

UNITED KINGDOM

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CONCLUSIONS AND RECOMMENDATIONS*

Early industrialisation, an intensive use of natural resources and urbanisation have transformed the United Kingdom's environment, which is characterised by a high density of population and largely man-made landscapes. Its mature economy has experienced considerable fluctuation over the last two decades and is no longer based on heavy industry. The expansion of the service sector and of high technology and light manufacturing, along with an increasingly mobile lifestyle, are reshaping the United Kingdom's consumption and production patterns and posing new challenges for the achievement of environmental progress.

As awareness of environmental issues grew as early as the 1950s, the United Kingdom was often in the forefront internationally in identifying environmental threats and in devising policies and institutions to restore air and water quality, to reclaim derelict land and to better plan towns and countryside. These efforts, driven by domestic conditions and needs, were valuable and, in their own terms, successful. They often focused, however, on the most apparent problems rather than the underlying causes.

UK environmental policy has undergone a revival since the late 1980s. The United Kingdom has adopted a higher international profile on environmental matters and its environmental legislation has been strengthened. The United Kingdom is also now committed at the highest levels of government to environmental protection and sustainable development.

This OECD report sets out the baseline for assessing future environmental progress and examines the environmental performance of the United Kingdom in four major areas:

- i) reduction of the pollution burden;
- ii) nature conservation and landscape preservation;
- iii) integration of environmental and economic decision making;
- iv) international co-operation.

In each of these areas, the extent to which government policy objectives are being met has been assessed. This assessment includes both domestic objectives and international commitments, and is based on environmental effectiveness and economic efficiency criteria. A number of recommendations are put forward that could contribute to further environmental progress in the United Kingdom.

1. Reducing the Pollution Burden

Strengthening the effectiveness of pollution prevention and control

The United Kingdom has made particularly good use of its many assets in its environmental efforts. Its strong scientific establishment has contributed significantly to the understanding of environmental problems. The Government has linked acting on the basis of good science with use of the precautionary principle. The land planning system is a well established and valuable instrument which offers a strong basis for further environmental progress, though there could be opportunities to increase the use of environmental impact assessments. The economic structural reforms of the last 15 years have displayed increased cost transparency, notably for environmental costs; and the privatisation of regional water services, through controversial at the time, is now regarded by many to have been a positive step from an environmental viewpoint.

The recent move in the United Kingdom towards integrated pollution control (IPC) is a major component of environmental management, though it is only half completed and its scope is still limited to large point sources of pollution. The system holds much promise of providing valuable experience far beyond the United Kingdom. The Government has stated that it is committed to the use of market forces, although it has yet to make extensive use of economic instruments as part of its environmental policy.

It is therefore recommended that consideration be given to the following proposals:

- Supplementing the regulatory framework with a variety of economic instruments would improve the cost-effectiveness of UK environmental policy. There are many opportunities to extend the use of economic

* Conclusions and Recommendations approved by the Group on Environmental Performance at its June 1994 meeting.

instruments, such as incentive charges for water pollution and abstraction, deposit-refund systems and levies on landfill as well as on minerals extraction and pesticide use.

- The full implementation of IPC requires a system of consistent environmental and economic criteria that give meaning to IPC's basic principles ("best available techniques not entailing excessive cost", and "best practicable environmental option"). It also requires that the establishment of environmental quality standards, especially for air and water, be accelerated.
- An integrated approach to pollution prevention and control should be applied to more than just discharges from large point sources of pollution. Planning should also extend the integrated approach to the use of chemicals and the life cycle of products.
- The establishment of the Environment Agency, announced in 1991, would clearly facilitate the development of IPC, notably with respect to waste, and should be completed without delay. Its remit could also take account of the effect of all major sources of pollution, including transport and agriculture. These proposals also apply for the separate but parallel plan to create a Scottish Environment Protection Agency.
- Government procurement, contracts and standards, both for products and for services such as construction, should systematically incorporate environmental factors.
- Research and development on clean technology should be further promoted and care should be taken not to weaken environmental research.
- Sufficient funding should be provided for environmental efforts as well as a medium- and long-term assessment of the public and private financial implications of existing national and international commitments.

Water

High rainfall and low abstraction levels in the United Kingdom provide favourable conditions in most areas for water quantity and quality management. Water supply and low-flow problems are limited. Water quality in most rivers and lakes is good according to conventional criteria. Drinking water generally meets quality standards. Efforts have long been made to protect water quality. Today, 74 per cent of the population is connected to secondary or tertiary treatment, a relatively high level among OECD countries. For direct discharges of industrial effluent, the discharge consent system and IPC cover a wide range of plants and processes. The privatisation of water companies has improved the transparency of pricing and brought efficiency gains in the provision of water services.

Nevertheless, the environmental performance of the United Kingdom concerning water could be improved, notably with respect to coastal water and bathing water quality, the quality of tap water, eutrophication of lakes and reservoirs, and diffuse pollution. The lack of statutory environmental quality objectives and frequent institutional changes may impede consistent and effective policy implementation. In addition, rising public expectation concerning environmental quality and international commitments, such as EC directives and the North Sea Declarations, are leading to a higher level of ambition for water quality management, and will require significant financing over the next ten years.

It is recommended that consideration be given to the following proposals:

- Statutory environmental quality objectives should be adopted for individual rivers, in line with the 1991 Water Resources Act, and for groundwater. They should be based on both human health criteria and ecological considerations.
- Sewage treatment should be further improved, notably to deal with discharges to coastal waters, capacity problems and storm water overflows. Water supply facilities should also be improved, aiming at removal of nitrate and pesticides, reduction of leakage and replacement of old piping (especially lead and tar-coated pipes). Charges for these services should be designed with such investment needs in mind.
- Measures should be developed to deal with increasing quantities of sewage sludge, such as proper composting, incineration and landfilling. Further efforts to reduce contamination of sludge are required. Control of land application of sludge, based on adequate monitoring, is necessary to assure sustainable land use.
- Economic instruments (e.g. effluent and abstraction charges) should be used to provide increased incentives for reducing pollution and water abstraction, and water metering should be extended to encourage customers to reduce water consumption.
- The control of diffuse sources of water pollution should be strengthened through integrated measures, including land use planning, protection zones, agricultural practices and better use of fertilizers and pesticides.

Waste

Waste management in the United Kingdom in the past two decades has been carried out at relatively low cost. It has principally relied on landfilling and little on recycling, and has been helped by stable trends in waste quantities. Since the late 1980s, the United Kingdom has taken significant steps to improve waste management, mainly in response to EC directives and other international agreements. The Government has set up a hierarchy of policy options and is committed to implementing it. More stringent regulations on landfills and incinerators have been introduced and will be strengthened within five to ten years. The United Kingdom no longer exports hazardous waste for disposal, and waste dumping at sea has been reduced to dredged material and sewage sludge, with the latter being phased out by 1998.

Tougher regulations on air and water pollution, and elimination of sea disposal, will increase the quantity of waste requiring treatment and disposal. Introduction of stringent regulations and responsibilities will raise disposal costs significantly and force many landfill sites and incinerators to close. Contaminated land poses a long-term environmental threat. Overall, the United Kingdom will undoubtedly have to confront major challenges in waste management over the next ten years.

It is recommended that consideration be given to the following proposals:

- Quantitative targets for waste reduction and recycling should be developed to aid in designing concrete measures and provide guidelines for the private sector.
- The Government should encourage proper coverage of waste generation in IPC and draw up a long-term schedule of regulation reflecting expected technological progress.
- Economic instruments should be used to encourage waste reduction and recycling, including landfill levies, deposit-refund systems and higher recycling credits.
- An inventory of the most seriously contaminated sites and an expansion of public funding to tackle the most acute problems are urgently needed. A comprehensive system for land clean-up, including cost allocation measures, should be established.

Air

The past 20 years have seen significant improvements in the United Kingdom with respect to emission levels and atmospheric concentrations of SO₂, particulates and lead. These improvements are largely due to the structural changes in the economy, clean air legislation, energy efficiency improvements, a decline in coal use coupled with the availability of cleaner fuels, and compliance with EC directives. The United Kingdom is increasingly setting clear goals and targets for air management policy. It has played a leading role in developing and applying the concept of critical load in international agreements on acid deposition. The comprehensive regulatory system under development since 1990, using a combination of authorisations, emission standards and air quality standards, provides a framework that can accommodate the development of innovative technologies and the flexibility for plant operators to choose the most economic options, while allowing for further emission reductions within the framework of IPC.

No significant achievements can be seen with respect to NO_x, CO, VOCs and ground-level ozone. NO_x concentrations and emissions in particular have increased in recent years. The transport sector, especially road transport, is largely responsible for this increase. While significant reductions in emissions of NO_x, VOCs and CO are expected from the implementation of EC directives on emissions from new vehicles, other emission reduction efforts will have to be developed. Most of the emission reductions to which the United Kingdom is committed, and therefore the largest part of the necessary investments in air pollution control, are to take place over the next five to ten years.

It is therefore recommended that consideration be given to the following proposals:

- Ongoing work on the establishment of ambient air quality standards should be accelerated and extended to pollutants such as particulate matter and air toxics.
- A wider use of economic instruments would improve the environmental and economic efficiency of the United Kingdom's air management policy. Road pricing systems should be further explored. More use could also be made of regulatory measures such as product standards, energy efficiency standards and life cycle analysis of products.

- Strategies to achieve emission reductions concerning SO_x, VOCs and NO_x and related targets, and to limit acid deposition on UK soil and in neighbouring countries, should be implemented efficiently.
- There should be further integration of transport and environmental policies. In particular, comprehensive national transport development programmes should take into account the short- and long-term need to reduce air pollution from transport.

2. Nature Conservation and Landscape Preservation

The United Kingdom has made good progress in this area, and has a solid basis for further achievements given its strong tradition in the study of natural history; active and competent voluntary organisations; and well-established legal and institutional arrangements for land use planning, nature conservation and landscape management. In particular, key species have shown a number of positive trends over the last two decades. There is also a commitment to positive action concerning protected areas, and encouraging and innovative policy changes in sectors such as agriculture and forestry. At international level, the Government has taken a number of initiatives to protect important natural assets and rare species.

Policy changes need to go further, however: there are still a number of negative trends for representative and important habitats and species, notably due to pressures from agriculture and forestry.

It is recommended that consideration be given to the following proposals:

- Co-operation and integration between government bodies dealing with nature protection and landscapes and with other sectors should be strengthened. The UK Government should continue to press for environmental objectives and management principles to be integrated into agricultural support policies under the Common Agricultural Policy.
- Following up on the Biodiversity Action Plan, and as announced by the Government, precise targets for species and habitats should be set. They should be monitored using performance indicators, and broken down by type of measure and by management responsibility.
- Stricter protection measures or the extension of special areas, such as the Sites of Special Scientific Interest, will probably be necessary to achieve targets for species and habitats.
- Protected areas should be more effectively safeguarded against developments that are detrimental to nature conservation.
- The protection of the UK coastal and marine environment should be strengthened and accelerated, particularly in view of the international importance of these habitats. Priority should be given to ensuring a level of protection comparable to that of terrestrial habitats. The number of Marine Nature Reserves should be increased.
- Financial means should be considered to strengthen the policy of nature conservation.

3. Integrating Environmental and Economic Decision Making

Environmental and economic policies

As the cradle of the industrial revolution, the United Kingdom has had a long experience of the problems that economic development can bring for the environment, including resource depletion, pollution, and degradation of the urban and rural landscape. Environmental issues have, however, changed in scope and nature to the extent of being recognised in the late 1980s by the UK Government as global and closely tied in with economic development issues. The UK Strategy for Sustainable Development, released in January 1994, clearly recognises that demand for energy, water, minerals and transport must be managed with environmental objectives taken into account. Some of the economic structural changes of the 1980s and early 1990s (deregulation, privatisation) also have implications for environmental management.

Much remains to be done to integrate environmental, economic and sectoral policies in the United Kingdom, as in other OECD countries. Fortunately, good opportunities exist for substantial improvements in policy integration. These include the wider use of economic instruments, in combination with regulatory and other policy instruments (Section 2), to achieve increasingly stringent environmental goals at least cost.

It is recommended that consideration also be given to the following proposals:

- Existing mechanisms for economic and sectoral policy integration need to be used more fully, and a stronger environmental capability should be created within non-environmental government departments, with the collective action of Green Ministers broadened. An environmental appraisal should be an explicit part of every stage of policy making.
- More use should be made of quantitative targets, especially to make the concept of sustainability more concrete and to improve public accountability.
- Reporting on the state of the environment and its changes should be done regularly, and public access to environmental information and data should be facilitated (e.g. information on voluntary agreements and on emission registers).
- More work should be done on the economic costs and benefits of environmental programmes, the environmental implications of economic and sectoral policies and the economic, social and environmental consequences of changes in consumption and production patterns. Understanding of these matters would be improved if the environmental policy analyses carried out for legislative proposals were provided to Parliament.
- The use of land use planning and regulation should be continued and reinforced to serve pollution abatement, nature conservation and risk prevention.

Sectoral integration: energy

The United Kingdom has developed a coherent climate change programme for the period up to 2000, within the framework of a longer-term sustainable development strategy. Its CO₂ reduction programme rests on a set of quantitative targets broken down by sector and by measure. The Government has recognised the necessity of using a mix of mutually supportive regulatory, information and economic instruments within a well-defined energy efficiency programme. This programme is notable in several respects: the importance given to information efforts; the introduction of a staged increase in road fuel duties; the use of targeted financial support programmes; and the creation of the Energy Saving Trust, which aims to actively involve energy industries in efforts to reduce energy consumption and CO₂ emissions. The United Kingdom's CO₂ target appears feasible, providing the Climate Change Programme is kept under review and adjusted as necessary. In particular, the adequacy of the energy efficiency incentives provided through the programme remains a central issue.

As a significant energy producer providing much of its own energy needs from abundant domestic resources, the United Kingdom is familiar with the environmental problems of energy production and use. The increasingly apparent legacy of its early industrialisation, and the emergence of environmental concerns related to energy activities (notably international concerns such as acid deposition and climate change), are causing a fundamental shift in energy policy. In view of the Government's CO₂ target, it is becoming apparent that stricter duties than those initially introduced in the privatisation acts of energy utilities are needed to encourage improved energy efficiency. Privatisation has increased the need for cost transparency and brought to the forefront issues relating to environmental liabilities in the nuclear and coal industries.

Opportunities to further integrate environmental concerns into energy policy should be geared to reaching the objective of more sustainable energy consumption and production patterns. In this context, it is recommended that consideration be given to the following proposals:

- In the area of improved energy efficiency, the Government should take a more active role in identifying how the resource needs of the Energy Saving Trust can be met, and in ensuring that regulators, utilities, other fuel suppliers and agencies substantially increase their contributions. For the medium term, arrangements for extending the trust's work to sectors such as transport should be examined.
- The Climate Change Programme for the period up to 2000 should be implemented, kept under close review and adjusted as necessary; greenhouse gas emission targets should be considered for the years beyond 2000, in the context of the global response under the Framework Convention on Climate Change, and strategies outlined for achieving them.
- All offshore petroleum developments should be subject to environmental impact assessments, and stricter controls should be considered on allowable oil discharges from offshore platforms, as well as from refineries, which should rely more on pollution abatement technology.
- The legacy of coal mining operations, and in particular the full extent of costs of mine drainage control and site restoration, needs to be clearly established. The Water Resources Act should be amended so that the coal industry has a continuing obligation to prevent mine drainage pollution. The dereliction of former mining areas should be tackled in a coherent national programme.

- Greater transparency is needed in the internalisation of environmental costs in the nuclear industry. This would include assessing the cost of disassembling and eliminating the legacy of the past nuclear programme. The economics of new nuclear developments should be separated from the liabilities of existing plants.

Sectoral integration: the chemical industry

The United Kingdom established specific institutions to deal with chemical risks at a very early stage of industrialisation. Improvements have been introduced over the last 20 years, including industry adoption of legislation to cope with growing risks from the rapid expansion of the chemical industry, now one of the largest UK manufacturing sectors. The recent adoption of IPC and the obligation to use "best available techniques not entailing excessive cost" and the "best practical environmental option" represent major changes in the pollution management of the chemical industry. The integration of environmental regulators into a single agency will be another important step towards achieving greater cost-effectiveness in regulating pollution from the chemical sector. The chemical industry took the initiative to develop very early the Responsible Care programme; and major chemical companies have acted with great diligence to reduce their pollutant releases to the environment and their consumption of energy and other natural resources, and to improve their overall record as "good neighbours".

The IPC approach was introduced with the full support of the UK chemical industry. The technical complexity and heterogeneous nature of the industry has made dialogue and consultation a central issue in the implementation of IPC. There were initial difficulties in this respect, and some problems remain.

It is thus recommended that consideration be given to the following proposals:

- Care should be taken to ensure that IPC is adapted to the needs of smaller companies in the chemical industry.
- The integration of environmental regulatory bodies dealing with the chemical industry should be further promoted.
- The wider use of the Responsible Care programme should be promoted.
- Quantified risk assessment for chemicals and major hazards should be more widely used, and cost-benefit approaches applied to decision making in cases of major uncertainty.
- More environmental data should be published on pollutant emissions and toxic inventories, as well as on achievements towards a safer chemical industry.
- Research and testing on both new and existing chemicals should be increased, and strong UK support for international co-operation in this area should be maintained.

4. International Co-operation

Since the late 1980s, the United Kingdom has been among the leading countries in promoting and supporting international environmental co-operation. It has taken numerous initiatives to promote better environmental protection, supported the development of new international agreements, helped devise effective rules and practices, and sought effective enforcement of international environmental law. It has supported scientifically based measures that are justified from a cost-benefit perspective. The United Kingdom has agreed to a wide range of quantified targets at international level, mostly concerning air, water and marine pollution. All the international commitments of the United Kingdom have been met, or are on the way to being met, in time. Transfrontier pollution of air and marine waters has been considerably reduced. Dumping and incineration of hazardous waste at sea have been banned. Steps have been taken to effectively follow up on commitments made at UNCED. The United Kingdom has been active in providing aid to developing countries and in helping them better protect their environment.

While the overall picture is very positive, there is still room for progress. Neither the subsidiarity principle nor the weakness of cost-benefit calculations should be used as a reason for slowing environmental convergence in the European Community. The significance, both environmental and political, of transfrontier pollution still originating from UK land-based or offshore installations should not be underestimated. In particular, additional measures are needed to prevent an upturn in NO_x and CO₂ emissions at the end of the century, and to reduce acid deposition. New efforts will be needed to reduce pollution of the sea by oil and chemicals. Concerning aid to developing countries and to Central and Eastern Europe, the level of financial resources being made available does not seem commensurate with the United Kingdom's international role and GDP. This applies, in particular, to the

environment component of bilateral development aid and to the level of resources provided to various environmental funds.

In this context, it is recommended that consideration be given to the following proposals:

- A number of recent international agreements still need to be ratified (Annexes III. A and III. B).
- The United Kingdom should continue to support innovative action within the European Community.
- Cost-benefit approaches should be applied to the implementation of the precautionary principle.
- The UK authorities should ensure that the financial means and human resources necessary to achieve the targets set in international agreements are available.
- The progress of the United Kingdom in implementing action plans under Agenda 21 should be monitored; NGOs should be associated with the monitoring process.
- Legal instruments for the protection of the marine environment should be strengthened, and new international agreements to reduce sea pollution and cope with liability should be prepared.
- The implementation of the Montreal Protocol should be continued, and existing CFCs should be recovered more efficiently.
- The environmental component of aid should be more clearly defined and increased.

