialized. In a global perspective, Norwegian culture is a minority culture, and its professional artistic and cultural community depends heavily on public funding for its survival. This is particularly true of indigenous peoples and minority groups.

The commercial culture sector is growing steadily, and there are many indications that both supply and demand will continue to grow and become more varied. Various kinds of artistic and cultural expression are merging to form new idioms, and there is a tendency for the fine arts, advertising and the cultural industry to become more closely integrated. At the same time, a wider range of funding mechanisms and new links between the cultural and business communities are emerging.

Archaeological and architectural monuments and sites and cultural environments are part of our cultural heritage. They bring history to life and help to create an understanding of landscapes and the environment and their role in economic, social and religious life. The conservation of cultural environments is part of the Nordic strategy for sustainable development.

Language is an important part of our cultural identity, and provides a common conceptual framework for defining and meeting common challenges. By UNESCO standards, the Norwegian language is not endangered in the near future. It is spoken by over four million people, it is used in virtually all areas of life and its users are prepared to keep it up. By the same standards, the Sami languages, which are spoken by a limited number of people in small, scattered communities, are regarded as endangered.

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Archaeological and architectural monuments and sites and cultural environments bring history to life and help to create an understanding of landscapes and the environment and their role in economic, social and religious life.

Challenges

We must foster a viable cultural community that is able to make use of influences from other countries and of ethnic diversity so that Norwegian culture and the Norwegian lifestyle continue to evolve and be part of our identity. This does not mean shielding ourselves from foreign influences, but on the contrary, taking advantage of the strength and dynamism this diversity represents.

It is also important to ensure cooperation between the private sector, the public sector and voluntary organizations in order to maintain the diversity of our physical cultural heritage and to increase awareness and knowledge of our cultural monuments and how they can best be maintained by local communities and developers.

3.4 Environmental protection

Over the years, there have been considerable changes in the kinds of environmental problems we have to deal with. The main problems used to be related to large point discharges and specific developments with obvious local effects: now they are to an increasing extent the overall result of pollutants from many small or diffuse sources. Moreover, today's environmental problems are more often transboundary and global in nature. Changes in the state of the environment often occur gradually over a long period of time and are therefore not easily visible. In many cases, such as climate change, hazardous chemicals and acid rain, human activities are already exceeding nature's tolerance limits. The OECD Environmental Outlook (2001) divides pressures on the environment into three groups: those where recent trends have been positive and the state of the environment is improving ("green lights"), "yellow lights", which signal areas of uncertainty or potential problems, and "red lights", which signal where environmental pressures have been increasing and there is an urgent need for action. We have used similar categories for the description of the state of the environment in Norway that follows below.

3.4.1 *Areas where environmental trends are positive*

- Emissions of ozone-depleting substances have been greatly reduced, and their concentrations in the atmosphere are rising more slowly. Nevertheless, even if all countries comply with the commitments they have undertaken under international agreements, it will take up to 50 years for the ozone layer to return to its normal level. Norway is well on the way to fulfilling its international obligations, and is following the EU's more ambitious plan for phasing out ozone-depleting substances up to 2015.
- Emissions of acidifying substances such as sulphur dioxide and nitrogen oxides have been substantially reduced in the past ten years through binding European cooperation. During the past 15 years, the areas of Norway damaged by acidification have become considerably smaller, and we expect further improvement. However, we still need to cut emissions of nitrogen oxides, particularly from shipping and the petroleum industry.
- In Norway, as in most other countries in Europe, waste generation is increasing with economic growth, but a growing proportion of this waste is recovered (materials are recycled or the energy in waste is utilized). More recycling, technological improvements, stricter EU standards and licensing requirements have helped to reduce emissions from incineration plants and landfills. We expect this trend to be maintained.
- Emissions of some of the most dangerous types of

chemicals, particularly from industry, have been substantially reduced since 1985. More measures are planned and will give further improvements.

- Discharges of the nutrients phosphorus and nitrogen to sensitive sea areas have been reduced by about 55 and 30 per cent respectively in the last 15 years. The corresponding figures for the agricultural sector are 32 and 24 per cent respectively, and emissions of environmentally hazardous chemicals have also been reduced. However, further reductions must be achieved in the future.
- A number of national parks have been established, and in all 9.35 per cent of mainland Norway is now protected in some way. In addition, a large number of public outdoor recreation areas have been designated, most of them along the coast of the southern half of the country. However, the OECD noted in its environmental performance review of Norway that the total protected area is well below the target of 13 per cent set in the national park plan, and that achievement of this target has been postponed until 2010. The review also points out that the protected areas are not representative, since forest and marine ecosystems are underrepresented. Moreover, populations of the large predators are still under serious threat, and conflicts between predators and livestock management interests are more serious than ever.

3.4.2 Areas where environmental trends are uncertain

- The combination of nitrogen discharges from waste water, the use of fossil fuels and runoff from agricultural areas is causing eutrophication of lakes, rivers and coastal waters.
- Large parts of some fjords are so heavily polluted as a result of earlier discharges of heavy metals and persistent organic pollutants that they are not suitable for fisheries or aquaculture today. The authorities have had to recommend restrictions on the consumption of fish and shellfish or prohibit their sale in 24 harbours and fjords or parts of fjords. Persistent organic pollutants such as PCBs and dioxins are dangerous because of their low degradability and high bioaccumulation potential.
- A long list of valuable monuments and sites that form part of Norway's cultural heritage have been protected, and many local communities are showing a growing interest in protecting their heritage. Nevertheless, around 1 per cent of these monuments and sites are being lost every year. They are threatened by various factors, including pressure for changes in land use, the abandonment of traditional farming techniques, which results in old meadows and pastures becoming overgrown, and wear and tear caused by visitors and tourists. Overgrazing and the weak economy of the reindeer husbandry sector may threaten elements of the Sami cultural heritage.
- Changes in land use as a result of developments such as road-building, building of housing and cabins and commercial activities have drastically reduced the size of areas without major infrastructure development in Norway. In some cases, this affects areas where the potential for biological production is high.
- Emissions from manufacturing industries in the OECD countries, including Norway, are largely under control, but diffuse sources such as products and motor vehicles still generate substantial emissions. There are environmental problems connected with all phases of the life cycles of products, from the extraction of raw materials and product use and until the products end up as waste. Growing prosperity tends to result in higher emissions.

3.4.3 Areas where environmental trends are more negative

- Biological diversity: At global level, losses of biological diversity are high. There are many reasons for this:

A number of national parks have been established, and in all 9.35 per cent of mainland Norway is now protected in some way.

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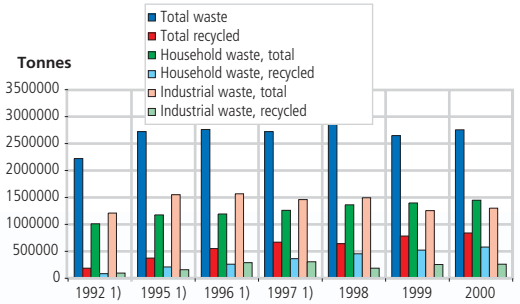
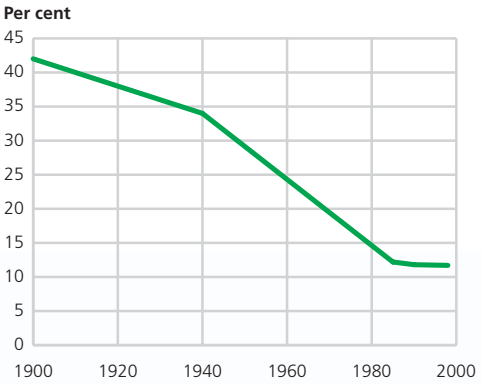
Figure 4 Waste generation and recycling in Norway



1) Adjusted for industrial waste mixed into household waste
Source: Waste statistics, Statistics Norway

Figure 5 Wilderness-like areas[1)] as a percentage of Norway's total land area

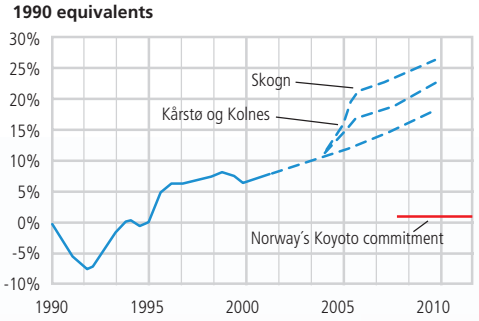


[1] Wilderness-like areas are defined as lying at least 5 km from the nearest major infrastructure development
[2] Excluding Svalbard and Jan Mayen.
Source: Directorate for Nature Management

changes in land use, deforestation, fragmentation of ecosystems, overexploitation of species, the introduction of alien species and emissions of hazardous chemicals. In Norway too, there is great pressure on some elements of biodiversity, and certain vegetation types are under acute threat, for example semi-natural meadows, certain swamp forests and wooded hay meadows. River deltas are another type of ecosystem that is being lost rapidly. However, it is encouraging that we know much more about species diversity than we used to, and both surveys and other activities are putting us in a position to conserve biodiversity much more effectively than only a few years ago.

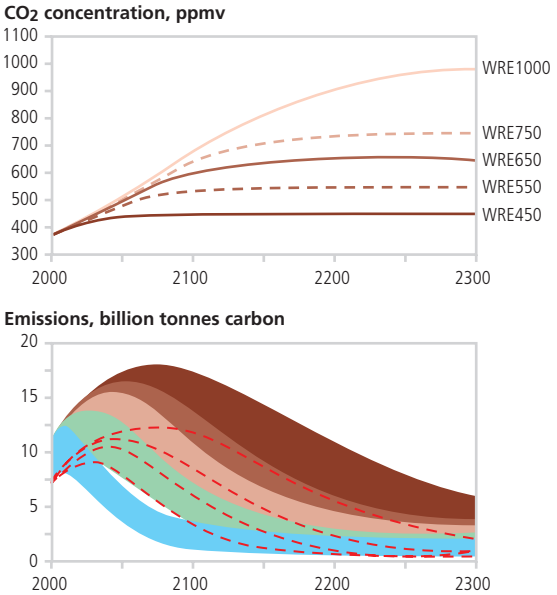
- Chemicals that are hazardous to health and the environment: The numbers and quantities of chemicals used are both rising. An estimated 50 000 different substances are in use within the EEA today. Even though emissions of some of the most dangerous substances have been substantially reduced, particularly as a result of steps taken in the industrial sector, total use of chemicals has risen, and so has the use of dangerous chemicals in products. New growth industries, such as the off-

Figure 6 Greenhouse gas emissions in Norway. Historical figures and projections



Norwegian Pollution Control Authority

Figure 7 Stabilization of the CO_2 concentration in the atmosphere
calculated by the Intergovernmental Panel on Climate Change (IPCC)



For example, if the CO_2 concentration is to be stabilized at 450 ppmv* (the current level is 365 ppmv, and the pre-industrial level was 285 ppmv), global emissions must be returned to the 1990 level within 40 years and then be reduced to well under half the current level. If the total concentration of all greenhouse gases is to be stabilized at 550 ppmv measured as CO_2 equivalent(s) (corresponding to a CO_2 concentration of 450 ppmv), the IPCC states that global per capita emissions must be reduced from 4.8 tonnes today to 3.2-3.6 tonnes in 2050.
**ppmv: parts per million by volume*

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Radioactive substances from Sellafield can be traced as far north as Bear Island today.

shore petroleum industry, are generating large emissions of chemicals. We know little about the health and environmental effects of many substances, and almost nothing about the effects of exposure to combinations of several different substances.

- Radioactive pollution from nuclear power plants, waste storage facilities and the transport of nuclear waste may increase in the future. Radioactive substances from Sellafield can be traced as far north as Bear Island today. There are also plans to transport nuclear waste along the Norwegian coast to treatment facilities in Russia.
- Greenhouse gas emissions. According to the International Energy Agency, these are set to rise by 70 per cent globally in the period 1995-2020 as a result of economic growth and growth in trade and transport, unless new measures are implemented to cut emissions. Emissions will rise most sharply in the developing countries, where coal plays an important part in the energy system. In the transport sector alone, the OECD expects car use to rise by 40 per cent up to 2020, and air traffic to rise by 300 per cent. Electricity production from fossil fuels is also adding considerably to the rise in emissions. Continuing deforestation in tropical regions is reducing the capacity of forests to absorb CO_2. Even if all industrialized countries meet their commitments under the Kyoto Protocol, global emissions are expected to rise. One reason for this is that many other countries have not made quantitative commitments to cut their emissions under the protocol.

3.4.4 Challenges

The above discussion of environmental trends and problems also indicates the challenges we must deal with, but we would like to highlight three of them in particular here: greenhouse gas emissions, the loss of biological diversity and chemicals. All three issues are also included in the Nordic strategy for sustainable development.

Climate change is probably the most serious environmental problem facing the world community today. When the Kyoto Protocol enters into force, countries that have accepted commitments under the protocol will both take steps to cut their own emissions and make use of the flexible mechanisms to invest in other countries and gain credit for emission reductions they help to bring about there. Internationally, substantial technological developments will be needed in several fields – fuels, modes of transport and renewable energy – if we are to tackle the problem of climate change, but this is unlikely to eliminate the need for a reduction in energy use in the industrialized countries in the medium term. In the longer term, the developing countries must also become actively involved in efforts to reduce greenhouse gas emissions, and they will also have to accept commitments to limit their emissions.

The loss of biodiversity restricts the options available to future generations, and conservation of biodiversity is therefore one of the main priorities of the Nordic strategy for sustainable development. Our knowledge of biological diversity must be improved and information must be made readily accessible to all sectors of society and interest groups. The value of traditional knowledge should be recognized in the conservation of biodiversity.

The third major challenge is to reduce the use of dangerous chemicals in processes and products in order to achieve the Nordic targets. These are to eliminate emissions of substances that pose a threat to health or the environment within one generation, and to ensure that within the next 10-15 years new products do not contain certain heavy metals and synthetic substances that show low degradability or are harmful to health.

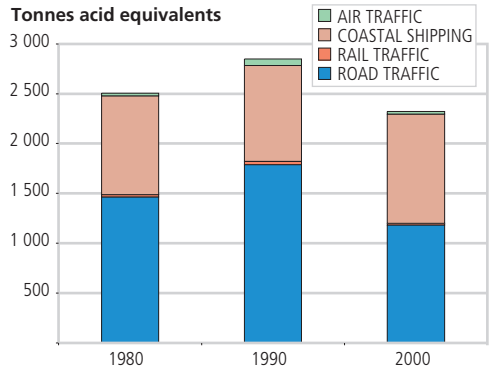
Transport

The transport sector is often designated as one of the major polluters. However, trends in this sector are a result of demands generated by developments in other areas, such as the internationalization of business and industry, changes in the business structure and settlement patterns, and trends in personal income.

Transport activities and infrastructure, both on land and at sea, can increase pressures on species diversity.

Greenhouse gas emissions from the transport sector (CO_2, nitrous oxide and methane) have risen considerably in the last few decades with the growth in the volume of transport. In 2000, the transport sector accounted for 24 per cent of Norway's total greenhouse gas emissions. The volume of transport work and greenhouse gas emissions from the sector are expected to rise further.

The transport sector also contributes to regional air pollution, mainly through emissions of acidifying substances (SO_2 and NOx). In 2000, the sector accounted for 32 per cent of Norway's emissions of acidifying substances. The large emissions of NOx from this sector are most important in relation to acidification.:



New emission standards have resulted in a reduction of 34 per cent in acidifying emissions from road traffic from 1990 to 2000. Emissions from coastal shipping, on the other hand, have risen by 14 per cent. The International Maritime Organization (IMO) has adopted a technical code for NOx emissions from new engines and engines that undergo a major conversion that was intended to apply from 2000, but the code has not yet been ratified by enough countries to enter into force. However, in practice, all new ship's engines meet IMO standards for NOx emissions.

Coastal shipping and land-based transport account for roughly equal proportions of Norway's acidifying emissions. Where there is real competition between sea transport and road transport, sea transport has environmental advantages because greenhouse gas emissions per tonne-km are lower and it contributes less to local air pollution and noise.

Source: Calculations by the Ministry of Transport and Communications based on figures from Statistics Norway.

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3.5 Management of natural resources

3.5.1 *Norway as an energy producer*

Norway is particularly rich in primary energy sources: oil, natural gas, hydropower, wind and wave power. These resources will continue to be an important basis for economic growth, as they have been in the past.

Hydropower accounts for 99 per cent of Norway's total electricity production. The energy balance is tight and this situation is expected to continue in the years ahead. For the sake of biodiversity and in order that future generations can experience the natural environment, major hydropower developments are no longer being undertaken. Energy therefore needs to be obtained from other sources.

A focus on wind power and on water-based central heating and district heating based on renewable energy sources will be important elements of the shift in energy production and use that is part of Norway's energy policy. At present, Norway's wind power plants can produce only 50 GWh/year. Alternative energy sources and energy efficiency measures may become more profitable as electricity prices rise and environmental costs are included in prices.

Each year, the petroleum sector accounts for between 10 and 20 per cent of Norway's GDP (or value added), and between 30 and 40 per cent of total exports. In 2000, Norway supplied more than 10 per cent of all the gas used in Europe, and this proportion is expected to rise.

Total production of oil and gas in Norway reached 3.1 million barrels per day in 2001. Production is expected to reach a peak in 2002-2005, and then decrease up to 2010. However, the level of oil production in the future is very uncertain. There are still substantial oil and gas resources on the Norwegian continental shelf, and it is estimated that oil production can continue for about 50 years and gas production for about 100 years.

Ever since Norway started offshore petroleum activities, it has been a fundamental principle that the industry must operate within a sound environmental framework.

The petroleum industry is an important source of emissions to air and discharges to the sea. Emissions to air are largely related to the industry's energy needs. Total emissions of CO_2 from the sector have risen from year to year, mainly because the level of activity has risen, whereas CO_2 emissions per unit produced dropped by 27 per cent from 1990 to 1999. This is a result of measures to remove CO_2 from waste gases and technological solutions to limit energy use.

Challenges

The Nordic strategy for sustainable development stresses the need to ensure secure energy supplies and to reduce emissions of greenhouse gases and other pollutants.

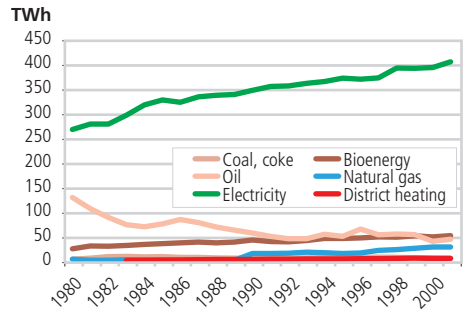
Norwegian energy policy must promote value creation and be based on the principle of sustainable development. Norway has all the natural advantages needed to become Western Europe's leading energy supplier, and Norwegian experts and companies have developed world-class expertise in the extraction and utilization of energy resources. Changes in the international petroleum industry and the liberalization of the electricity and gas markets in the EU are therefore creating major commercial opportunities for Norway as an energy producer.

The remaining petroleum resources must be managed sustainably and in a long-term perspective, so that they provide the greatest possible economic benefits and help to ensure welfare and jobs. If petroleum activities are expanded further northwards and into more vulnerable areas closer to the coast, this must be done in a way that is consistent with our vision of a clean and rich marine environment where future generations can continue to harvest the bounty of the oceans.

At present, the policy instruments used to reduce emissions to air from the petroleum industry are taxes and direct regulation. We need to encourage other cost-effective action to reduce emissions. The two measures it is most important to evaluate are reducing emissions from flaring and using power supplies from land on offshore installations. The question of supplying installations with electricity from land will be considered in conjunction with the energy balance. It may be possible to combine this with gas-fired power plants with CO_2 reduction technology and measures to enhance oil recovery by reinjecting CO_2 to support reservoir pressure.

Energy efficiency and environmentally-friendly forms of energy. It will be a challenging task to bring about a shift in energy use and thus reduce it considerably more than would be the case if developments were allowed to continue unchecked. It is therefore important to continue to promote measures that ensure greater energy efficiency.

Figure 8 Trends in stationary energy use in Norway 1980-2001



Source: Energy statistics, Statistics Norway

In the past 20 years, energy use has risen by about 25 per cent. Transport accounts for one quarter of net domestic energy use. Households and services, and manufacturing and mining account for a little more than one third (about 37 per cent) each. In the household sector and private and public services, energy use has risen by about 35 per cent from 1980 to the present day. Net electricity consumption has risen by 50 per cent since 1980, while stationary oil consumption has been reduced by about 65 per cent. There has been a particularly large drop in the consumption of heavy fuel oil. Bioenergy use has risen throughout the period from 1980 to the present, and it now accounts for almost 10 per cent of stationary energy use.

Major hydropower developments are no longer being undertaken.

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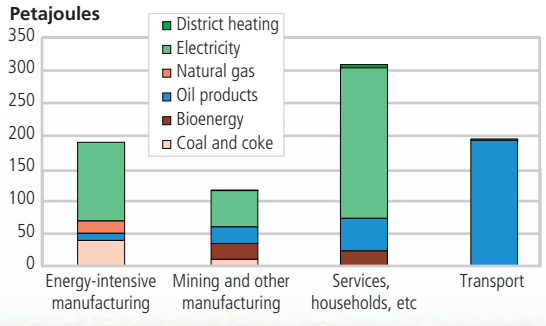
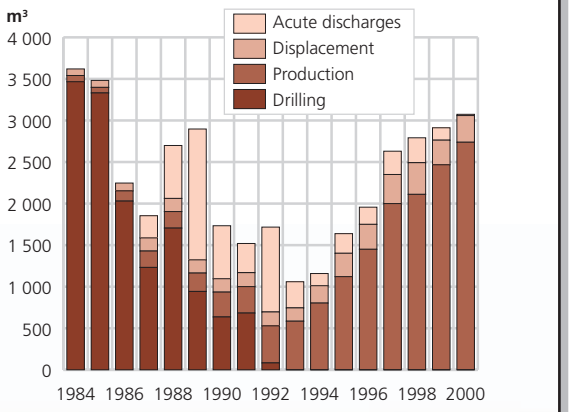
Figure 9 Stationary energy use in Norway



Source: Statistics Norway

In connection with the establishment of integrated management plans for Norwegian waters an environmental impact assessment will be made of year-round petroleum activities in the area from the Lofoten Islands and northwards to the Barents Sea. Within this region, the establishment of fisheries zones where no petroleum activities are permitted will be considered. High safety standards and a high level of emergency preparedness will be maintained in the industry. At the same time, efforts will be made to achieve the goal of completely eliminating discharges to the sea of substances that may be environmentally hazardous. Research efforts to identify the long-term effects of these discharges will be intensified.

Figure 10 Discharges of oil from petroleum activities



Source: Norwegian Pollution Control Authority

Another task will be to increase the proportion of renewable energy and water-based central heating and district heating based on renewable energy sources in the energy mix. By including environmental costs in the prices, for example through an emissions trading system for greenhouse gas emissions, production of renewable energy can be made more profitable. The existing hydropower infrastructure can be utilized better. We should find ways of further improving the profitability of alternative energy sources and energy efficiency measures, and increasing the use of environmentally-sound forms of energy and technology for energy production and transport, for example through market mechanisms such as tradable green certificates.

Important research challenges are to develop technology for the use of hydrogen as an energy carrier and for the environmentally sound use of natural gas in Norway. The development of commercial technology for electricity generation from gas-fired power plants that use CO_2 reduction technology will also be important.

3.5.2 *Food from the oceans*

Norway has the stewardship of some of the world's most productive coastal and marine areas. Fisheries and aquaculture are vital elements of the Norwegian economy and the foundation for coastal settlements. Our marine and coastal waters have provided the natural resources for commercial developments based on popular and safe seafood products, and give us unique opportunities for further economic development. It is estimated that the production value of seafood can be increased by several hundred per cent up to 2020 through developments in the established marine industries: fisheries, whaling and sealing. and aquaculture. In addition, new information will make it possible to develop completely new applications for marine resources, for example within biotechnology and the production of new medical products.

In the last few years, the Norwegian fisheries sector has been a very profitable one. State support to the sector has been reduced by about 90 per cent since 1990, and will total NOK 90 million in 2002. The total catch by Norwegian vessels has been relatively stable for the last 5-6 years, and was 2.7 million tonnes, or 3-4 per cent of the total world catch, in 2001.

The production of farmed fish and molluscs is rising. In 2000, more than 470 000 tonnes of salmon and trout was produced, in addition to modest quantities of halibut, cod and mussels. The export value of aquaculture products was more than NOK 11 billion in 2001, and the export value of fisheries and aquaculture products together was nearly NOK 31 billion.

The Norwegian aquaculture industry has made considerable progress as regards its impact on the environment and fish health. Farmed fish are now regarded as some of our healthiest livestock. Medicine consumption, and especially the use of antibiotics, has been drastically cut in the last few years, and the amounts now used are insignificant. However, escaped fish and parasites (particularly salmon lice) are still having an adverse impact on wild salmon stocks, and discharges of nutrients and chemicals are expected to rise.

The technological revolution of the post-war period has resulted in an efficient fishing fleet and a large excess in fishing capacity. Strict regulation is therefore needed to prevent over-fishing and depletion of fish stocks. The growing demand for fish, including fish to be used as feed for the expanding aquaculture industry, makes this need even more urgent. A lack of regulatory regimes, especially in areas outside national economic zones, has resulted in over-fishing in many areas. This is a problem throughout the world.

About 90 per cent of Norwegian fisheries exploit stocks that are shared with other countries. Even though fisheries management both in Norway and internationally is founded on the principle of sustainable harvesting based on the best possible scientific advice, the authorities in all countries are under constant pressure to allot larger quotas than the scientists recommend for scarce and valuable resources. Overfishing can deplete fish stocks so seriously that they cannot support a fishery for many years. In the North Sea, for example, the cod stock is in danger of collapse because the spawning stock has dropped to an all-time low and recruitment is poor. Catches of juvenile fish and undersized fish are a problem in many fisheries. Benthic trawling also damages the sea floor and vulnerable benthic communities.

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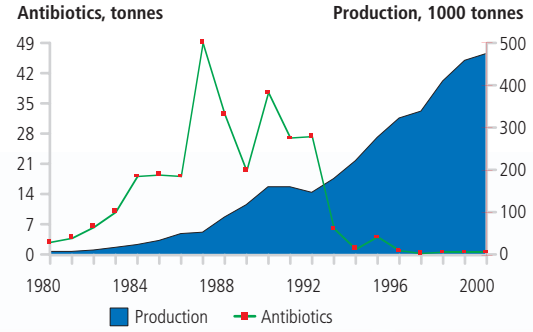
Shipwrecks along the coast and the expected increase in the quantities of environmentally hazardous cargo being carried, have shown that we need to raise safety levels and improve the emergency response system to avoid pollution of coastal areas. The introduction of alien invasive species, and particularly of pathogenic organisms and toxin-producing algae with ballast water, is another risk associated with shipping.

Challenges

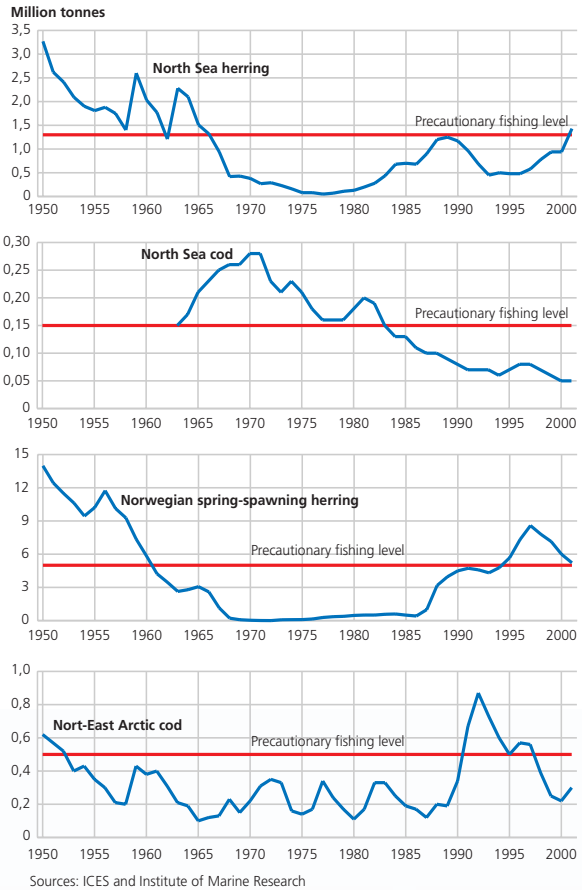
If future generations are to be able to make use of marine resources, the marine environment must be clean and healthy, and harvesting of resources must be sustainable in the long term, so that the rich species diversity of our seas can be maintained. A central task of fisheries management is to devise sustainable harvesting strategies that allow continued optimal harvesting of living marine resources in accordance with the ecosystem approach. This means that harvesting must be based on scientific advice. Fishing and harvesting methods must be further developed that reduce unwanted bycatches, catches of undersized fish and damage to the sea floor, and these methods must be used. The knowledge base for fisheries management bodies, the efficiency of fisheries regulation and control of catches must all be improved. A close dialogue between the industry, research institutions and administrative bodies is necessary in order to achieve an understanding of measures that are introduced and agreement on them. To maintain their profitability, the fisheries are dependent on sustainable management regimes and viable, dynamic coastal communities. The fisheries management authorities therefore consider it important to ensure flexibility in harvesting patterns and types of fishing operations, adapted to fluctuations in fish stocks. This flexibility encourages the development of local commercial activities that also make use of traditional knowledge.

Figure 11 Production of salmon and trout and consumption of antibiotics in the aquaculture industry in Norway



Source: Ministry of Fisheries

Figure 12 Spawning stocks and precautionary levels for important fish stocks



Sources: ICES and Institute of Marine Research

The Government has decided that a new marine resources act is to be drawn up to give the fisheries management bodies the legal basis needed to ensure that environmental consid-

erations are integrated more fully into management of the industry, and thus pave the way for a coherent, ecosystem-based approach to marine resource management.

In the aquaculture industry, it is of crucial importance to ensure that rising production of farmed salmon, farming of new species and the development of new forms of aquaculture are all kept within an environmentally sustainable framework. Efforts to reduce problems related to escaped fish and parasites are to be reinforced. Guidelines will also be drawn up for environmental testing of medicines for use in the aquaculture industry.

To ensure that discharges from the industry do not cause local or regional environmental damage, future systems for regulating production will be based partly on requirements for environmental monitoring and the carrying capacity of each locality. From 2002, the environmental authorities will prohibit discharges of hazardous chemicals from facilities that treat and clean net pens. The industry will be required to apply the substitution principle in its use of chemicals. Access to suitable areas is considered to be one of the most important factors for further development of the industry, and satisfactory cross-sectoral processes must be developed to avoid conflict between different interests and ensure continued value creation in the coastal zone on a sustainable basis.

Preventing pollution of the oceans is one of the most important ways of ensuring that production conditions are good and thus that marine products are safe and healthy. About 80 per cent of all pollution in Norwegian waters is from land-based sources, but shipping and petroleum activities also result in spills of oil and chemicals. Steps such as introducing mandatory sea lanes and better notification systems for high-risk transport will therefore be taken. Furthermore, maritime traffic control and the oil spill emergency response system are to be improved. Norway is also involved in efforts to put into place an internationally binding legal regime for ballast water, is taking part in regional cooperation on this issue and is seeking to ensure that national rules on ballast water are implemented at the earliest possible date and in accordance with international law.

Assessments of status and trends for marine resources and the marine environment, and prognoses of future trends, should be based on knowledge and insight gained from research and monitoring programmes. One of Norway's objectives is to improve and coordinate information on marine ecosystems and make the information more easily accessible.

There are many factors that affect the marine environment. We must ensure that developments in Norway's marine and coastal waters strike a balance between commercial interests and the needs of various user groups, and at the same time safeguard the overall structure and functioning of marine ecosystems. This will be the goal of the integrated management plans that are now to be drawn up for the marine environment in Norway.

For many years, settlement patterns along the coast have shown the same centralization tendency as in the rest of the country. This is threatening a vibrant and varied coastal culture. We must therefore intensify efforts to protect the cultural heritage along the coast and to ensure sustainable use of the coastal zone as a basis for a thriving business sector and local communities.

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The production of farmed fish and molluscs is rising.

3.5.3 *The soil that feeds us – and on which we live*

Soil is a scarce and non-renewable resource. Only 3 per cent of the land in Norway is cultivated. This corresponds to about 0.21 hectares per person, which is a small area by both European and global standards. Despite the scarcity of agricultural land, areas that are suitable for agriculture are under great pressure for conversion to other purposes.

Forests cover about 120 000 km2 in Norway (corresponding to 37 per cent of the total land area), and productive forests account for about 60 per cent of this. Norway's forest resources have been doubled in the past 100 years and are still increasing. However, in its environmental performance review of Norway, the OECD pointed out that only 1 per cent of productive coniferous forest is protected under the Nature Conservation Act. Two Norwegian research institutions have concluded that protected areas should be increased to 4.5 per cent of the area of productive forest.

The total area of reindeer grazing is over 140 000 km2, or more than 40 per cent of the total area of Norway. Today, these areas are under pressure from human intervention and disturbance. Some areas have been overgrazed. In Finnmark county, efforts are under way to adjust the number of reindeer better to the available resources and restore the economic and ecological balance in the area.

Norway has a wide variety of cultural landscapes and many different ecosystems. These are used by the primary industries, and also for hunting, fishing and outdoor recreation. They provide the basis for commercial activities, settlements and recreation outside the towns.

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Norway has a wide variety of cultural landscapes and many different ecosystems. These are used by the primary industries, and also for hunting, fishing and outdoor recreation.

The sustainability of agriculture and forestry depends on ecologically sound operations. They must also provide effective support for the objectives for the development of Norwegian society in areas such as settlement patterns and employment in rural districts, emergency preparedness, the management of the natural and cultural environment, and maintenance of cultural assets and traditions in rural communities. These tasks go far beyond the production of food, animal fodder and fuelwood, and illustrate the multifunctional character of agriculture, which has been receiving increasing attention in recent years. This multifunctional role is particularly clear in the case of reindeer husbandry, which is an integral part of Sami culture and of great importance for the Sami sense of identity and Sami society.

Major structural changes have taken place in the agricultural sector throughout the post-war period. Since 1975, employment in agriculture has been halved. Despite improvements in productivity, costs and the level of support are very high in Norwegian agriculture. According to the OECD, subsidies and import barriers made up a total of NOK 21.2 billion or almost NOK 280 000 per man-year in 2000. Support to the agricultural sector constituted 1.5 per cent of GDP in 2000, as compared with 3.4 per cent in 1987, when the total was NOK 29.9 billion in fixed 2000 NOK.

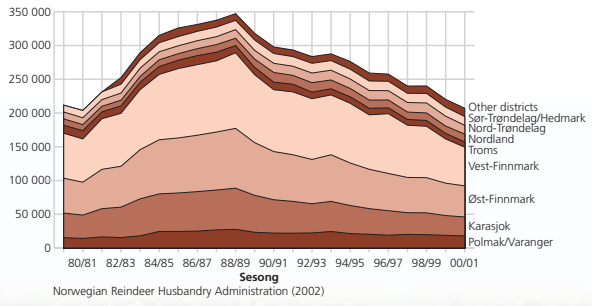
In the forestry sector, trade barriers have already been eliminated, and greater competition from abroad and lower profitability have resulted in lower roundwood removals. Long-term investments in forestry have dropped and the number of people employed in the sector has been reduced. The latter development is also a result of greater mechanization. However, Norway's forests still provide the basis for a substantial domestic wood products and wood processing industry.

There is much more concern in the markets about sustainable production methods and environmental issues than used to be the case. Extensive international cooperation is also taking place in the UN and other fora to develop principles for sustainable forest management.

In Norway, discharges of nutrients and other pollutants from the agricultural sector have been reduced in the last 15 years, and efforts to this end are continuing. Priority is being given to the introduction of more environmentally friendly production methods and further development of ecological agriculture. The objective is to bring traditional agriculture closer to ecological methods and to increase the proportion of the total agricultural area that is ecologically managed from the current level of about 2 per cent to 10 per cent by 2010.

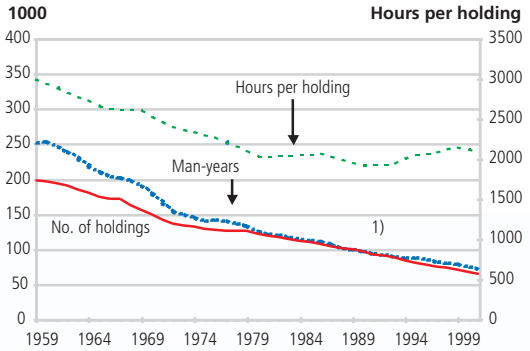
The conservation of biological diversity has high priority in both agriculture and forestry. Biodiversity is of particular importance for reindeer husbandry, and is an essential basis for future production. On the other hand, if use of the grazing resources is adapted to ecological conditions, the effects on biological diversity can be positive.

Figure 13 Trends in the size of the spring reindeer herd



Norwegian Reindeer Husbandry Administration (2002)

Figure 14 Number of holdings in use, total labour input (man-years) and hours of labour per holding 1959-2001



1) The number of hours per man-year was reduced from 1975 to 1875 in 1989.

Source: Budget Committee for Agriculture (2001)

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The Storting has stated that its objective for reindeer husbandry is that it should be sustainable in economic, ecological and cultural terms.

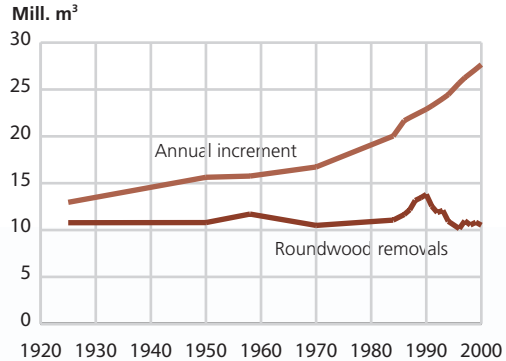
Challenges

In accordance with society's needs, the agricultural sector should:

- produce, in a sustainable manner, safe and healthy food of high quality on the basis of consumer preferences,
- produce other goods and services on the basis of the industry's overall resources,
- maintain other public goods such as viable rural districts, a wide range of environmental and cultural goods, and a long-term food supply.

Food security requires both security of supplies and high hygienic standards. Food supplies must remain secure and be perceived as secure. However, growing internationaliza-

Figure 15 Roundwood removals and annual increment in Norwegian forest



Statistics Norway and Norwegian Institute for Land Inventory.

New developments

A programme for value creation in food production has been launched in order to encourage innovation and diversity. Niche products of high quality are being developed, and one aim is to help primary producers to earn more from their products. The programme includes a labelling scheme that will protect designations of origin, geographical indications and designations of specific traditional character of agricultural foodstuffs.

Greater attention to consumers' preferences and improvement and control of food quality throughout the production chain will be promoted through the use of designations of origin, quality assurance and documentation of production conditions throughout the value chain.

Further development of special forms of ecological production and more ecological operations in traditional agriculture also provide opportunities for value creation. Ecological products give consumers a wider range of choices and help to maintain sales of Norwegian agricultural products.

The consumer is also in focus in a project that Norway has initiated under the Nordic sustainable development strategy. Its aim is to ensure supplies of safe, high-quality food by involving consumers in food policy and influencing international negotiations and other processes.

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tion, with an increase in travel and the new framework resulting from Norway's association with the EU and developments in the WTO, has created new scientific and administrative challenges. The recent food scandals in Europe have illustrated how vulnerable the traditional methods of surveillance and control in the food sector can be, and have helped create greater political awareness of the need for reforms in this field.

Norway has to deal with permanent handicaps in the agricultural sector related to structure, climate and topography. This means that trade barriers and government aid will continue to be part of Norwegian agricultural policy in the future. The members of the WTO have undertaken to hold negotiations on market access, export subsidies and trade-distorting domestic support for the agricultural sector. Although it is far too early to predict the results of these negotiations, it seems clear that growing international competition and changes in domestic market conditions will pose a major challenge to Norwegian agriculture and the food processing industry, and will require reorganization, more effective operation and greater market orientation.

The geographical and climatic conditions in Norway and the good animal and plant health are the foundation for varied agricultural production based on local conditions. There is a potential for the development of various types of niche products and distinctive local products that can give value added in agriculture. Greater use has been made of these market opportunities in the last few years (see box page 31).

The Storting has stated that its objective for reindeer husbandry is that it should be sustainable in economic, ecological and cultural terms.

The forestry industry can also benefit by combining value creation with environmental concerns. A major programme on value added from the use and processing of timber has focused on innovation and product development and the contribution the forestry sector can make to more sustainable production and consumption patterns. Today, almost all Norwegian timber that is traded has been certified according to ISO 14001 and standards for sustainable forest management (developed during the "Living Forests" project). Environmental certification is becoming more and more important when timber is sold and exported.

An important task is to prevent the conversion of Norway's most productive agricultural areas to other purposes. In connection with the sustainable urban development programme, overall objectives for sustainable development of urban settlements were drawn up. Their purposes include ensuring that areas of natural environment and green spaces close to settlements are maintained in order to conserve biodiversity, provide opportunities for outdoor recreation, and improve access to rivers, lakes and coastal areas.

3.5.4 *Genetic resources – the building blocks of life*

Genetic variation ensures the long-term viability of species. Genetic variation enables species to adapt to changing environmental conditions, and is thus also a form of life insurance for human society, which is dependent on species diversity.

The natural variation in the genetic material of all species is essential to the proper functioning of ecosystems and a vital basis for biological production in the oceans and the agricultural sector, and it is needed for the further development of productivity and resistance to disease in domesticated and cultivated species. Various biologically produced substances have been found to have valuable properties, and this has increased interest in natural species diversity as a basis for commercial exploitation. As a result, greater interest has been aroused in the conservation of genetic resources, and international efforts to ensure access to and fair and equitable sharing of the benefits arising out of the utilization of genetic resources have been given priority.

Voluntary guidelines on access to genetic resources and benefit sharing have recently been adopted under the Convention on Biological Diversity. These can be used as a basis for national legislation in the field. Norway intends to support capacity-building to help developing countries to implement the guidelines in their national legislation.

Challenges

The main task at national level is to establish satisfactory legislation relating to access to genetic resources in Norway, benefit sharing, and rules for the handling of genetic diversity from other countries (particularly those that are parties to the UN Convention on Biological Diversity) by Norwegian nationals. These matters are all included in the mandate for a committee that has been appointed to review the legislation on biodiversity.

Internationally, the main task is to give substance to the intentions of the Convention on Biological Diversity through follow-up agreements. Norway should play a bridge-building role between developing and industrialized countries in efforts to ensure that effective systems are developed for fair and equitable sharing of resources.

4. long-term action

Our vision of sustainable development is being put into practice through political decisions and through the other choices and decisions that are made in society as a whole, in business and industry, in central and local government, and by organizations and individuals. It is important to start making decisions on changes and renewal now that will help to lay the groundwork for a better society. Here the government and the Storting have the ultimate responsibility.

In the short term, our freedom of action may appear to be limited. Fixed expenditures on health, social security, education, transport and communications claim significant shares of public budgets. Population growth, the standard of health, the education system and pension schemes impose strong constraints on the labour and housing markets. In addition, some decisions are difficult to reverse, in particular those relating to infrastructure and other construction projects. Once developed, natural and cultural environments cannot easily be restored to their original state, because ecosystems are fragmented and the cultural heritage permanently damaged. Investments in production and operations are written down relatively rapidly and can largely be adjusted and renewed in the space of a decade, whereas the social structures that are developed in connection with production are more difficult to change.

Despite such short-term constraints, today's decision-makers will have a decisive influence on whether we are able to achieve sustainable development. Even apparently minor adjustments in policy often have major consequences in the long term. This is why it is so important to ensure that the principles and criteria for sustainable development are integrated into all relevant decision-making processes.

Future activities must be based on the further development and better use of the foundation of knowledge, expertise and attitudes that we already have. Many investments and other measures, for example related to schools and social and family policy only yield results in the long term. Others may produce quicker results, such as steps to allow for greater use of the expertise of the elderly in working life, and provide young people with more flexible employment and education opportunities.

4.1 General management strategies

If we are to succeed in overcoming the challenges we face, sustainable development must be an integral consideration in all economic activity, in every sector and for every player. Global environmental problems result from large numbers of actions at local level, and must be dealt with by coordinating international and national framework conditions and making local and individual choices with clear targets.

Sustainable development requires a coherent approach to planning and management, and therefore a break with sectoral thinking. One example is the ecosystem approach in natural resource management: instead of managing individual animal species separate from the landscape in which they live, a management model is designed based on interactions between species and with their natural habitat. This is why Norway's new marine resources act is to encompass all living marine resources, which will facilitate coherent, ecosystem-based management of the ocean's riches.

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The use of hydropower, petroleum resources, fish, forest and agricultural areas and other natural resources will continue to be part of the basis for the development of Norwegian society.

The international challenges lie in achieving more binding multilateral agreements. They should include mechanisms for auditing, monitoring and dispute settlement. Clear targets for national implementation should stimulate all sectors, including the private sector, to take action. Norway must ensure that sustainability considerations are integrated into the activities of the international bodies of which it is a member or with which it cooperates, such as the EU, the WTO, the UN family and the financial institutions, and be operationalized more effectively than is the case at present.

At the national level, sustainable development requires action in all sectors of society. All the sectoral authorities have a share of the responsibility for this in their respective spheres of authority, and must provide a framework that encourages efforts to incorporate sustainability considerations into all activities. However, efforts and results must also be coordinated and monitored centrally.

It can be difficult to persuade people to accept far-reaching measures that will not give results until many years later. Action must be based on participatory processes that promote awareness of the fact that it is in everyone's interest to contribute towards the attainment of common goals. Individuals, companies, local authorities and organizations should be given the opportunity to choose for themselves how they wish to contribute. We must make it easy and profitable to choose environmentally sound solutions.

Business and industry and voluntary organizations can set stringent targets for their own activities. Quality control can be assured through certification systems such as ISO and EMAS and be documented through eco-labelling and social and ethical labelling. To ensure open result monitoring and provide investors with information, companies should integrate financial reporting with sustainability reporting in their annual reports, for example by following the guidelines drawn up by the Global Reporting Initiative, GRI (see box page 44).

In cases where framework conditions are shaped outside Norway, the Norwegian authorities will seek to ensure that the international conditions result in cost-effective and administratively effective solutions to the various environmental problems. In developing countries, where tight public budgets prevent the building of schools and other necessary infrastructure, the introduction of economic policy instruments that generate revenues for the government can bring about more sustainable development in environmental, financial and social terms. Schemes to develop and benefit from new technology will be an important element of this process.

4.2 Policy instruments

To achieve results, Norway must exploit its strengths and concentrate its efforts. The inhabitants of Norway and the quality of life here are our country's most important assets. The natural resource base and international conditions limit our freedom of action, but also offer new opportunities. We will make sure that those who generate costs pay them, we will make it easier for the public administration, companies and consumers to assume greater responsibility, and we will ensure a better knowledge base. In order to seize these opportunities and at the same time help to resolve the global problems, Norway's strategy will focus on the following areas:

4.2.1 *New knowledge*

Innovation must be stimulated through a greater research and development effort and more testing of new technologies. By 2005, research and development investments in Norway are to have reached at least the average OECD level, measured as a percentage of GDP. One of the goals of the Nordic strategy for sustainable development is for the Nordic countries to play a leading role in research and development of resource efficient products and services. They will also cooperate on the development of instruments to study and measure resource efficiency, and on research into resource efficient technology.

Great innovations are impossible to foresee. This is why both untied basic research and applied research that focuses on specific topics are important elements in the quest for knowledge. And because issues related to sustainable development are so complex, research is needed in the social sciences and humanities as well as the natural sciences, medicine and technology (for example in the health, energy, agricultural and fisheries sectors).
Norway will play an active role in developing environmentally friendlier technology through research. This may apply to the production of goods and also to the improved provision of services. Areas of particular interest include the environmentally sound use of natural gas, gas-fired power plants with CO2-reduction technology, and more efficient energy technology for buildings, the marine sector, medicine, etc. Research must also seek to anticipate global trends that may affect Norwegian industries and social conditions.

Consumers also have a considerable influence on the development of society through their level of consumption, choices of goods and services, and the way their everyday lives are organized. In Norway, a considerable amount of research has been conducted on sustainable production and consumption, including a major project run by the Research Council of Norway. We will make systematic efforts to find out more about the relationship between opinion forming and action among consumers and households. Particular attention should be focused on the potential for bringing about changes as regards food, the use of housing and transport (see box page 24). Furthermore, it will be relevant to analyse the environmental implications of the relative amounts of time spent on work and recreation, as well as the relationship between income, level of consumption and status in society.

In many cases, we know a great deal about environmental problems and about which policy instruments are most effective for achieving more sustainable development. Nevertheless, we do not choose to apply these instruments often enough, and this must change. The Research Council of Norway has a comprehensive programme that will be examining the significance of framework conditions and the link between the production and the application of knowledge. The results of this programme can in turn provide a basis for action.

Strategic environmental impact assessment (SEA) of policies, plans and programmes is gaining increased prominence internationally as an important instrument for ensuring sustainable development. In the EEA, a new EU directive requires the authorities to carry out such assessments.

This means that in addition to the requirements to carry out environmental impact assessments (EIA) for single projects (e.g. a new road or a power plant), more extensive plans and programmes for whole sectors (e.g. energy) or geographical areas (e.g. a county or a river basin) must be assessed by means of SEA. This is intended to ensure that wide-ranging plans and programmes meet important sustainability criteria and that the assessment process takes place at such an early stage that plans can be altered if necessary. The process has been designed so that local communities and interest groups who would be affected by developments have an opportunity to express their opinion before decisions are made. In this way, whole communities can be drawn more directly into efforts to bring about sustainable development. One example will be the forthcoming strategic environmental impact assessment of petroleum activities in the Barents Sea.

4.2.2 *Building on people's skills and knowledge*

It is of fundamental importance to ensure high educational standards and to provide arrangements for flexible, lifelong learning and for the use of expertise. Practical arrangements may range from on-the-job training for those who do not wish to begin on a long training programme to more flexible rules for employing pensioners.

Disseminating knowledge at universities and colleges is important, but the business sector must also be reached. Exchanges of students and experts between countries offer mutual advantages in the form of new perspectives and new knowledge, and so do exchange schemes with the business sector.

While the highly specialized expertise at universities and colleges is important, general knowledge and skills that are useful to society, such as the ability to work well in a team, to be a leader and to create a pleasant working environment, must also be promoted. The same applies to arrangements to ensure open access to information and to give people the skills needed to seek information and thus increase their own expertise.

Education for all is a basic principle of Norwegian policy. All children and young people have equal rights to education, regardless of where they live, their sex, their cultural background and any special needs they have. Education must be organized within a framework of life-

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Practical arrangements may range from on-the-job traininge to more flexible rules for employing pensioners.

long learning if we are to be able to meet changes in society constructively.

Norway's Competence Reform was launched to give adults more opportunity to acquire education and training. It is intended to meet the needs of society and the workplace, and is both an educational reform and a workplace reform. It is targeted at all adults, both those who are employed and those who are unemployed. The government is cooperating with the social partners, educational institutions and voluntary organizations on the reform.

Education and training for adults is to be based on their total qualifications, both formal and non-formal, i.e. the knowledge, skills and experience they have gained through formal education and training, paid and voluntary work, and participation in voluntary organizations and working life. Adult education and training is also to be adapted to the needs and situation of the individual. A national system for documentation and assessment of non-formal and informal learning is being developed.

4.2.3 *Increasing value creation without reducing the long-term production capacity and value of the natural environment*

Producing more from less

Production and consumption must become more eco-effective, so that the natural resource base is used to create more value in relation to the amount of pollution generated and the consumption of raw materials and energy. Technological advances are helping us to move in the right direction, but policy instruments and framework conditions must also be designed to stimulate environmentally sounder, more sustainable investment and behaviour.

The Nordic sustainable development strategy, *New Bearings for the Nordic Countries,* states that up to 2020, the Nordic countries will complete the transition to sustainable development in which economic growth has been decoupled from increasing pressure on the environment and increasing resource consumption. To this end, they will seek to promote the demand for cleaner products and remove barriers to trade for environmentally friendly and resource-efficient technologies. They will also seek to play a leading role in research in this field. Arrangements are being developed to ensure that the entire life cycle of products, including their design, resource use during their manufacture and their environmental impact during use, maintenance and when they are discarded are all considered together.

Possible targets for resource productivity

The Earth Summit + 5 meeting held five years after the Rio conference emphasized the need to consider a fourfold, or factor-four, increase in resource productivity in industrialized countries in the next 20-30 years, and a tenfold increase in the longer term.

Factor 4 means that resource productivity must be four times higher than it is at present. For example, calculations show that greenhouse gas emissions are likely to double in the next 50 years, whereas they must be halved within the space of one generation to stabilize the world climate.

Factor 10 is based on the following line of reasoning: total material flows in the world should be halved to achieve sustainable development in the longer term. Since per capita material consumption is about five times higher in OECD countries than in developing countries, material flows can only be lowered to a sustainable level if the OECD countries reduce their consumption of resources to one tenth of the current level. However, it is difficult to use Factor 4 and Factor 10 in practice as a basis for policy formation, both because there is great uncertainty about which resources should be included in the calculations and how trends can be quantified, and also because the underlying causes of environmental problems vary, and different policy measures are therefore required to solve them.

It is important to communicate information on new technologies and new methods to those who can make use of it in practice – to the business sector and the public administration, and especially to small and medium-sized enterprises.

The public administration and its various agencies are major producers and consumers of goods and services. However, their procurement and operating policies are even more important than their "turnover", because they are expected to provide a good example to others. Norway's "Green State" project requires all ministries to introduce environmental management systems in the course of 2002, and all state-sector agencies to do so by 2005.

The primary industries should be able to increase value added from their resource base by focusing more strongly on processed products and local specialities, cf. the programme for value creation in food production (cf. box page 31). This will expand the income base and result in greater expertise. Increased use of local resources in the production and sale of products in local communities will also generate environmental

benefits for the cultural landscape and reduce transport needs. In the fisheries sector, more processing can result in better utilization of by-products locally and reduce the need for transport in connection with export.

The market

The interests of the environment and consumer interests do not always coincide. Until now, Norwegian consumers have only allowed environmental considerations to influence their behaviour to a limited degree. We will therefore encourage more environmentally conscious consumer behaviour. The government is focusing on information as an important means of changing consumption patterns. On the one hand, we will standardize and simplify information on the environmental and ethical aspects of consumption, and make sure that it is available to consumers. On the other hand, we must help individual consumers to learn more about and become more aware of the environmental impact of their consumption. Eco-labelling systems such as the Nordic Swan label are an important element of the first part of these efforts. There are plans for all the ministries to use an official eco-label on their publications.

Making consumers more informed and concerned about the consequences of their behaviour is a long-term process. To start this process from an early age, a school project on consumer behaviour has been initiated in Norway. In future, one priority will be to incorporate teaching on consumption and the environment into teacher training courses. In cooperation with a Norwegian voluntary organization called the Environmental Home Guard, the state will also implement an environmental project for pre-school children. Other projects include efforts to reduce the amount of unwanted advertising material and to encourage ethical consumption.

Carrot and stick

Economic instruments will be of central importance. In principle, the environment is a public good that is freely available to both businesses and individuals. Environmental taxes are used to ensure appropriate pricing of the costs of environmentally harmful activities to society as a whole. Particularly in cases where environmental problems are caused by emissions from many small sources, using prices as an instrument for achieving improvements is an effective way of achieving results. Revenues from environmental taxes can at the same time be used to reduce taxes that encourage poor use of society's resources, so that the introduction of green taxes does not increase the overall taxation level.

Norway is one of the industrialized countries that has made most progress in the use of environmental taxes. A study carried out by the OECD shows that revenues from environment-related taxes accounted for about 3.5 per cent of Norway's GDP in 1998, while the average figure for the OECD countries was 2.7 per cent. In 1999 and 2000, several of the proposals made by the Green Tax Commission for expansion of the green tax system were followed up.

Taxation and the environment

Norway has introduced environmental taxes to limit emissions of the greenhouse gases CO2 and methane. Taxes have also been introduced to limit emissions of other pollutants, including sulphur and lead. Fuel taxes are an important means of putting a price on the socio-economic costs of road traffic. Other green taxes are intended to improve the management of particular waste fractions, such as packaging for beverages. In the last few years, taxes have also been brought in on certain hazardous chemicals.

There are several examples of environmental taxes that have helped to bring about substantial improvements by pricing environmentally harmful activities more correctly. For example, an additional tax on leaded petrol was introduced in 1986, and as a result, leaded petrol disappeared from the market within a few years. Partly as a result of the sulphur tax on oil products, the sulphur content of most of these products has been reduced. Using model-based analyses carried out by Statistics Norway, it has been estimated that the consumption of fuel both for road vehicles and for heating is reduced when the prices of fuel rises.

The government has proposed the introduction of taxes on the greenhouse gases HFCs and PFC in 2003. These gases are used for example in cooling equipment, and there are environmentally more acceptable alternatives. The government has also proposed a restructuring of the tax on final waste treatment in 2003. The aim is to reduce environmental problems related to waste management and ensure that energy from waste is used more efficiently.

4.2.4 *A good life in a healthy environment*

We should further develop a simple, easy-to-understand financial safety net, we must make sure that crime does not give people a sense of insecurity, and we must ensure that society as a whole is well prepared to respond to external threats. We will also lay the foundation for a more inclusive society through better urban planning, improved youth programmes, work experience and community service programmes, and through measures to forge stronger ties between cultures and generations.

A white paper on a better urban environment (Report No. 23 (2001-2002) to the Storting) was debated by the Storting this spring. It is intended to serve as a basis for an integrated policy for urban areas designed to ensure that Norway's towns and urban settlements are safe, attractive, and interesting places to live in and functional and attractive sites for a competitive business sector. The structure and environment of towns and urban settlements should encourage a healthy lifestyle, and offer effective, environmentally-friendly transport systems that give more priority to public transport, bicycles and pedestrians. And we must protect the natural and cultural environment in towns. To achieve these goals, we will need close, long-term cooperation between public authorities, the business sector and the general public.

Good health is an important asset for every individual, and society as a whole benefits significantly from low sick leave rates and lower treatment costs. The government considers it very important to follow up the agreement between the government and the social

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Polar bears are among the species that are most vulnerable to climate change and the accumulation of hazardous chemicals. The species is a living indicator of the state of the environment.

partners on an inclusive workplace, partly to reduce absence due to sickness. Traditional campaigns to promote a healthy lifestyle can be supplemented by better coordination of local and central government activities, rules and institutions. Daily physical activity, play, mass participation sport and outdoor recreation should be encouraged, with emphasis on the importance of people taking responsibility at an early stage for their health throughout their lives. Factors in daily life and the workplace that have a negative effect on health and the quality of life are already being registered through health, safety and environment programmes so that action can be taken to remedy them.

4.3 Indicators

In order to get to where we want to be, we must know where we have been and where we are. Both nationally and internationally, continuous efforts are being made to develop targets and indicators for use as political instruments. Within the framework of cooperation in the UN, the OECD, the EU and the Nordic region, we have developed guidelines for measuring the various elements that are of importance for achieving a sustainable society. We therefore need indicators for economic, environmental and social factors, and we need to find ways of measuring the reliability of knowledge in various fields.

Many of the factors that are measured change only slowly. It is extremely important to follow developments over a long period of time and to predict approaching changes. We must therefore be certain that the indicators we choose now will be suitable for use far ahead in the future.

The Nordic Council has prepared a preliminary overview of indicators that are currently used or whose use has been proposed in various Nordic countries, the EU and the OECD. It will be natural for Norway to utilize the same indicators as far as possible, as this is both efficient and makes it easier to compare trends in Norway and in other countries. Norway is to start using a set of sustainability indicators from 2003.

In addition to indicators for use at national level, both local authorities and the business sector will find it useful to develop their own indicators adapted to specific local conditions. Annual reports and status assessments relating to the achievement of agreed targets are both an important management instrument and part of the body of knowledge to which both taxpayers and shareholders are entitled.

4.4 Action at all levels

The Norwegian government will give priority to the following areas:

4.4.1 *International cooperation*

- The fight against poverty is the greatest challenge facing the world community today. The achievement of the internationally accepted Millennium Development Goals, including the target of reducing by half, by 2015, the proportion of people whose income is less than one dollar a day, must be taken seriously. The government has therefore recently put forward an action plan for combating poverty. A stronger focus on health, education and private sector development are important elements of the action plan. Since poor people are often hardest hit by environmental degradation, the sustainability perspective is important. To combat poverty effectively, we must improve environmental and natural resource management.
- The system of international governance must be strengthened, for example by improving coordination among the various UN agencies and between these agencies and the international finance institutions.
- Political and economic cooperation with our neighbours in Europe, the Nordic region, the Baltic region and Russia is to be continued and deepened. Our common interests in protecting the natural resource base must be identified and used as a basis for better management.

4.4.2 *Economic development*

- We must continue to restrict the use of petroleum revenues to the expected real return on the Government Petroleum Fund in order to maintain a competitive and varied industrial sector, avoid excessive expansion of the public sector and be able to meet future pension commitments.
- In designing the taxation system, considerations of sustainable production and consumption will be emphasized.
- We must encourage and provide suitable conditions for renewal and innovation in the business sector, in order to maintain employment and ensure that value creation is maximized.
- The public sector is to be modernized and reorganized to provide better and more flexible services.
- The labour force is our most important resource. The value of Norway's human capital is estimated to be about 13 times higher than the value of our petroleum wealth. The government will ensure that there is a large and well-qualified labour force, for example by following up the agreement on an inclusive workplace and focusing on research and education.

4.4.3 *Well-being and security*

- Preventive health measures must be given priority, both by the authorities and by the general public, who must be encouraged to take responsibility for their own health.
- The development of towns and urban settlements must encourage the development of residential and commercial environments that promote physical and social well-being as well as providing good conditions for value creation and good environmental standards.
- Schools must provide all pupils with an education that motivates them to learn and is tailored to their needs and abilities and to the needs of society. Sustainable development must be a central element of the values on which the school system is based.
- Cultural diversity is to be encouraged and enhanced so that Norway can be enriched by influences from other countries and not be engulfed by them.
- The national insurance scheme is the most important social safety net of the Norwegian welfare society. The government will ensure that people can continue to rely on social security payments in the future. By integrating sustainability considerations more fully into all policies, the government will improve overall security for future pensioners and future generations in general.
- The rule of law and general security for life, health and property are essential for freedom and self-fulfilment. Preventing and combating crime are therefore of central importance.
- Archaeological and architectural monuments and sites and cultural environments must be protected.

4.4.4 *The environment*

Climate

- The ultimate long-term objective of efforts within the framework of the UN Framework Convention on Climate Change is to achieve stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.
- The Kyoto Protocol, which contains emission commitments for the industrialized countries for the period 2008-2012, is only one of the first steps in international efforts to reduce global emissions of greenhouse gases. Much deeper emission cuts will be needed if we are to prevent undesirable climate change. Emission commitments for the period after 2012 must also include countries that do not currently have quantitative commitments under the protocol. It will also be important for developing countries where emissions are high or rising rapidly to accept emission commitments.
- Norway will cooperate with the other Nordic countries to ensure that further emission reductions are agreed for the next commitment period, from 2012, and that this work is continued after 2020.
- In the commitment period 2008-2112, Norway's greenhouse gas emissions shall not be more than 1 per cent higher than in 1990. A substantial proportion of the reduction in emissions is to be brought about at national level. To this end, a domestic emissions trading system for greenhouse gases will be put in place at an early date, and measures will be taken in the energy, waste and transport sectors, among others.

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The conservation of biological diversity is also one of the priority areas of the Nordic strategy for sustainable development.

Biological diversity

- The government's vision is for Norway, in accordance with its obligations under the Convention on Biological Diversity, to play its part in the following by means of national action and international cooperation:
  - safeguarding the world's biological diversity,
  - making use of the values associated with biological diversity to the benefit of human society as a whole,
  - ensuring that benefits and burdens are equitably distributed within and between generations and communities.
- The environment shall be managed in a way that maintains the diversity of habitats and landscape types and ensures that there are viable populations of naturally-occurring species: this will ensure that biological diversity can continue to evolve.
- The conservation of biological diversity is also one of the priority areas of the Nordic strategy for sustainable development. The targets set out in this strategy are very similar to Norway's. These include improving our knowledge of biodiversity and making information readily available to all sectors of society and all interested groups. In the period up to 2002, Norway is to establish a new national programme to improve surveys and monitoring of biological diversity." A

Norwegian species data bank is to be built up in the same period. The knowledge of indigenous peoples must be respected in efforts to safeguard biological diversity.

Hazardous chemicals

- Emissions and use of hazardous chemicals must not cause injury to health or damage the productivity of the natural environment and its capacity for self-renewal. Concentrations of the most hazardous chemicals in the environment shall be reduced towards background values for naturally occurring substances and close to zero concentrations for man-made synthetic substances.
- Emissions of certain environmentally hazardous substances shall be eliminated or substantially reduced by 2005 or 2010.
- Emissions and use of substances that pose a serious threat to health or the environment shall be continuously reduced with a view to eliminating them within one generation. Within 10-15 years, new products are not to contain hazardous heavy metals or synthetic substances that are harmful or persistent.
- Pollution of soil, water and sediments caused by earlier activities, inappropriate disposal of waste, etc., shall not entail a risk of serious pollution problems.
- Improvements in public transport are to be given priority, especially in Norway's larger towns, in order to reduce emissions and noise problems and limit the area needed for transport purposes.
- Strategic environmental impact assessments are to be used to ensure that important decisions are taken on the basis of the best available information on their impact on the environment and sustainable development.

4.4.5 *Energy*

- The Nordic strategy for sustainable development emphasizes the importance of secure energy supplies and the need to ensure that the energy system helps to reduce greenhouse gas emissions and other pollution. By 2004, all sectors are to achieve progress in energy savings and energy conservation, losses during the conversion of energy are to be reduced, the proportion of energy derived from renewable resources and natural gas is to be increased and that from other fossil fuels reduced, and the research and development effort is to be increased.
- The energy sector is to take its share of the responsibility for preventing pollution from exceeding critical loads, fossil fuels are to be used in a way that is environmentally sound and takes account of supply considerations, the proportion of energy derived from renewable sources is to be increased substantially, and real progress is to be made in energy efficiency and energy savings in all sectors without compromising their competitive position. Norway's specific national goals for a shift in energy production and use are:
- to limit energy use considerably more than would be the case if developments were allowed to continue unchecked
- to increase annual use of central heating based on new renewable energy sources, heat pumps and waste heat by 4 TWh by the year 2010
- to construct wind generators with a production capacity of at least 3 TWh/year by the year 2010.
- Norway must make use of its business opportunities in the energy sector as a platform for long-term value creation.
- Norway must manage its petroleum resources sustainably, in a long-term perspective, and within a sound environmental framework, so that both the marine environment and emissions to air, particularly of greenhouse gases, are taken fully into account.
- Research activities in Norway will focus particularly on the development of technology for the use of hydrogen as an energy carrier and environmentally-friendly use of natural gas.

4.4.6 *The oceans*

- A new marine resources act is to be drawn up to give the fisheries authorities the legal basis needed to ensure that environmental considerations are integrated more fully into management of the industry, and thus pave the way for a coherent, ecosystem-based approach to marine resource management.
- We must devise sustainable harvesting strategies that allow continued optimal harvesting of living marine resources in accordance with the ecosystem approach.
- The knowledge base for fisheries management bodies, the efficiency of fisheries regulation and control of catches are all to be improved. Management measures should as far as possible be a product of a dialogue between the industry, research institutions and the authorities.
- We must develop fishing and harvesting methods that reduce unwanted bycatches, catches of undersized fish and damage to the sea floor, and ensure that they are used.
- Fish farming shall be kept within an environmentally sustainable framework. Measures to ensure this will include:
- intensifying efforts to reduce problems connected with the escape of farmed fish and parasites,
- drawing up guidelines for environmental testing of pharmaceuticals intended for use in fish farming,
- basing future systems for production regulation on requirements for environmental monitoring and the carrying capacity of each locality,
- requiring fish farms to apply the substitution principle to their use of chemicals, and prohibiting discharges of hazardous chemicals from net washing facilities.
- Norway has a special responsibility for the Atlantic salmon, and will give wild salmon populations special protection through a system of national salmon rivers and salmon fjords.
- Marine pollution is to be reduced, for example by
- establishing mandatory sea lanes and better notification routines for shipping that may constitute a threat to the environment,
- improving the oil spill emergency response system and strengthening maritime traffic control and surveillance,
- making use of regional and international cooperation, including the efforts to develop an international legal regime for ballast water.
- Fisheries and aquaculture must be developed in a way that takes into account all commercial activities and the cultural heritage along the coast, so that viable local communities can be maintained.

4.4.7 *Agriculture*

- In accordance with society's needs, the agricultural sector should
- produce, in a sustainable manner, safe and healthy food of high quality on the basis of consumer preferences,
- produce other goods and services on the basis of the industry's overall resources,

- maintain other public goods such as viable rural districts, a wide range of environmental and cultural goods, and a long-term food supply.

These goals coincide with those set out in the Nordic strategy for sustainable development:

- The Nordic countries will reduce the use of pesticides and fertilizers in agriculture. Specific targets will be established, and a Nordic strategy for discharges from agriculture will be drawn up. This will include reduction targets from the North Sea Declarations, work under the OSPAR Convention (Convention for the Protection of the Marine Environment of the North-East Atlantic) and efforts within the framework of the Helsinki Commission to protect the Baltic Sea environment.
- The Nordic countries will cooperate to promote organic farming. Norway's target is to increase the proportion of the total agricultural area that is ecologically managed to 10 per cent by 2010.
- The most productive agricultural areas are to be protected against conversion to other purposes. This is also in accordance with the new guidelines for the development of towns and urban settlements.
- Because of natural conditions in Norway, trade barriers and government aid will continue to be part of Norwegian agricultural policy in the future. However, other steps must also be taken to put the agricultural sector in a position to meet growing international competition, including reorganization, more effective operation and greater market orientation. (See box on the programme for value creation in food production, page 31.)
- Reindeer husbandry must be sustainable in economic, ecological and cultural terms. This is in accordance with the Nordic strategy for sustainable development.

4.4.8 *Genetic resources*

- National legislation is to be established relating to access to genetic resources in Norway, benefit sharing, and rules for the handling of genetic diversity from other countries.
- Internationally, Norway will take part in efforts to give substance to the intentions of the Convention on Biological Diversity through binding agreements.

4.5 Norway in the world

Norway's international commitments do not only impose constraints on our national policy, they also offer us advantages in that corresponding demands are made of other countries. Our cooperation on the further development of agreed practices and international law to ensure sustainable development follows two main lines, one global and one European.

4.5.1 *Institutions and their value base*

At the global level, Norway takes part in cooperation on arrangements to promote and channel trade, investments and development cooperation in an effective manner, to secure human rights and to protect the environment and natural resources and set limits for their use. Norway will seek to strengthen the fundamental values on which the UN agencies, the World Bank and affiliated bodies are based: peaceful conflict resolution and protection of human rights, economic development and poverty reduction, and protection of the global environment and shared resources. Norway has a tradition of stating its views on such issues clearly, and will generally also support measures that can strengthen the effectiveness of the international organizations. We need more effective international cooperation to ensure that the world's population has access to important global goods.

From environmental aid to sustainable development: changing development cooperation policy

Ever since the Brundtland Commission produced its report *Our Common Future* in 1987, the concept of sustainable development has had a central place in Norwegian and international development cooperation policy. However, the path towards a policy that effectively integrates the economic, social and environmental aspects of the development process has been a long and difficult one. Much has been achieved, but there is still a need for further improvement in policies, organization and implementation.

During the first phase of these efforts, up to the early 1990s, Norway and many other donor countries built up portfolios of environmental projects: projects to establish the administrative bodies needed for environmental management, to protect vulnerable and valuable ecosystems, or to reduce urban pollution. Despite the progress that was made, we were not very successful in integrating the environmental perspective into efforts in various sectors and into general economic policy. The most important exception to this was that procedures for environmental impact assessment of projects were introduced. Since the mid-1990s, we have succeeded in mainstreaming this perspective to a greater degree, for example by more widespread and clearly focused use of environmental impact assessments. In the last few years, strategic environmental impact assessments of whole programmes and plans have been taken into use, and so have better and better economic tools for environmental planning and management. In addition, environmental issues have to a greater extent become an integral part of the political dialogue with individual partner countries and of NORAD's (the Norwegian Agency for Development Cooperation) administrative procedures for bilateral aid. Norway will use the government's action plan for combating poverty in the South towards 2015, Fighting Poverty, to guide its development cooperation policy in the years ahead. The sustainability perspective is a central element of the action plan.

Ultimately, it is not possible for Norway or other donor countries to impose their idea of a more coherent policy for sustainable development on recipient countries. Each recipient country must decide for itself how far to go and which steps it is best to take. Today, the important test of countries' willingness and ability to use an integrated approach is to be seen in their poverty reduction strategies. These are being developed by the authorities in a large number of developing countries (especially the poorest of them), in cooperation with the World Bank and the International Monetary Fund. At the moment, most countries seem to be finding it difficult to incorporate the sustainability perspective into these strategies, especially as regards those environmental problems that affect the poorest groups particularly seriously. This is an important task both for the developing countries themselves and for the international donor community. Norway considers it to be an important development policy task to work towards real progress in this field. An important tool will be the new *Resource Book for Sustainable Development Strategies*, which is to be presented at the World Summit on Sustainable Development in Johannesburg.

4.5.2 *International scope for action*

There is a great need to strengthen arrangements that encourage national and local saving and investment and promote the acquisition and use of expertise in developing countries. While this will in turn generate greater competition on our markets, it will also create potential new markets for Norwegian goods and services.

Continuous efforts are being made to strengthen multilateral agreements in many fields, such as the management of biological resources, emissions of environmentally hazardous substances and climate change. In the most recent white paper on climate policy (Report No. 15 (2001-2002) to the Storting), the government therefore emphasized its intention to play a proactive role in efforts to achieve more ambitious climate agreements after the first commitment period under the Kyoto Protocol. If multilateral environment agreements are to have a global effect, we must ensure effective means of global implementation. One good example is the system designed to ensure compliance with the Kyoto Protocol. Strengthening multilateral agreements will require further development of current arrangements, reform and action in all countries, and steps to strengthen international environmental governance. Furthermore, multilateral agreements in the environmental and trade fields should be further developed in such a way as to be mutually supportive.

Emissions quotas

An emissions quota is a permit to emit a specified amount of greenhouse gases over a specified period of time. These quotas may be bought and sold like other securities. Companies that are required to hold quotas as part of an emissions trading scheme report their emissions to the authorities, which check these reports and impose sanctions if the quotas are exceeded.

The purpose of a system of quotas is to limit emissions in a cost-effective manner. A quota-based emissions trading scheme is thus an appropriate way of reducing Norway's contribution to global climate change in order to comply with a quantitative international commitment.

Companies that are required to take part in an emissions trading scheme are free to choose how to remain within their emission ceilings, either by reducing their own emissions or by purchasing quotas from other companies. As long as the quota market functions effectively, emissions will be reduced where it is least costly to do so. The Norwegian system is also to be linked to the Kyoto mechanisms (international emissions trading, joint implementation and the clean development mechanism).

Ideally, emissions from all source should be directly regulated by quotas. However, this is difficult to apply in practice, for instance to individual car owners or households that use oil-fired heating. In such cases, the requirement to take part in the emissions trading system may apply to the companies that sell fossil fuels.

The emission commitments under the Kyoto Protocol enter into force from 2008. The government plans to introduce a broad-based domestic emissions trading system from then on, but has also proposed an emissions trading system with a narrower scope for the period 2005-2007, to apply to emissions from sources that are not subject to the CO2 tax.

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4.5.3 *The EU and neighbouring areas*

Europe has been changing rapidly since the fall of the Berlin Wall. For Norway, developments in the EU, NATO and Russia and relations with the USA are particularly important. Cooperation within the EU is being widened and deepened. NATO's role has changed fundamentally, and the organization is expanding substantially towards the east. Russia is seeking closer cooperation with both the EU and NATO.

The widening and deepening of cooperation within the EU mean that the Union is becoming an increasingly important player and standard-setter in Europe, for Norway as well. It will therefore be important to cooperate closely with the EU on sustainable development in the years ahead.

Within the EU, the objective of creating coherence and striking a balance between employment and economic reform and between social cohesion and sustainable development has resulted in the Lisbon strategy. An important element of the strategy is the development of indicators to make it possible to measure results, compare experience and find out which measures are most effective, for example in relation to the environment. The EU's Lisbon strategy is important for Norway's sustainable development efforts because Norway forms part of the internal market as a signatory to the EEA Agreement, and much of the EU's environmental legislation therefore applies in Norway as well. In addition, the EU is our most important export market, and Norwegian business and industry is therefore interested in working within the same framework conditions as EU businesses. This applies to environmental policy as well. Norway can also learn from action taken by the EU and the experience it has gained from the Lisbon strategy, particularly as regards environmental issues. Similarly, Norwegian action and experience may be of interest to the EU. The government will therefore continue to work towards closer Norwegian links with the Lisbon strategy, even though this in many ways falls outside the scope of our formal cooperation arrangements with the EU.

The forthcoming enlargement of the EU southwards and eastwards will result in important political changes in Europe. The new member countries will adopt the EU's environmental legislation, and this will

result in major environmental benefits. Norway is supporting enlargement, for example through the Government's Plan of Action for the EU Candidate Countries. The action plan gives priority to cooperation on the environment and on nuclear safety.

The Financial Mechanism in the EEA Agreement also gives priority to environmental projects. Under this arrangement, the three EFTA countries are required to provide total funding of about EUR 120 million to the EU for the five-year period 1999-2003. The funds are earmarked for development and structural adjustment in Greece, Spain, Portugal, Ireland and Northern Ireland.

In the NATO Committee on the Challenges of Modern Society (CCMS), Norway has given priority to two topics, the vulnerability of society and defence-related environmental problems. In the future too, a central objective for the committee will be the exchange of knowledge between members of the Alliance and between them and partner countries in Central and Eastern Europe.

Norway has entered into a series of agreements, both bilateral and regional, with neighbouring countries: these include agreements on harvesting of fish stocks, protection of the marine environment, stricter rules for air pollution than those that apply globally, the cultural heritage, and so on. This work will be expanded and further developed.

The Nordic countries' strategy for sustainable development, New Bearings for the Nordic Region, serves as an important basis for the further efforts of the Norwegian authorities in the fields it covers. It is to be revised in 2004.

4.6 We must all do our share

The achievement of sustainable development in Norway will be the result of a long series of decisions at various levels. We can outline the following general distribution of roles:

4.6.1 *National authorities*

The national authorities will have to take account of sustainability considerations in all sectors that they administer directly, and set framework conditions that will motivate others to take account of the same factors, for instance in the form of economic instruments (taxes, market-based emissions trading systems, removal of subsidies that are environmentally harmful, incentives for technological innovation) and administrative instruments ("green public administration", strategic environmental impact assessment, ecolabelling, conditions for and agreements with the industrial sector, legislation, information and research). The central government authorities will coordinate national policy and issue clear, coherent signals to ensure that the aggregate effect of the individual measures serves to promote sustainable development.

The national authorities have overall responsibility for ensuring that the general public receives information that enables people to make the right decisions in matters relating to the environment, cf. Article 110 b of the Constitution of Norway, which is quoted in chapter 1.2.

The national authorities will also seek to ensure that the goal of sustainability is a basic premise of international relations in general, and of agreements and action in the economic arena and development cooperation in particular. We will respond to the economic globalization process by promoting a parallel improvement of global governance.

4.6.2 *County and municipal authorities*

Sustainable development in Norway is largely contingent on decisions made at municipal and county level. Through Local Agenda 21 (LA 21), Norwegian municipalities and the population in general are participating in a communal effort to achieve sustainable development in Norway and to expand cooperation with municipalities in developing countries. All of the counties and more than 60 per cent of municipalities have signed the Fredrikstad Declaration, which is the Norwegian expression of the content of LA 21. Experience so far has shown that this concerted effort has helped to mobilize business and industry and organizations to join forces across ordinary sectoral boundaries to achieve sustainability goals, not just environmental goals.

County and municipal authorities should continue to adopt this method as a tool for promoting democracy and sustainable development, both locally and in partnership with local communities in the rest of the world. It is important to link these efforts to regional planning processes. The participation of the general population and business and industry can be ensured through the preparation of municipal and county plans.

Municipalities have a particular responsibility for many functions that directly affect their inhabitants, such as schools, refuse collection and disposal, and area planning. They must consider environmental factors in their activities and planning, and set special environmental targets. Municipal master plans and local development plans should not only consider economic and social factors, but also focus on environmental implications, such as the use of energy and transport, the effect of noise, loss or enhancement of biological diversity and cultural heritage. This will make it clearer that municipalities, too, contribute towards the achievement of national environmental goals. In cases when responsibility and authority are delegated by the central government authorities, incentives to achieve the set goals may be introduced. The government intends to transfer more functions and authority to the municipal authorities in vari-

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ous areas including environmental protection. It will also change the criteria for central government allocations to municipalities so that the funds allocated correspond with the number of tasks to be carried out by municipalities.

In order to realize Norway's sustainability strategy, it will be important to encourage cooperation between LA 21 initiatives at the local level in the North and the South (as well as East-West). This type of people-to-people contact will give the Norwegian population a better understanding of the challenges and opportunities facing developing countries, and may help to change their lifestyle in the direction of greater sustainability.

4.6.3 *The Samediggi (Sami parliament)*

It is an important task to ensure that the indigenous peoples are actively and systematically involved in drawing up, deciding on and implementing a sustainable development policy. In Norway, this applies primarily to the Sami settlement areas, and here the participation of the Samediggi is of central importance. The Samediggi has resolved to play a part in implementing environmentally sound practices in Sami society by identifying and supporting action that will help to make development sustainable, and has carried out its own LA 21 project. The project has helped to raise the Samediggi's level of ambition as regards environmental policy, partly by integrating objectives relating to environment and sustainability into its ordinary activities and partly in the form of specific proposals for follow-up including the development of an Agenda 21 for indigenous peoples.

4.6.4 *Business and industry*

Several companies have focused attention on their own social responsibility as regards both ethics and social issues and environmental criteria, partly because they have realized that this can contribute towards their success in the longer term.

The World Business Council for Sustainable Development, the private sector's international environmental organization, has introduced the concept of "eco-efficiency", which means environmentally efficient production that aims to

- generate less environmental damage per unit of value created,
- remain within nature's carrying capacity
- and continuously seek to improve processes.

Companies that establish sustainability criteria for their production processes and supply chains can often make use of this as a competitive advantage. When investing and operating in developing countries, they should follow environmentally and socially responsible procedures and document their practices. Many companies consider this to be in their own interest. On the other hand, the authorities must give clear, long-term signals about their commitment to framework conditions, both national and international, that favour enterprises that comply with such procedures. An example of such a signal is Report No. 15 (2001-2002) to the Storting on climate policy, which emphasizes that the private sector must be the driving force in the use of the Kyoto mechanisms to reduce greenhouse gas emissions in a cost-effective manner across national borders. Making companies subject to quotas under a domestic emissions trading system will provide the necessary incentives for this work. The authorities will be able to contribute by facilitating joint implementation projects through general framework agreements with potential partner countries.

The Norwegian authorities are following with interest the ongoing international efforts within the framework of the Global Reporting Initiative to develop guidelines for reporting on the economic, social and environmental impact of organization-level activity. Measures particularly target companies with a view to improving reporting on elements that are especially important for promoting sustainable development.

The Global Reporting Initiative (GRI) is a framework of cooperation between the UN Environmental Programme (UNEP) and the Coalition for Environmentally Responsible Economies (CERES) with the support of the United Nations Foundation (UNF). The GRI is the practical aspect of the Global Compact launched by Kofi Annan in 1999, which calls on business leaders to base their operations on principles relating to human rights, labour standards and environmental standards.

The GRI is a common framework for voluntary reporting on economic, environmental and social performance. The initiative aims to ensure that investors and the public at large are informed about corporate performance in these areas and to promote a broad-based commitment in all sectors of society. The GRI is an important mechanism for implementing the goal of corporate social responsibility, and the reporting guidelines have already been applied by a number of the world's largest companies.

4.6.5 *The voluntary sector*

The diversity and varied backgrounds of non-governmental organizations enable them to address all the dimensions of sustainable development. They mobilize support for issues to which they have a burning commitment, and monitor developments in their fields of interest. The NGOs' networks, expertise, dedication, effectiveness and ability to motivate and mobilize individuals will be valuable for the implementation of the strategy.

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4.6.6 *Each and every one of us*

has a role to play in achieving sustainable development through the lifestyle we choose, the purchases we make, and the way we use and dispose of goods. As consumers, we all play a part in influencing the priorities set by business and industry and the quality of the goods and services offered. Report No. 40 (1998-1999) to the Storting on consumer policy underscores the fact that the growth in consumption of scarce natural resources in Norway and other rich countries cannot continue, and that a higher quality of life must be achieved in other ways than by raising material living standards.

4.6.7 *A clear information strategy*

is important for all stakeholder groups. The main message will be the promotion of a sustainable lifestyle, and the fact that this will need new expertise. A great deal of factual information is available, but this must be communicated and translated into action. The form and details of the message must therefore be tailored to individual players and target groups.

Individual consumers, organizations and groups of households can all help to drive a changeover to a more sustainable lifestyle, particularly as regards food consumption, the use of transport and homes, and they can make demands on both business and industry and the public authorities.

The development and effects of marketing and advertising, and the commercialization of a growing number of life spheres are fundamental features of the consumer society. To enable children and young people to resist advertising and the pressure to buy, consumer topics, including consumption and the environment, must be an integral part of teaching at all levels of schooling, including teacher training.

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Each and every one of us has a role to play in achieving sustainable development through the lifestyle we choose, the purchases we make, and the way we use and dispose of goods.

Households and ecological footprints

A person's or a population's "ecological footprint" is a measure of the area of productive land and aquatic ecosystems needed to produce the resources used by the individual or group. On a global basis, the average area available per person is calculated to be 1.9 ha. Calculations show that the average ecological footprint of a North American is 12.3 ha, and the corresponding figures for a Norwegian and a Ghanaian are 6.14 ha and 1.1 ha respectively. As the world population grows, the area available per person is dropping.

The Western Norwegian Research Institute and Prosus (the Program for Research and Documentation for a Sustainable Society) at the University of Oslo were commissioned by the City of Oslo to calculate the ecological footprint for the inhabitants of Oslo. Their calculations show that food consumption alone accounts for 50 per cent of the ecological footprint in Oslo, which is about 4 per cent above the national average. Passenger transport and homes account for 22 and 16 per cent, respectively, of the total.

Air travel accounts for 14 per cent of the ecological footprint of Oslo's inhabitants. This is considerably higher than the national average. Much of this is foreign travel. The next largest component of transport is the use of private cars, which are now used almost as much for leisure travel as for work-related travel.

The proportion of the ecological footprint related to homes is determined largely by their size, and is related to energy use and the consumption of materials. Norwegian homes are on average about 25 per cent larger than in other industrialized countries.

Steps to reduce the ecological footprints of Norwegians will therefore will therefore be most effective if they target food, car use and air transport, and homes. If such measures are to work, the authorities and private households must cooperate. Some of the measures proposed in the report are as follows:

Public authorities

- Plan for proximity between housing and shops
- Encourage the production and sale of ecologically-produced food
- Improve public transport
- Restrict car use
- Plan for smaller homes
- Plan for the use of district heating and biofuel

Households

- Use the local shops
- Buy organic foods and other food with a small ecological footprint
- Try to manage without a car, or at least drive less
- Be prepared to buy a smaller home
- Choose district heating or biofuel for space heating

5. implementation, result monitoring and revision

This strategy points the way towards the horizon, but it does not build the road. Road-building projects require a budget and geological and geographical surveys, routing and dimensions must be agreed on, and labour, equipment and materials must be procured. The work of developing Norwegian society to make it more robust and better able to meet the challenges of the future will be done through decisions taken by the authorities, business and industry and individuals now and in the years to come. A national plan of action will be drawn up for this purpose. In 2004, the main thrust of these efforts will be reviewed, and experience gained will be summarized, including the appropriateness of targets, the results achieved and the success of various forms of cooperation.

5.1 Implementation

Implementation calls for action at various levels and must be part of society's normal activities. It must be viewed in the light of the implementation and review of the Nordic strategy for sustainable development. Norway's national strategy will be executed in cooperation between the public sector, the business sector, the research community, the voluntary sector and individuals. When companies draw up plans, they will know that the same opportunities and constraints have already been evaluated by the rest of society. And when government ministries draft white papers, they can make use of elements of this strategy. There will not be – and there must not be – one budget for sustainable development and another for everything else.

Most of the organizations that have been involved in shaping this strategy have indicated a need for more detailed plans of action within a coherent national framework, or for a national Agenda 21 (NA 21). They are interested in active cooperation on this, provided that the overriding objectives are acceptable to their members.

The Confederation of Norwegian Business and Industry, the Confederation of Norwegian Commercial and Service Enterprises and the Norwegian Confederation of Trade Unions have pointed out that the commercial sector needs a dialogue with the authorities on framework conditions, and they have indicated that businesses are willing to conduct internal dialogues about more sustainable production and about the roles of enterprises as socially, economically and environmentally responsible stakeholders in society, at both national and international levels. The Confederation of Trade Unions stressed that the primary aim of the efforts to draw up a strategy is not to produce a document but to initiate an open and inclusive process. The Confederation will be able to mobilize its members to take part in a process of this kind with a view to looking after their interests both as consumers and as producers. The Confederation of Norwegian Business and Industry also intends to collaborate with the World Business Council for Sustainable Development.

The Norwegian Association of Local and Regional Authorities, which represents the municipal sector, has proposed that the sector should not only take its share of the responsibility for implementing the sustainable development strategy, for example through greener procurement and operation, but also serve as a forum for promoting new ideas. The Association wishes to take part in an open, broad-based process to develop the national sustainable development strategy further by means of more detailed plans of action, or a national Agenda 21 (NA 21). A study commissioned by the organization The Future in our Hands has identified one important objective for a national plan of action: to remove the barriers to eco-efficiency in

the municipal sector and avoid the current situation, where the information we receive is sometimes contradictory and there is a lack of sectoral integration.

The national strategy for sustainable development will be taken into account by all the ministries when dealing with new matters and by the government in its decisions in all cases involving these long-term issues. After the Johannesburg Summit, the government intends to make a statement to the Storting on the results and on Norway's strategy for sustainable development. The government will also inform the voluntary sector about the results and further efforts.

The local authorities, the business sector and the voluntary sector will be invited to take part in an open process, consisting of three conferences at which further action related to each of the three aspects of sustainable development (economic, social and environmental) will be discussed.

Norway's action plan for implementation of its strategy for sustainable development, the national Agenda 21, will be put forward in autumn 2003 together with the national budget for 2004. A "green committee" of state secretaries from the ministries most closely involved and the Office of the Prime Minister will be appointed to lead this process. The Ministry of Finance will coordinate the work.

5.2 Review and result monitoring

Both of these processes are necessary, to provide the political authorities with management information, to make quality assurance of the institution's own activities possible and to ensure real transparency. To make it possible to monitor whether society is developing in a more sustainable direction, priority must be given to a long-term effort to establish indicators, as discussed in the previous chapter.

The development of environmental indicators in Norway must be based on the ordinary collection of official statistics. Statistics Norway is the central office in charge of compiling and issuing official statistics. It is also responsible for Norway's international cooperation in the field of statistics and for reporting to Eurostat (the EU statistical office) and to the OECD. The Norwegian Pollution Control Authority is responsible for transmitting certain items of Norway's environmental statistics to the European Environment Agency (EEA) and to UNEP. All these organizations are now working on sustainable development indicators, and most industrialized countries are establishing sets of indicators. One of the aims of Norway's efforts to develop indicators must be to ensure that they are closely comparable with indicators in other countries. The information they provide must benefit Norwegian society as a whole.

In their contributions, many organizations emphasized that the most important aspect of their own role is to watch developments and influence opinion. They will be able to use the indicators as an important source of information. To substantiate the progress of their own efforts, actors in the commercial sector will enter into voluntary agreements with government authorities and apply result monitoring criteria developed internationally, by the Environmental Lighthouse Programme and by Ecolabelling Norway. The Confederation of Norwegian Commercial and Service Enterprises also recalled the criteria drawn up by the *Initiativ for Etisk Handel* (Norway's ethical trading initiative), and pointed out the importance of ensuring that the indicators chosen pinpoint areas that really are of critical importance. The Confederation of Trade Unions observed that little has been done to formulate indicators that integrate the three aspects of sustainability and that there is little consistency between the sets of indicators formulated by different organizations. The Confederation expressed an interest in to taking an active part in the development of the Norwegian indicators. The Norwegian Association of Local and Regional Authorities also expressed an interest in this, and urged municipalities to employ these indicators to improve their efforts.

To make it possible to measure the results achieved, a provisional national set of indicators will be drawn up. To avoid duplication of effort and ensure that the indicators are comparable with those used internationally, this work will be based on and coordinated with the work taking place in the OECD, EU and the Nordic Council of Ministers. The aim is to develop a provisional set of indicators that is ready for use in 2003.

5.3 Revision

The state of the environment and environmental trends and challenges all change over time. The sustainable development strategy will probably require some modifications in a few years' time, and it will certainly be ripe for revision in ten years. Despite our best efforts to choose robust targets based on established values, people's views on what is necessary may also change from one generation to another.

As mentioned before, the organizations that have made contributions expect work on this strategy to be an ongoing process and that it will be developed further when a national plan of action is drawn up. If Norway uses the same indicators as other countries and international organizations it will be possible to compare trends at home and abroad. This is particularly important in fields in which we are party to internationally binding agreements requiring cost-effective implementation, such as the climate change agreements. On the basis of its own experience developing targets and instruments by means of broad-based democratic processes, the Norwegian Association of Local and Regional Authorities recommended regular updates to the strategy.

Work on this first version of Norway's national strategy for sustainable development was initiated at the urging of the UN and as a result of government decisions. The main part of the work has been done by the state, with a consultation process that has been as broad as time allowed. The sustainable development strategy is to be a process as much as a document, and must therefore be reviewed and revised according to how well it functions as a tool in the drive for sustainable development. The strategy will be revised in close cooperation between central and local government, the business sector and the voluntary sector. It will be natural to do this in 2004, when the Nordic strategy for sustainable development is to be revised.

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