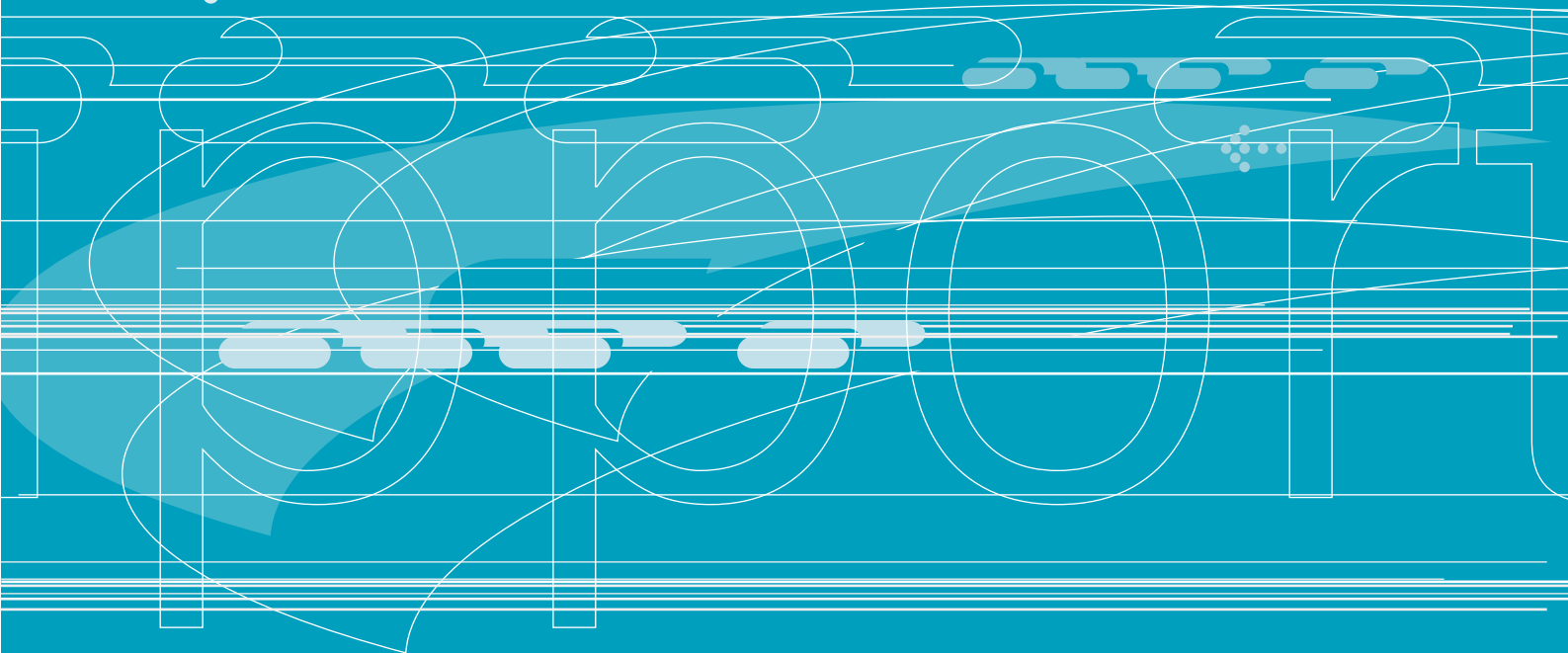


## PART 4 - SUPPORTING THE STRATEGY

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# Chapter 13

## Environmental Quality

*"In general terms, the available data indicate that the quality of the Irish environment is good and compares favourably with most other Member States of the EU. In a period of economic growth, the environment in Ireland requires particular attention to secure its protection and to ensure that development is sustainable."*

- Environmental Protection Agency<sup>1</sup>

### Introduction

Economy and society are dependent on the natural environment as:

- the source of energy and materials for the production of goods and services;
- the sink for emissions and wastes generated by production and consumption; and
- the provider of services creating basic conditions for human life and the economy, including a stable climate and water resources.

The definition of the quality and quantity of environmental endowments, and the assessment of the pressures placed upon them by human activity, help to determine whether or not development is sustainable. In acknowledging that there is uncertainty about the extent of human-induced change which the global environment can sustain, the European Environment Agency stated that:

*"a host of warning signals provides us with increasing evidence that the impact of human activities might have already gone beyond the capability of maintaining the integrity and productivity of natural resources."*<sup>2</sup>

The EPA report, *State of the Environment in Ireland*, provides an environmental baseline for this Strategy, and assists the review and analysis upon which policy priorities and responses are developed.

### Environmental Quality

Environmental change is caused by natural processes and human activity. With the increasing pace of socio-economic development, human activity is now seen as exerting the greater influence. Modern society enjoys many positive benefits of development, notably in relation to standards of living, health and welfare. It

must also address the ability of supporting ecosystems to sustain the demand for natural resources, and absorb the volume of emissions and wastes created by it.

In the light of the major environmental trends and features identified by the EPA, the following sections define strategic objectives for key environmental media and themes, and outline measures which are being, and will be, pursued to achieve those objectives.

### Water Resources

#### Overview

Water is a necessary precondition for all forms of life, and an essential element of ecosystems. Its social and economic uses are extensive, ranging from drinking water supply and industrial and agricultural use, to use as a receiving medium for treated sewage effluents and other waterborne wastes, and as a resource for hydroelectricity, fire fighting, commercial fishing and aquaculture, transport, amenity and tourism purposes.

Ireland has abundant fresh waters and rich marine resources. Although there are wide variations in the availability of water throughout the country, in general, the state of the environment report has shown that quality trends, rather than quantity, are the greater cause for concern. In particular, it is clear that although serious pollution of inland fresh waters is gradually reducing and now affects only 0.6% of river channel length surveyed, the trend towards slight and moderate pollution has increased over the past twenty years<sup>3</sup>, and now affects 28% of monitored river channel length. These conditions are brought about by excessive inputs of nutrients (see Chapter 5). Tackling the problem of eutrophication calls for innovative approaches.

#### Strategic Objectives

A sustainable water policy must be based on protection, management and prudent use of water resources in the interests of optimised

environmental quality, and economic performance and efficiency. The objectives of this Strategy for Irish water resources are to:

- protect and improve quality so as to
  - eliminate, as far as possible, serious pollution of rivers,
  - reverse and minimise slight and moderate pollution,
  - reverse and minimise eutrophication,
  - maintain marine water quality generally, in particular abating localised pollution in estuarine and coastal waters,
  - quantify and establish the current quality status of groundwater resources, and
  - ensure that groundwaters may be used, as required, as sources of drinking water supplies and for other beneficial uses;
- manage water resources effectively, allowing beneficial development and use compatible with preservation of good quality; and
- secure the provision of efficient water supply and waste water services of sufficient quality and quantity to protect public health and meet consumer and economic development needs in a cost-effective way.

#### **Actions**

The achievement of water quality objectives requires concerted and new action on the part of public authorities and of all users and consumers of water. Many important measures, already being pursued, will be continued in association with new and additional actions under Parts III and IV of this Strategy.

#### *Legislation*

Water quality will be protected by enforcement of existing legislation, and the development and implementation of new regulations.

- New regulations will be made in 1997 under the Water Pollution Acts setting water quality standards for a range of polluting substances, including phosphorus. Observance of these standards will be an objective of the effluent discharge licensing control system and will

guide local authorities and the EPA in devising and implementing management strategies to deal with diffuse sources of pollution, including those from agriculture.

- New regulations, to be made under the *Waste Management Act, 1996*, will, *inter alia*, apply higher environmental standards to waste disposal facilities which should consequently lead to better protection of water resources.
- The *Fisheries (Amendment) Bill*, when enacted, will establish a streamlined process for the regulation of aquaculture which will ensure that the industry's continued development takes place in accordance with high environmental standards (see also Chapter 7).
- The *Dumping at Sea Act, 1996*, established a strict regime governing the dumping of substances at sea. The Act prohibits the incineration of substances or material at sea, and the disposal at sea of low, intermediate or high level radioactive wastes and toxic, harmful or noxious substances. Disposal at sea of sewage sludge will be prohibited from 31 December 1998. The Act will enable Ireland to complete ratification of the OSPAR Convention in 1997.
- The UN ECE Convention on Protection and Use of Transboundary Watercourses and International Lakes will be ratified in 1997.

#### *Management and Protection*

Water quality management plans have for many years been the basic tool for advancing strategic water quality protection requirements at local and regional level. New approaches, as well as reinforcement of existing policies and practices, are now necessary.

- An integrated catchment management initiative will be launched in April 1997, and implemented by local authorities with relevant interests, to reverse deteriorating water quality trends in selected catchments,

- including water bodies shared with Northern Ireland.
- Supporting the catchment management initiative, Cohesion funding has been approved for an integrated series of projects to improve sewage treatment and collection facilities in towns in the Lough Derg, Lough Ree, Lough Swilly, Lough Erne, River Suir, River Boyne, River Liffey, and River Barrow catchments. Works costing over £65 million have been approved for the first stage of these catchment projects. Cohesion applications have also been submitted for a number of other catchments. Ongoing assessment of the impact of the sewage investment in the catchments, as well as the identification of other point and diffuse sources of pollution, will be carried out through the implementation of monitoring and management programmes, for which Cohesion funding has already been secured for a number of catchments. Provision will be made for the involvement of relevant interests in the preparation and implementation of these projects, so that the necessary cross-sectoral approach will be ensured.
  - An updated methodology for the preparation of water quality management plans is currently being prepared by the EPA. This will be utilised to review all water quality management plans over the next five to ten years.
  - A thorough review of discharges to waters will be undertaken by the EPA to assess, in particular, discharges of nutrients and of toxic and persistent substances. This will be completed by 1998.
  - A national groundwater programme will be established under EPA coordination to quantify groundwater resources, establish their current quality status, and make recommendations for their protection and sustainable use for water supply purposes.
  - Marine discharges of all dangerous substances, in particular organohalogens that are persistent, toxic and bioaccumulative, will be reduced by the year 2000 (as required by the OSPAR Commission) to levels which will not harm the marine environment.
  - The achievement and maintenance of full compliance with statutory water quality objectives and standards for drinking waters, bathing waters, groundwaters, shellfish waters, fresh-water fish and wastewaters will be pursued by public authorities, particularly through legal enforcement.
  - R&D activity will be harnessed to increase understanding of natural processes and to study the impact of human activities on water resources.
- The above measures will be complemented by action in the agriculture sector, in particular in regard to nutrient management planning, the promotion of the *Code of Good Agricultural Practice to Protect Waters from Pollution by Nitrates*, and adherence to revised phosphorus and nitrogen application rates for grassland to reduce losses contributing to eutrophication (see also Chapter 5).

#### *Water Services*

During the 1990s, the Government's objective for the provision of water services has been to ensure that adequate, environmentally well-managed water and waste water services are generally available to domestic users and to support economic development. This objective is being achieved through a significant increase in the annual capital allocation by Government for water services, from a base of £74.5 million in 1992 to an estimated £155 million in 1997, an increase of almost 110%. The allocations for 1998 and 1999 will be significantly higher based on the level of Cohesion Fund commitment remaining to be allocated to water services schemes. The emphasis on the achievement of

this objective will be maintained, with a particular focus on cost and environmental efficiency, and on resource conservation. At the same time, it is recognised that the water services capital programme must be progressively increased to provide the infrastructure required into the next century. Investment will be increased to £180-£200 million a year over the period 2000-2005.

- The programme for providing improved services for wastewater collection and disposal and for treatment and disposal of sewage sludge will be continued. This programme is aimed at attaining compliance with the requirements of the Urban Waste Water Treatment Directive<sup>4</sup> and the implementing Regulations.
- Secondary sewage treatment is being provided for all qualifying discharges to rivers, estuaries and coastal waters. Where necessary, the level of treatment will be extended to include nutrient reduction or tertiary treatment, particularly in the case of discharges affecting lakes which are subject to eutrophication. The investment programme will also ensure that Ireland's excellent record under the Blue Flags for Beaches scheme is maintained.
- Alternative sludge treatment and disposal facilities will be provided in Dublin to allow the dumping of sludge at sea to be ended by December 1998.
- Continued improvements in the quality of public and group water supplies will be pursued to further increase the levels of compliance with drinking water quality standards for all health-related parameters.
- Public investment in water supplies will be maintained to meet economic development, domestic and environmental needs. This will include phased implementation of a number of large-scale projects such as the Dublin Water Strategy.<sup>5</sup>

- In recognition of the need for active leakage control, and a more intensive focus on water management and conservation by local authorities generally, the Department of the Environment is developing a programme for the promotion of water conservation. This includes:

- a requirement for a "water audit" as part of all water supply capital projects;
- capital funding for water conservation projects including active leakage reduction, infrastructure such as district metering, telemetry, GIS systems, as well as training; and
- a commitment by all local authorities to long-term active leakage control.

Guidance on water conservation and leakage detection will be provided to local authorities.

- Pricing policies will be developed to promote conservation by major industrial and commercial water users.

## The Coastal Zone

### *Extent and quality*

The coastline of the State, including its islands, is approximately 7,100 km in length. Around 3,000 km are classified as soft, including sandy beaches and glacial cliffs, and some 1,500 km of these are at risk from coastal erosion.<sup>6</sup>

The coastal zone, a highly productive ecosystem, is susceptible to pressure from development and encroachment, pollution, increasing recreational and tourism use, competition for space and over-exploitation of marine resources, as well as erosion. It is an area which requires special attention in order to promote its sustainable use through the balancing of the various demands on coastal resources.

### Strategic concerns

This Strategy recognises:

- the ecological wealth and sensitivity of the coastal zone;
- the need for integrated assessment of coastal zone development issues;
- the diversity of habitats, and of development uses, in the coastal zone; and
- potential threats to sustainable development in the coastal zone.

*"[This] vital zone ... holds the vast majority of our Important Bird Areas along with 64 species of conservation importance and five Annex 1 Habitats under the EU Habitats Directive."*

- Irish Wildbird Conservancy<sup>7</sup>

Current actions to protect and secure sustainable development of the coastal environment are wide-ranging and include:

- selective investment in coastal protection works under the *Environmental Services OP*<sup>8</sup>;
- major ongoing investment in the treatment and disposal of coastal sewage discharges;
- participation in programmes to meet obligations under international conventions (including MARPOL and OSPAR), and bilateral cooperation with the UK in regard to Irish and Celtic Sea issues;
- designation and protection of coastal habitats and biodiversity;
- legislative protection through the Foreshore Acts, which are one of the primary means of ensuring orderly and environmentally acceptable development in the coastal zone; and
- legislative developments, and measures to protect and improve coastal and estuarine water quality, as outlined in the above section on water resources.

*"Generally we are not dealing with a single pressure on a resource, but with a mosaic of pressures, some enforcing each other, some cancelling each other out, some combining in a synergistic manner. Yet in our research or management plans, we tend to focus only on one, or a select number of these pressures."*

- K. Dubsky<sup>9</sup>

### Coastal zone management strategy

The coastal zone is on the one hand relatively fragile, with many resources which are non-renewable, and on the other hand intensively populated and highly attractive to development. There is considerable scope for conflict and competition between coastal zone uses. A coastal zone management strategy study, commissioned by the Departments of the Environment, the Marine, and Arts, Culture and the Gaeltacht to make recommendations for a national policy for the coastal zone, will be completed shortly.<sup>10</sup> There will be a public consultation process, leading to the initiation of a strategic approach to a comprehensive national policy for the sustainable use of the coastal zone, covering such areas as:

- marine environmental protection and resource management;
- development, planning and land use;
- coastal protection; and
- conservation of habitats and biodiversity.

### Landscape and Nature

#### Key Considerations

In Ireland, as elsewhere in Europe, few areas of truly natural habitat remain, as the landscape and ecosystems have been altered by centuries of human activity, affecting the survival, condition and distribution of plant and animal species. Increasing development throughout the 20th century has placed greater pressure on environmental resources and put in question the balance between resource use and conservation. Sustainable development now requires a new relationship between human activity and the natural world.

The EPA has assessed Ireland's record in protecting its natural heritage over the past decade as *"satisfactory but with room for improvement"*.<sup>11</sup> There are many threats, including those from pollution, over-exploitation, destruction of habitats, erosion, drainage, the location and nature of development activity, urbanisation, and conflict related to sporting and recreational uses. Key

concerns now are to:

- define a comprehensive policy with regard to natural heritage and biodiversity;
- protect the quality of landscapes, ecosystems, habitats, species and genetic resources;
- achieve better integration between natural heritage concerns, physical planning and sectoral development policies; and
- improve knowledge and information on the quality and condition of endowments and on nature protection and conservation requirements.

In meeting the above concerns it is important to recognise that:

- nature extends beyond boundaries; while the designation of areas for special protection purposes fulfils an essential function it should be complemented by wider protection and conservation activity;
- some impacts are unavoidable, but can be minimised by
  - applying sustainable development principles,
  - securing sustainable use of resources,
  - promoting a full appreciation of what is rare and priceless in the natural world, and
  - use of the precautionary principle; and
- the natural heritage is everyone's heritage, and its protection and conservation depend on action by, and the behaviour of, communities and individuals, as well as Government, public authorities, and economic actors.

Promotion and appreciation of the national heritage is now reinforced by the functioning of the Heritage Council, established under the *Heritage Act, 1995*.

#### **Actions and priorities**

The primary statutory support for habitat and nature protection has been the *Wildlife Act, 1976*. The *Fisheries Acts, 1959 to 1995*, also play a significant part in the protection of fish species. A Wildlife (Amendment) Bill, currently being drafted, will be introduced in 1997 to update national law, and in particular to provide a statu-

tory basis for Natural Heritage Areas (NHAs). The Department of Arts, Culture and the Gaeltacht has prepared draft NHAs which will be taken into account by planning authorities when considering planning applications in/adjacent to NHAs, and which are included in REPS, allowing increased grant-aid to applicants whose lands are within the NHAs.

Council Directive 92/43/EC on the protection of natural and semi-natural habitats and of wild flora and fauna has also been transposed into Irish law by the *European Communities (Natural Habitats) Regulations, 1997*. The Regulations will allow for the definition and protection of approximately 400 proposed Special Areas of Conservation (SACs), covering 550,000 hectares or some 5% of land area. Irish SACs will form part of the European-wide programme *Natura 2000*, which seeks to protect the best remaining examples of national and European natural heritage. Areas in the Burren, blanket bogs, heaths and upland grasslands account for over two-thirds of the land area to be included in SACs. The areas involved will be farmed in a sustainable manner, with certain restrictions related, for example, to stocking levels and the prevention of drainage, and with appropriate compensation to farmers for loss of income and additional costs. Many sites have also been designated as Special Protection Areas required under the Birds Directive for the conservation of certain bird species and their habitats, and further sites will be designated.

A new National Parks and Heritage Bill will be published in 1997, to provide statutory recognition for national parks, national historic parks and national gardens. Policy and objectives in these areas are being reviewed and management plans for their sustainable development and use are being prepared.

Many programmes for the conservation of biological diversity are already in place. Ireland ratified the UN Convention on Biological Diversity in March 1996.<sup>12</sup> A National Biodiversity Plan to

reflect its requirements on the conservation and sustainable use of biological diversity, and draw together all of the policies and programmes which already contribute to its objectives, is being prepared by the Department of Arts, Culture and the Gaeltacht. This will reinforce sectoral integration requirements, and make specific recommendations for national action to conserve biological diversity and use its components in a sustainable manner. Some examples of threats to biodiversity are indicated in Fig 2.1. The Plan will be published in 1997.

Measures under physical planning legislation are also critical in the protection of scenic landscapes and natural features. Planning authorities should give wider consideration to the desirability of making Special Amenity Area Orders (SAAOs) in appropriate cases, to protect areas of outstanding natural beauty, of special recreational value, and in the interests of nature conservation. An SAAO outlines a planning authority's reasons for protecting the area in question. Many developments which are exempt under the Local Government (Planning and Development) Acts and regulations require planning permission in an SAAO. The Department of the Environment will issue planning guidelines on the protection of high amenity landscapes.

While ongoing research and information activities are outlined in *State of the Environment in Ireland*, significant gaps are also identified. Knowledge is fundamental to the sustainable management and use of the natural heritage and the conservation of biological diversity. This information base depends, among other things, on:

- good inventories of ecosystems, habitats, species and genetic diversity, and linkage of these to environmental and sectoral data systems;
- understanding of ecosystem structure and functions, and of the impacts of human activity;
- assessment of carrying capacity for habitats

and scenic areas; and

- long-term monitoring of biodiversity trends and identification of early warning signs of unsustainable trends.

These issues will be more fully dealt with in the Biodiversity Plan, which will identify priorities in that area and provide appropriate funding mechanisms.

## Waste Management

*"While the generation of waste is an inevitable consequence of domestic and economic life, it is now well recognised that the quantities of waste produced by developed countries, including Ireland, are unsustainable."*

- Environmental Protection Agency<sup>13</sup>

### Waste management policy and instruments

Irish waste policy, in line with the EU approved hierarchy of waste management options, seeks to promote waste prevention, reuse and recycling, and to apply high environmental standards to waste disposal activities. A range of instruments and measures has been developed to promote a more sustainable approach to waste management, including:

- the *Waste Management Act, 1996*, which
  - provides a comprehensive statutory framework for the management of waste,
  - places an obligation on agricultural, commercial and industrial operators to take all reasonable steps necessary to prevent or minimise waste arising from their activities or products, including steps to be taken at design stage of a product,
  - provides for a wide range of measures to be applied to promote and support waste recovery,
  - prohibits the holding, transport, recovery or disposal of waste in a manner which causes or is likely to cause environmental pollution,
  - provides for the establishment by EPA of a Toxics Release Inventory, and
  - provides for penalties of up to £10 million and 10 years imprisonment and for liability for clean-up costs;

- the introduction of Integrated Pollution Control licensing under the *Environmental Protection Agency Act, 1992*, which applies to certain waste activities and places emphasis on waste minimisation for all licensable activities;
- the adoption of a Government Strategy *Recycling for Ireland*<sup>14</sup> in 1994, which established targets for waste recovery up to 1999;
- the establishment of REPAK<sup>15</sup>, an industry sponsored initiative for the coordination and financing by industry of systems for recycling packaging waste (see also Chapter 9);
- the provision of £18.4 million in grants, co-financed by the EU under the *Environmental Services OP*<sup>16</sup>, to assist better waste planning and the provision of facilities for waste recovery and hazardous waste management; and
- publication of a report by the ESRI on the economics of solid waste management.<sup>17</sup>

### Strategic objectives

"...our growing waste mountains are in many ways a reflection of the considerable economic growth of recent decades but they are not a necessary part of industrial progress."

- John Dunne, Director General, IBEC<sup>18</sup>

Waste is one of the most problematic areas of modern environmental management. The issues associated with its generation and disposal are inextricably linked with present-day economic activity, industrial development, lifestyle and consumption patterns. In working towards more sustainable practices, the acceptance of appropriate responsibility on a shared basis of all sectors of society will be a major general objective. Particular objectives will include:

- a stabilisation and reversal of the growth in waste production; there is some evidence that waste quantities in Dublin have already stabilised - in the short term, to 1999, the goal is to stabilise municipal waste arisings generally at 350 kg/year *per capita*, and in the longer term, to 2010, to reduce these wastes by 20%, for example, by regulation and cost internalisation;
- reuse and recycling activity will be intensified as far as is practicable, both through application of producer responsibility (as evidenced,

- for example, by REPAK) and measured actions by public authorities (see Fig 13.1) - the current overall objective of diverting 20% of municipal waste from landfill, by recycling, by 1999 will continue to be pursued, and higher targets will be established for subsequent years, including an increase from 27% by 2001 to at least 50% in the recovery rate for packaging waste by 2005;
- the improved planning and organisational arrangements, provided for in the *Waste Management Act, 1996*, will be implemented quickly;
- higher environmental standards will be applied to landfill and other waste disposal operations by a new licensing system to be operated by the EPA; this will be commenced from 1 May 1997 and applied progressively;
- better waste statistics will be compiled (a process already underway with the publication in 1996 of the EPA *National Waste Database*) to provide more reliable baseline data and to measure performance in future years;
- greater emphasis will be placed on the scope for action by all consumers to minimise waste, and to use recyclable products; and
- the use of economic instruments to reduce waste, promote reuse/recycling, and increase management efficiency will be explored; already a deposit refund system is to apply to the sale of farm plastics.

### Fig 13.1 Alternative Waste Disposal

As an example of the options available, Limerick Corporation is developing a system to direct organic waste (some 40% of municipal waste) from landfill to composting. The system will involve the operation of a segregated waste collection system and a major composting facility. Grant assistance from EU Structural Funds for capital expenditure is being funded under the *Operational Programme for Environmental Services, 1994-99*.

Current Government policies in respect of hazardous and clinical wastes will be continued:

- primary responsibility for proper treatment of hazardous waste will continue to lie with the holder and/or producer of the waste;
- EU co-financed assistance will be provided for hazardous waste management facilities which are available to multiple users; however, as already announced, Government assistance will not be provided for contract hazardous waste incineration facilities;
- non-incineration facilities will replace older incinerators for healthcare risk waste; and
- planning, enforcement and other functions in relation to hazardous waste are assigned to EPA under the *Waste Management Act, 1996*.

Waste has also been identified as a priority area for the development of indicators to measure progress in prevention, reuse/recycling and safe disposal. Taking account of EPA recommendations in this regard, some waste production and disposal trends are identified in the tables in Appendix I.

#### **Waste management and BSE**

Major challenges were presented to the meat industry in 1996 arising from concerns associated with BSE. Waste management implications have been assessed, so that the arrangements for control of rendering and, in particular, of specified risk material (SRM) (comprising the brain and spinal cord from cattle and sheep and representing some 8% of total offal), are satisfactory in relation to environmental protection.

The waste management strategy in relation to offal includes the following elements:

- all rendering plants which produce meat and bone meal (MBM) for use in animal feedstuff are to be upgraded urgently to operate high-pressure batch systems;
- all SRM will be processed into MBM at a dedicated rendering plant; this MBM can be safely stored without risk to public health or the environment pending destruction;

- in the short-to-medium term, MBM containing SRM will be held in secure storage in Ireland pending disposal in appropriate facilities abroad; and
- the cost of removing and destroying SRM is expected to be met by the meat industry.

Strategic waste management requirements will continue to be assessed in light of the developing situation and of new information emerging in relation to treatment of this waste stream.

#### **Air Quality**

*"Given Ireland's small population and lack of heavy industry, the level of pollutant emissions is low compared to most European countries. Irish emissions of those pollutants receiving most attention, e.g., SO<sub>2</sub>, NO<sub>x</sub>, and CO<sub>2</sub>, account for typically one percent of the respective totals for EU countries as a whole. Trends in emissions in Ireland are broadly similar to those in other countries and there is general compliance with emission limits imposed by a variety of international emissions reduction agreements."*

- Environmental Protection Agency<sup>9</sup>

#### **Overview**

*State of the Environment in Ireland* and the EPA's *Air Pollutants in Ireland, 1984-94*, have provided an up-to-date assessment of air quality in Ireland, concluding that:

- national emissions of some pollutants and greenhouse gases, including carbon dioxide (CO<sub>2</sub>), are increasing, but there have been notable reductions in the case of others, such as sulphur dioxide (SO<sub>2</sub>), carbon monoxide (CO) and smoke;
- there has been very little overall change detected in annual mean deposition of air pollutants over recent years; and
- road traffic has become potentially the greatest source of air pollution generally, and attention must focus on traffic related pollutants as a new challenge in terms of air quality control. This is notwithstanding the fact that Ireland is relatively unaffected by transit traffic which is a significant factor in increasing vehicle emissions in countries of continental Europe.

### **Strategic objectives**

Good air quality is essential to human health and well-being. Air quality and emissions are also important influences on the condition of ecosystems and on the built environment. While substantial national legislative controls are in place, the transboundary and global impacts of air emissions require that many abatement strategies must be pursued by international cooperation. As part of this Strategy the Government will:

- maintain, and if possible improve, local air quality, particularly in urban areas, so as to minimise any health risk to the urban population and improve the quality of urban living; and
- ensure that Ireland meets international obligations on air quality and is active in support of international action in relation to climate change, ozone depletion and transboundary air pollution.

These objectives will be addressed substantially through strategic action in the energy and transport sectors. The following measures will supplement that action.

### **Urban smoke control**

Apart from transport, the major threat to urban air quality has been the burning of coal for domestic heating purposes. Serious smoke pollution in Dublin, with regular breaches of air quality standards, led Government in 1990 to ban the sale, marketing and distribution of bituminous coal in the built up area of Dublin. While no other urban area has developed air pollution problems to this degree, a similar ban was extended to the Cork City area in 1995 when it became clear that air quality standards were being approached, though not exceeded.

The Minister for the Environment, in association with the EPA and the relevant local authorities, will continue actively to respond to threats to air quality deriving from the use of coal. The monitoring process will be maintained, and all necessary measures taken to address any developing air quality problems.

### **Low level ozone**

Low level, or tropospheric, ozone is formed via a photochemical oxidation process; nitrogen oxides ( $\text{NO}_x$ ) react with volatile organic compounds (VOCs) in the presence of sunlight to produce ozone. The ozone precursors ( $\text{NO}_x$  and VOCs) are emitted during fossil fuel combustion and various industrial processes. Transport and power generation are the main sources of  $\text{NO}_x$  while transport and solvent use are the main sources of VOCs.

Low level ozone is now monitored at six sites nationally, and arrangements are in place for the issuing of public warnings by Met Éireann during ozone pollution episodes.<sup>20</sup> Marginal exceedances of the EU population information threshold of  $180\mu\text{g}/\text{m}^3$  occurred at three stations (Cork, Monaghan and Kilkenny) in the untypical hot summer of 1995, but there were no exceedances of the population warning threshold of  $360\mu\text{g}/\text{m}^3$ .

The meteorological conditions which can lead to enhanced production of ozone in Ireland also favour the transport of ozone and its precursors from other parts of Europe. Because of this, in developing abatement measures, strategic attention centres on international actions in both EU and UN ECE frameworks to reduce precursor emissions, mainly from transport and power generation.

In addition, eight countries in North-Western Europe, including Ireland, have agreed to cooperate on forecasting, public information and advice, and on a range of short and long-term precursor abatement measures to deal with the particular circumstances of ozone formation in their countries. As part of this agreement, Ireland and the UK will share ozone monitoring sites, exchange monitoring data on a real time basis and cooperate in forecasting ozone episodes.

**Acidification**

Sulphur dioxide (SO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>) are the main precursors of acid rain. The deposition of these pollutants is low over most of Ireland, but significant in some eastern areas.

Acidification is not, so far, an appreciable problem overall in Ireland, and there is little change in annual mean deposition amounts of emissions. There is an identified need for more study of the impacts of acidifying depositions, and this is being taken into account in the EPA's new national air quality monitoring programme. Under the *Environmental Services OP*, a research project on the determination and mapping of critical loads for sulphur and nitrogen, as well as critical levels for ozone, is also being undertaken.

As in the case of ozone, acid deposition has a considerable transboundary aspect. At least 50% of the annual deposition of sulphur and up to 90% of nitrate are imported into Ireland from other countries. Ireland, therefore, will continue to participate actively at EU and UN ECE levels in the development of abatement strategies.

**Ambient air quality**

An EU framework Directive on ambient air quality has now been adopted. This Directive will lead to a series of subsidiary Directives which will not only impose stricter standards for pollutants, e.g. NO<sub>x</sub>, already the subject of regulation, but will also, over time, extend regulation to a wide range of other pollutants (see also Chapter 10).

Ireland is supporting the development of these new air quality standards and, in parallel with this process, the EPA is preparing a national air quality monitoring programme.

The new Directives are likely to feature a requirement that the public be informed when certain pollution levels occur, as happens already in relation to low level ozone. This will represent a significant strengthening of public involvement in air quality issues.



# Chapter 14

## Spatial Planning and Land Use

*"Land is subject to many competing uses or functions and, being a finite resource, conflicts often arise between them ... The way that land is used has a primary influence on the type of pressures which are allowed to act on the environment."*

- European Environment Agency<sup>1</sup>

### Role of Land Use Planning

Urban and rural landscapes are constantly changing as a result of the interaction between the natural world and human developments. Spatial planning and land use policies, which of necessity have long time frames, seek to promote orderly development to:

- ensure that the use of land as a resource has regard to the common good;
- meet the needs of society for housing, food and materials, economic and social infrastructure, places of work, amenities and recreational facilities;
- support socio-economic policies concerned with, for example, balanced regional development, social integration, urban renewal and the maintenance of strong rural communities; and
- balance competing needs and prevent and minimise adverse impacts of human activities on the environment.

Land use planning can support the objectives of sustainable development in a number of ways:

- efficiency in the use of energy, transport and natural resources may be encouraged through the careful location of residential, commercial and industrial development, and controls on the shape, structure and size of settlements;
- the planning process can also promote the most effective use of already developed areas;
- the protection and enhancement of the natural environment, including unique or outstanding features, landscapes and natural habitats can be secured; and
- new development needs can be accommodated in an environmentally sustainable and sensitive manner.

The pattern of land use and the shape of the landscape are being influenced by many forces, including changing agricultural practices, increased afforestation, the continuing expansion of urban settlements, one-off rural housing, increasing private car ownership, increased tourism activity, new forms of commercial and business development, coastal erosion and mineral extraction. Visual amenity is also being affected by many forms of development and the location of infrastructure, including electricity transmission, telecommunications masts and new renewable energy generation methods such as wind farms.

Sector specific issues associated with the integration of sustainable development concepts and land use policy are discussed in the relevant sectoral chapters of this Strategy. In addition, however, it is important that this Strategy should ensure that planning and sustainable development policies are consistent and mutually reinforcing.

### The Development Plan

Physical planning policies and controls have in fact a longer established history in Ireland than environmental regulation and remain one of the principal instruments of environmental protection. The very title of our physical planning legislation - the *Local Government (Planning and Development) Acts, 1963 to 1993* - foreshadows the concept of sustainable development by acknowledging the need for development in equilibrium with the local environment. The physical planning system has also been extremely important in Ireland in encouraging and facilitating public awareness of environmental issues and public participation in them.

The statutory framework for land use planning involves a responsibility on each local authority (County, County Borough, Borough and Urban District Council) for the determination of policy in its area through the development plan, and for applying that policy, through planning control,

in deciding on planning applications and enforcing planning decisions.

The development plan is intended as the main policy instrument for ensuring proper planning and development. While considerable scope already exists for reflecting sustainable development objectives in the development plan process, a new sense of direction and stronger policy integration are needed. The following initiatives will support and complement the implementation of this Strategy:

- planning and development legislation will be amended to require planning authorities expressly to take account of sustainable development considerations in the elaboration of their development plans. The amendment will be designed to exert a practical influence on the delivery of sustainable development policies in the economic sectors and in respect of the built and natural environment;
- to promote understanding of national policy priorities, encourage consistency of approach and raise awareness, the Department of the Environment will continue the publication of its series of Land Use Guidelines for planning authorities, developers and the public. Guidelines on the planning aspects of wind-farms<sup>2</sup> and of telecommunications antennae and support structures<sup>3</sup> were finalised in 1996. Draft Guidelines on forestry development<sup>4</sup> were published in January 1997, for public consultation, and further drafts on high amenity landscapes, the scope and content of development plans, and archaeology will also be issued for public consultation in 1997. Priorities for further Land Use Guidelines will be kept under review and will include the operation of development control and enforcement, and protected habitats;
- in forthcoming Guidelines on the scope and content of development plans, planning authorities will be encouraged to take a more

strategic view of settlement patterns, development needs and major infrastructural services, combining, in an appropriate manner, the statutory five yearly review of the development plan with a coherent longer-term rolling plan. State funding for infrastructure development will not be provided in the event of overzoning, to avoid excessive suburbanisation and inefficiencies in the use of land, energy and transport;

- under the Programme for reform of local government, *Better Local Government - A Programme for Change*<sup>5</sup> (1996), Regional Authorities will be assigned a role in setting out strategic planning guidelines to be respected by the constituent local authorities in drawing up their development plans. This process is intended to start with the Dublin and Mid-East Regions; and
- greater recognition will be given to the quality and character of the countryside. Sustainable development of rural areas involves respect for nature and natural systems, conservation of habitats, species and features of ecological interest, and protection of the environment, as well as the creation of economic opportunity and the maintenance of social fabric. The relationship between the development plan and other forms of special designation, such as Natural Heritage Areas or Special Protection Areas, will be clarified in the forthcoming Bill to amend the *Wildlife Act, 1976*.

### Development Control

The development control functions exercised by planning authorities and An Bord Pleanála impact on land use management on a day to day basis. The system is designed to ensure timeliness, good quality decisions, public participation, openness and proper enforcement. The system must, however, remain responsive to change and in this regard, a review of development currently exempted from development control will be carried out.

The use of land for agriculture or forestry is, in general, exempted development under the Local Government (Planning and Development) Acts and therefore not subject to planning permission. However, a development for which an Environmental Impact Assessment is required - at present, afforestation exceeding 70 hectares - requires planning permission. Certain types of smaller agricultural buildings are also exempt subject to conditions regarding restrictions on size and distance from public roads and from houses, schools and churches.

Agricultural activities have been one of the main determinants in shaping the landscape in terms of field patterns, walls, hedges and woodland. While it would not be feasible to bring day to day agricultural activity within the development control system, it will be appropriate to review the exemption for agricultural activities to ensure that its extent and scope are compatible with sustainable development. For example, the physical planning implications of agri-tourism need to be considered to ensure that, where necessary, such developments are brought under planning control.

### Environmental Impact Assessment

Environmental Impact Assessment (EIA) for major developments is now an integral and valuable part of development consent and land use management procedures. In transposing the EU Directive on EIA<sup>6</sup>, Ireland established thresholds for all project categories (whether mandatory or discretionary in the Directive) at levels which reflect national environmental conditions and are comparatively stringent in EU terms. In addition, with very limited exceptions, the planning authority has power to require EIA for projects which fall below the stated thresholds where the authority considers that a development would be likely to have significant effects on the environment.

The exceptions referred to above are afforestation, peat extraction and intensification of agriculture, which, if not subject to EIA, are

exempted development under the Planning and Development Acts. While the overall approach has resulted in significantly higher numbers of EIAs being carried out in Ireland per head of population than in other EU Member States, it is recognised that in relation to afforestation and peat extraction the thresholds originally fixed were too high. The threshold for forestry was therefore reduced with effect from October 1996 and it is also intended shortly to reduce the peat extraction threshold.

EIA will continue to play an important part in the approach to sustainable development, through its identification of concerns in the interaction between development and environment and its role in reconciling the socio-economic aspirations of society with the ability of the natural environment to sustain them.

Efforts continue to be made to improve the quality of Environmental Impact Statements (EISs) and of assessment generally. The EPA, in 1995, published *Draft Guidelines on the Information to be Contained in Environmental Impact Statements* and accompanying *Advice Notes on Current Practice*.<sup>7</sup> Following a two-year period of review and evaluation in day-to-day practice, it is the intention of the EPA to issue the Guidelines formally under Section 72 of the *Environmental Protection Agency Act, 1992*. In the meantime, they are of practical use to all involved in preparing and evaluating EISs by providing an agreed basis for determining the adequacy of EISs, within the context of established development consent procedures.

EU Environment Ministers have now reached agreement on a common position on a draft Directive to clarify and strengthen the provisions of the 1985 EIA Directive. It is envisaged that the new Directive will come into force at the end of 1997. The draft Directive provides for the alignment of the Directive, with regard to transboundary environmental impacts, with the *Convention on Environmental Impact*

*Assessment in a Transboundary Context*<sup>s</sup> - the "Espoo Convention". Ireland will shortly ratify this UN ECE convention.

### **Strategic Environmental Assessment**

The term Strategic Environmental Assessment (SEA) is used to describe the environmental assessment of plans and programmes and can be extended to include the assessment of policies. SEA is, by its nature, a more general assessment than that carried out in EIA which is project specific (see also Chapter 19).

A proposal for a Council Directive on the assessment of the effects of certain plans and programmes on the environment was published by the European Commission in December 1996. The proposal covers land use plans and programmes, including sectoral land use plans in sectors such as transport, waste management, water resource management, industry, telecommunications, tourism or energy. The Department of the Environment is currently assessing the proposal for a Council Directive in consultation with other relevant Departments and intends to adopt a constructive Irish position.

### **Integrated Pollution Control**

Land use planning alone cannot deal with all of the issues relating to the environmental impact of industry and mineral extraction. The increasing complexity of major industrial activities and processes - and of corresponding environmental control possibilities and techniques - have underlined the need also for a more specialised approach to activities involving complex industrial processes or otherwise involving potentially significant impact on the environment. Given the relatively small number of such activities, it was appropriate that specialised expertise for addressing them should be developed nationally through the Environmental Protection Agency, established in 1993, and its Integrated Pollution Control (IPC) licensing system. This approach is now being extended (under similar provisions of the *Waste*

*Management Act, 1996*) to the licensing of major waste management facilities.

The separation of planning and environmental control functions in respect of activities which require an IPC/waste licence avoids, as far as possible, duplication of effort between regulatory authorities, and gives developers flexibility in regard to the timing of the relevant applications for new development. The arrangements also ensure that the highest standards are applied in controlling potential pollution from new and existing development and they allow a consistent approach to these activities throughout the State.

Unavoidably, however, the separation of planning and IPC/waste licensing procedures may sometimes create an artificial divide when dealing with a project as a whole. It also clearly separates land use considerations, properly a function of planning authorities, from environmental pollution considerations, which, for the relatively small number of complex activities concerned, need more specialist consideration. The operation of these complementary procedures will be kept under review and further adapted, as appropriate, in the light of experience.

### **Territorial Integration of Sustainable Development**

Above all, it should be the function of the physical planning system to achieve integration of sustainable development on a territorial basis. The need for territorially integrated sustainable development is recognised, for example, in the European Commission's Sustainable Cities Project, and the European Sustainable Cities and Towns Campaign supported by major European networks of local authorities, as well as in coastal zone management (see Chapter 13), as a leading strategy for spatial planning in littoral areas. Support for these and other integrated approaches will be provided through the Irish physical planning system.

# Chapter 15

## The Built Environment

*"The overall human settlement objective is to improve the social, economic and environmental quality of human settlements and the living and working environments of all people ... Urban settlements ... generate 60% of gross national product and, if properly managed, can develop the capacity to sustain their productivity, improve the living conditions of their residents and manage natural resources in a sustainable way."*

- Agenda 21<sup>1</sup>

### Introduction

The built environment both affects and is affected by the natural environment, using water, energy, land and materials, providing goods and services, and, as settlement intensifies, generating increasing wastes and emissions, traffic and noise, and potentially diminishing the quality of life. Urban settlements, however, also offer potential economies of scale, and can achieve environmental and social sustainability, with good planning and design, balanced development and lower consumption of resources. The impacts of economic activity on human settlements are addressed, as appropriate, in the sectoral chapters of this Strategy. This chapter focuses on sustainable development issues associated with the built environment, including urban policy, conservation, quality design, construction and housing.

*"We must make, and remake, our built environment so that to shelter, light, heat and cool ourselves does not destroy our planet."*

- Architects' Council of Europe<sup>2</sup>

Ireland was one of up to 200 UN Member States and organisations represented at the HABITAT II conference in Istanbul in June 1996, which was devoted to the agreement of a common agenda for the attainment of the objectives of **adequate shelter for all** and **sustainable human settlements in an urbanising world**. The conference gave expression to its agreement through the adoption of the comprehensive **HABITAT Agenda**. The Government is committed to ensuring that its policies in relation to housing and the urban environment take full account of the provisions of this Agenda, and will also work in this regard with EU partners to agree common approaches, where appropriate.

### Urban Development

*"To avoid unbalanced, unhealthy and unsustainable growth of human settlements, it is necessary to promote land-use patterns that minimise transport demands, save energy and protect open and green spaces. Appropriate urban density and mixed land-use guidelines are of prime importance for urban development."*

- HABITAT Agenda<sup>3</sup>

Urban development dynamics have greatly changed in Ireland. In addition to the migration of people from the country to the town, the centres of cities and towns have been subject to depopulation with a consequent fraying of the urban fabric. The trends towards less intensive urban patterns together with the consequent increasing separation between home, work and town centre have exacerbated the growth in private car traffic. This has led to increased energy use and emissions of air pollutants, and has militated against the effectiveness of public transport networks. The following actions will counteract these trends and promote more sustainable development patterns.

- There will be closer coordination of transport and land use planning so as to increase the use and efficiency of public transport, rather than private cars, particularly in the larger cities. The Dublin Transportation Initiative (DTI) noted that:

*"cities which have little or no influence on land use development policies beyond their administrative boundaries experience difficulty in providing high quality and accessible public transport systems within their catchment areas."*<sup>4</sup>

- The Department of the Environment will take an initiative to promote higher residential densities, particularly in redeveloping brownfield sites and in proximity to town centres, public transport nodes and access points, in consultation with local authorities, the architectural, planning and auctioneering professions and the house building industry. There has been in recent years an increased emphasis on infill and inner city social housing and the urban

renewal incentives have promoted private sector development in designated inner city areas.

- The proposed Department of the Environment guidelines on development plans (see Chapter 14) will stress the need to ensure a clear demarcation between urban and rural land use, to help prevent urban sprawl, encourage more sustainable development patterns in larger settlements, and help maintain the rural landscape.
- Local Agenda 21 initiatives by local authorities can bring together many critical urban policies, which influence sustainable development of urban settlements, including those on housing, environmental servicing, traffic management, open space and parks and recreational and amenity services.

The **Tidy Towns Competition**, for which the Department of the Environment assumed responsibility in 1995, represents a practical opportunity for local people to promote the sustainable development of towns and villages. Following an in-depth review the competition has been given a wider focus to encompass the totality of the urban environment, including wildlife, natural amenities, and landscaping. The Department of the Environment has in 1997 begun to provide a range of support services to assist Tidy Towns Committees in addressing the new criteria.

### Urban Regeneration

*"The challenge of urban sustainable development is to solve both the problems experienced within cities and the problems caused by cities, recognising that cities themselves provide many potential solutions."*

- European Commission, Expert Group on the Urban Environment<sup>5</sup>

The principles of sustainable urban development dictate that there must be continued evolution of policies which seek to bring redundant and derelict land and buildings back into active use.

Returning land and buildings to active use in itself meets sustainable objectives: it reuses available resources, contributes to energy efficiency, sustains the urban fabric, reduces the need to develop greenfield sites, and protects the countryside. Sustainable urban regeneration must go further than this by promoting uses that are supportive of urban life as a whole. Policies for achieving sustainable urban regeneration will have as key elements:

- **Integrated strategic economic and social planning** to link measures and programmes for urban renewal on an integrated basis to address the physical, economic, social and environmental regeneration of urban areas.
- **Ecological principles** will be applied in developing measures for more efficient use of water, heat, energy and light in buildings and to separate and recycle/reuse waste effectively, with increased emphasis on adequate open space for outdoor recreation and on planting and landscaping.
- **Improving accessibility** of areas in need of regeneration which tend to be isolated from mainstream activities in cities and towns: good public transport linkages are particularly important in this regard.
- **Environmental upgrading:** under the Urban and Village Renewal Sub-Programme of the *Operational Programme for Local Urban and Rural Development, 1994-99*<sup>6</sup>, investment will continue in a range of measures to promote the rejuvenation of towns and villages, rehabilitate the built environment and restore and conserve important heritage buildings.
- **Design flexibility** so that buildings are designed or adapted in a way which allows for as many uses, and as much flexibility of use, as practicable. Sustainable urban regeneration also requires a high degree of flexibility in the application of zoning and planning policies to

encourage a greater range of leisure facilities in town centres, the use of upper storeys for residential purposes and the conversion of out-moded buildings to new uses, e.g. obsolete commercial buildings to residential use. The *Guidelines on Residential Development in Designated Tax Incentive Areas*<sup>7</sup> were aimed at promoting significant improvements in this area. These will be reviewed by the Department of the Environment in the light of experience.

- **Open spaces:** within cities the main justification up to now for retaining open spaces has been to fulfil social functions such as the provision of meeting places, recreation areas, sports and entertainment facilities and general amenity value. While the need for these facilities will continue, open space can also fulfil various environmental functions in terms of surface water management, maintenance of biodiversity and improved air quality. Accordingly, from a sustainability perspective, there is need for a new emphasis on the environmental and ecological, in addition to the traditional social and amenity, roles of open spaces within the urban fabric.
- **Mechanisms and resources to overcome critical barriers** so that planned urban regeneration objectives can be achieved.
- **A partnership approach** involving cross-sectoral consultation and participation between local authorities and business and community interests and representative organisations.

A Consultancy study on the impact, effectiveness and cost of the tax-based urban renewal schemes in designated areas was completed in 1996.<sup>8</sup> The study recognised the value, in terms of sustainability, of renewing inner urban areas. While concluding that the schemes have been highly successful in directing investment towards the renewal of such areas, it recommended an approach to future policy based on the key elements referred to above. A consulta-

tion process in relation to the study has concluded and proposals for future action are being developed.

Following the enactment of legislation by the Oireachtas, the Dublin Docklands Authority is to be established on 1 May 1997, to lead the social and economic regeneration of the Docklands Area of Dublin.

### Urban-Generated Housing in Rural Areas

Although the predominant demographic characteristic of many rural areas is one of population decline, leading to vacant dwellings, there is, in some areas, severe pressure of demand for one-off housing to meet the needs of people working in nearby towns and cities. There is also demand to build tourist housing in scenic areas.

Growing demand for housing in the countryside from people working in cities and towns is generally unsustainable because:

- being separated from all other activities which the householder normally has resort to, such as work, shops, schools and entertainment, one-off housing is a large utiliser of energy;
- most one-off houses are served by individual septic tanks, raising concerns for groundwater protection;
- there are increased roads and transport costs; and
- there is a negative impact in terms of the urban fabric of towns.

In general, there must be a presumption against urban-generated one-off rural housing adjacent to towns. The Planning Acts enable local authorities to grant permission for dwellings for certain categories of person whose occupation requires them to be rurally based, thereby catering for genuine needs. However, certain principles should apply to all such development. These include:

- development along national primary and secondary roads should not be allowed for traffic safety reasons;

- the need to preserve outstanding landscapes and views of special importance should be recognised;
- the ability to integrate one-off housing into the landscape should be emphasised, through good design, good use of site and use of appropriate building materials;
- the site should be suitable for sewage disposal and drainage; and
- rehabilitation of derelict houses should, in certain instances, be encouraged as a more sustainable option than the construction of a new dwelling.

### Conservation of the Architectural Heritage

As with the natural environment, there is now much greater awareness of the value of conserving our built environment. The refurbishment of older buildings, while ensuring the retention of detail and character, revitalises cities and towns, supporting their aesthetic value and giving them a distinctive identity.

The report of the Inter-Departmental Working Group - *Strengthening the Protection of the Architectural Heritage*<sup>9</sup> - was published in September 1996. The report contains a comprehensive set of recommendations for the protection of the architectural heritage, including recommendations relating to legal, administrative and financial aspects. The Minister for the Environment:

- is now preparing extensive new legislative proposals along the lines recommended in the report; and
- is working with the Minister for Arts, Culture and the Gaeltacht on a joint package of administrative and financial measures to create a fully effective framework for protecting the built heritage.

The proposed legislation will include:

- an obligation on local authorities to maintain a formal record of protected buildings as part of the development plan;
- using the National Inventory of Architecture as a resource for local authorities;
- ensuring that, where a building is protected, the whole of the building, including interior and curtilage, is safeguarded;
- an active role for local authorities in ensuring that protected buildings are not endangered by neglect; and
- provisions in relation to special streetscapes and other features of interest which need to be protected.

The conservation and restoration of urban architecture and heritage buildings has also been addressed in the Urban and Village Renewal Sub-Programme of the *Operational Programme for Local Urban and Rural Development*. The Conservation Measure of this Sub-Programme provides financial support of up to 50% to local authorities, civic trusts and conservation groups to promote various urban conservation measures in towns throughout the country. The series of conservation booklets published by the Department of the Environment in 1996 is proving to be a valuable resource in terms of giving advice on a wide range of conservation issues and setting out principles of best conservation practice.

Following the recent review, additional flexibility in relation to the design and construction of buildings is being incorporated into the Building Regulations. As a result, designers will have the freedom to adopt more sympathetic and appropriate approaches to the refurbishment or conversion of existing buildings. This will, in particular, facilitate the refurbishment or adaptation of architecturally valuable buildings for new uses.

## Building Design and Construction

*"The basic principles of sustainable design are quite straightforward: minimise artificial lighting, heating and mechanical ventilation; avoid air-conditioning; conserve water; use site and materials wisely; recycle where possible. A great deal can be achieved by intelligent design and without using untried technologies."*

- GREEN DESIGN: *Sustainable Building for Ireland*<sup>o</sup>

Buildings consume land, energy, water and materials, and create waste. Sustainable building:

- optimises energy performance and reduces CO<sub>2</sub> emissions through, for example, location to maximise use of natural light and heat, good thermal insulation, and energy-efficient space and water heating;
- uses renewable materials, reduces use of non-renewable materials, and avoids use of synthetic materials which affect indoor air quality or comfort;
- promotes lower consumption of resources through the use of efficient components and fittings, such as low water consuming flush toilets, and water recycling systems in industrial premises;
- is designed flexibly to facilitate adaptation to changing uses in the interests of maximising lifespan; and
- encourages reuse of existing buildings, and of demolition spoil.

The Minister for the Environment launched a wide-ranging strategic review of the construction industry in March 1996. As part of the review, the Minister asked the Strategic Review Committee (SRC) to consider how the industry can optimise its contribution to the goal of sustainable development. Success in this respect will involve balancing the short-term perspective of market forces by the longer-term considerations associated with sustainability. Sustainability principles must underlie the implementation of future strategy for the construction industry.

## Energy Efficiency in Buildings

The Building Regulations and the associated Technical Guidance Documents contain advice on how energy conservation requirements should be met. Since the introduction of the Regulations in 1992, insulation levels are estimated to have increased by up to 50%. Overall energy use in new buildings is estimated to have been reduced by up to 20% as a result, generating annual savings of up to £100 (1996 prices) for the average house. It is also estimated that, by the year 2000, the new standards will result in a reduction of about 2% in CO<sub>2</sub> emissions arising from the heating requirements of buildings generally.<sup>11</sup> Further amendments to be made in regard to insulation standards arising from the recent review of the Regulations will yield additional savings in the order of 5% of energy use for space heating in respect of buildings.

The revised Technical Guidance Document will, for the first time, incorporate an optional Energy Rating System for new houses. This provides a measure of the energy requirement for space and water heating for standard conditions of usage and is expressed in terms of the energy requirement per unit floor area. In addition to showing compliance, this rating can be used to convey to house-buyers the advantages of levels of energy efficiency which surpass the requirements of the Regulations. Where the development provides additional insulation, the effect will be clearly shown in an improved rating. Thus, the enhanced energy efficiency is made transparent, providing meaningful information to the potential purchaser and a marketing advantage to the developer. The Irish Energy Centre which was set up to take a lead role in Ireland's energy programme is developing a software package to facilitate the design professions in using the Energy Rating System.

Fifty-eight houses have been completed and a further 500 are to be built as part of a project supported by the EU Thermie initiative to encourage the use of energy-efficient and environmentally

friendly building practices.<sup>12</sup> The project involves local authority, voluntary and private housing. The houses are innovative energy-efficient homes, built to give maximum comfort to the occupants and to cause minimum pollution of the atmosphere by incorporating tried and tested modern technologies.

Housing authorities were requested in 1996 to assign a high priority to energy conservation within their housing programmes and to develop and implement an effective energy conservation programme for their housing stock.

### Complementary Measures

In order to promote water conservation, the Department of the Environment will formally request the National Standards Authority of Ireland (NSAI) to revise the existing Irish Standard (I.S. 70:1970 - Water-Closet Cisterns for Domestic Use) to make provision for a flush toilet water cistern involving substantially lower water consumption. Following consultation at national and EU level, the revised standard should be operational by the end of 1999.

Ensuring sustainability in the long-term will require the use of a range of measures to complement the regulatory approach and reinforce or, where necessary, correct short-term market forces. In particular, within the framework of this Strategy, measures to be pursued will include:

- encouragement of voluntary codes of practice;
- use of voluntary, or mandatory, environmental performance assessment;
- improvement of scientific and technical knowledge; and
- use of fiscal instruments.

As pointed out in *GREEN DESIGN*<sup>13</sup>, "design for durability is superior to design for recycling. And recycling is superior to waste."

### Sustainable Housing

*"The design of the built environment is recognised as having an impact on people's well-being and behaviour and, thereby, on people's health. Good design in new housing and in upgrading and rehabilitation is important for the creation of sustainable living conditions."*

- HABITAT Agenda<sup>14</sup>

The basic principles of sustainability in building, referred to above, increasingly inform policy decisions in regard to:

- the design, quality and location of new housing; and
- the maintenance, refurbishment and improvement of the existing housing stock.

In the housing context, the concept of sustainability has a social as well as an environmental dimension. Positive measures to counteract social segregation and to promote tenant participation and involvement contribute to this social dimension.

### Fig 15.1 Major Redevelopment for Ballymun

In March 1997, the Minister for the Environment and the Minister for Housing and Urban Renewal announced a major redevelopment of the Ballymun housing estate, costing about £180 million. This will be the central element in an integrated strategic plan for the economic and social development of Ballymun. The tower and spine blocks of flats will be demolished progressively over eight years and replaced with a self-sustaining urban centre for the 20,000 people who will continue to live in, and around, the area. The plan will include arrangements for consultation with, and involvement of, the local community in its implementation.

### New Housing

The current high level of house building consumes an estimated 2,000-2,300 hectares of serviced land annually. In recent years, the greater emphasis on infill developments and increased apartment building in the private housing sector has resulted

in higher density developments and a considerably more intensive use of land by the housing programme. Apartments currently represent about 20% of new housing completions and around 40% of completions in Dublin.<sup>15</sup> Nevertheless, much of the land absorbed by the housing programme is good agricultural land located on the fringe of urban areas or in rural areas. Housing demand is likely to remain at a high level as, relative to Western European norms, the housing stock is small in relation to the population. Future development must be as prudent as possible in the consumption of land and demand for services.

Local authorities have been requested by the Department of the Environment to develop, as far as possible, infill sites for local authority housing to enable new housing to be integrated with existing communities. This has fundamentally changed the nature of the local authority housing programme.

### Existing Local Authority Housing

A number of schemes exist to assist local authorities to improve substandard housing and upgrade the physical environment in certain older local authority housing estates. The most significant of these, the Remedial Works Scheme introduced in 1985, enables local authorities to carry out major improvement works to substandard elements of their rented housing stock, certain pre-1940 dwellings and inner city flat complexes. Since 1985, some 6,500 units have been improved, with capital investment of some £155 million by 1996, and a further £18.7 million has been provided for the programme in 1997.

An Estate Improvement Programme, with £3 million in funding over two years, has been introduced in 1997 arising from the first report of the Ministerial Task Force on Measures to Reduce the Demand for Drugs. This Programme will assist local authorities in tackling environmental and related problems of severely run-down urban housing estates and flat complexes. It will help to eliminate or modify certain undesirable aspects of the design and layout of estates, carry out improvement work to enhance the living environment for tenants and establish

improved estate management arrangements. This new Programme will be focused on "priority areas" in Dublin - both City and County, and in the Cities of Cork and Limerick.

There are a number of important sustainability aspects to these schemes:

- the quality of existing substandard housing is improved and its lifespan expanded;
- environmental improvement works are carried out in conjunction with the structural works to the dwellings, to renew and improve general living conditions and the visual attractiveness of the estate; and
- there is consultation with tenants at every stage of the project and they have a continued participation in management of the improved estate.

### The Social Dimension

A strategy to counteract social segregation in housing was first set out in *A Plan for Social Housing*<sup>16</sup> (1991). The policy was to replace the traditional, almost exclusive, reliance on the local authority house building programme as the response to social housing needs with a range of options, including an expanded voluntary housing sector and new measures to assist marginal home owners, such as the shared ownership system.

In order to mitigate the extent and effects of social segregation in housing and to improve social mix, local authorities are encouraged to provide new housing in smaller developments and, where possible, to avoid adding to existing large scale local authority housing estates. They have been requested to:

- consider purchasing existing or new houses, as an alternative to new building by the authority;
- avoid large concentrations of single class houses and encourage the achievement of a good social mix; and
- make existing lands owned by authorities which are suitable for housing available to individuals, voluntary bodies and co-ops.

These policies were further accentuated in the latest housing policy document *Social Housing - The Way Ahead*<sup>17</sup> (1995).

As indicators of the success of these policies:

- less than 10% of new local authority housing built in 1994 and 1995 was on greenfield sites; and
- the purchase of existing housing accounted for over 16% of the total housing programme in 1994, and 23% in both 1995 and 1996.

**Fig 15.2** Social Integration in Practice  
Housing at South Douglas Road, Cork

A recent housing development at South Douglas Road, Cork, is a good example of how local authorities can influence the creation of communities with a mix of housing tenures.

Cork Corporation, with the National Building Agency, carefully planned the development of a sixty acre site to illustrate the range of housing options that can be successfully achieved in a single location. The northern edge of the site was bounded by existing private housing and new private housing was built on Corporation land to the west. At the southern extremity of the lands, the Corporation provided housing sites at low cost to a voluntary housing agency to develop 30 houses and a community centre. The Corporation developed 104 local authority houses, in four phases, catering for a range of needs by providing two, three and four bedroomed houses, a number of which were specifically designed for people with disabilities. The Corporation also provided low-cost housing sites to persons in housing need and arranged for the construction of 16 houses for sale under the shared ownership system.

Apart from the range of housing to meet different needs, the Corporation provided sites for Nemo Rangers Gaelic Football Club, a running track for Tramore Athletic, public open space, and a playing pitch for the local community school in this location.

## Tenant Participation

Sustainability in housing requires tenant participation and empowerment. Good housing management must convey to tenants that they have a genuine stake in their home and in their neighbourhood. Tenant participation has been a notable feature of the voluntary housing Rental Subsidy Scheme since its introduction in 1991. Local authority housing management now involves a greater emphasis on tenant and staff training, and tenant participation, in order to help foster strong communities in local authority housing estates.

A Housing Management Group comprising senior officials of local authorities and the Department of the Environment has been established to identify and promote best practice in the housing management area. This Group has already established a consultation process to enable tenants to contribute to its work. The Group's first Report<sup>18</sup> (December 1996) specifically endorsed the potential benefits of tenant involvement and set out general guidelines on best practice in this area.

## Future Housing Policy

For the future, housing policies should continue to develop in a direction which promotes more sustainable settlement formation and building practices, encourages housing that is closer to the centre, which is more amenable to public transportation options and which achieves greater social integration.

# Chapter 16

## Public Action and Awareness

*"For consumers, concern for the environment now transcends the physical surroundings of where they live, to include the food they eat, the products they use, where they go on holiday, and the sort of world their children and grandchildren will inherit."*

-Forfás *Shaping our Future*<sup>1</sup>

### Introduction/Overview

Individual members of the public often express concern about environmental problems, both national and international. Growing awareness of the implications of climate change and other global environmental issues is paralleled by concern about national developments such as:

- increasing production of waste and the difficulties involved in its disposal;
- the pollution of inland waters by agricultural or industrial emissions;
- the use and depletion of natural resources; and
- the problems of road congestion with resultant air pollution and noise caused by increasing vehicle numbers.

Public concern about the natural environment, and unsustainable practices which threaten or damage it, is well developed in Ireland. However, this concern is not always translated into action at individual and consumer levels to support solutions to these problems.

Large problems are often the sum of individual actions and choices, and can be ameliorated by small, incremental steps which change individual consumer behaviour (e.g. minimising and recycling household waste, leaving the car at home, conserving water and energy). Encouraging and educating consumers on how to take these steps is an objective of Government policy on sustainable development.

*"It is on the level on which we lead our daily lives - in the distance and way we must travel to work, in the amount of rubbish we generate - sustainability will stand or fall. And it is to this that we should turn our attention."*

- An Taisce West Cork<sup>2</sup>

**Fig 16.1** Europeans and the Environment, 1995<sup>2</sup>

*Is protecting the environment and fighting pollution an immediate and urgent problem?*

- 76% of Irish people said Yes (up from 70% in 1992)

*Which should get priority - economic development or environmental protection?*

- 68% of Irish people said that while economic development must be ensured, the environment must also be protected (up from 59% in 1992)

*"Serious environmental damage", according to Irish concerns, was caused by*

- factories which release chemicals into the air and water (68%)
- storage of nuclear waste (48%)
- oil pollution of seas and coasts (44%)
- industrial waste (43%)
- excessive use of herbicides, insecticides and fertilisers in agriculture (37%)
- rubbish in the streets, in green spaces and on beaches (29%)
- sewage (28%)
- air pollution from cars (24%)

**Fig 16.2** Consumer Interactions with the Environment

*General consumption/purchasing*

- consumer demand has the potential to influence significantly the market and production

*Energy consumption*

- the domestic sector accounts for 28% of energy consumption in Ireland, second only to transport (31%)

*Emissions to air*

- the domestic sector accounts for one-third of national energy-related CO<sub>2</sub> emissions

*Water consumption*

- the growing household demand for water, particularly in urban areas, has led to occasional shortages of supply

*Transport*

- increasing transport volume, including over 990,000 private cars, contributes to traffic congestion

*Waste production*

- total household waste production is estimated to be over 1,300,000 tonnes per annum - 11.5% of the total non-agricultural wastes in 1995

## Consumer Interactions with the Environment

### Sustainable consumption

*"In a world with finite resources and environmental limits, affluent consumers will need to use less of the world's resources, so other consumers may claim their rightful share of the Earth's resource wealth. Consumption patterns in the Northern Hemisphere need to change so that consumer standards are maintained or improved, while less resources are used and less waste and pollution are created."*

- Erna Witoelar, President, Consumers International<sup>4</sup>

The concept of sustainable production and consumption has been referred to in Chapter 9, largely in the context of production. It is, however, also relevant to domestic consumption and consumer demand. Maintaining the choice of a wide variety of goods, available all year round (even if this means importing seasonal foods from the far side of the globe, with significant transport implications) feeds the industrial production cycle. Advertising and marketing strategies suggest that ever more consumer goods are essential for the modern home. Against this background, the purchasing power of the "green" consumer has the potential to be a significant force for sustainability.

Individual action in response to growing awareness of the environmental implications of lifestyle has included the development of **green consumerism**, i.e. discrimination on the part of the consumer in favour of environmentally-friendly products and services. This is particularly evident in northern European countries, where consumers are prepared to pay more for greener (or organic) products or services. The 1995 survey *Europeans and the Environment* concluded that "changing consumption habits is a step that Europeans are prepared to take to curb or even stop the deterioration of the environment".<sup>5</sup> This consumer willingness provides economic opportunities for companies whose products or services have perceived environmental advantages.

The informed consumer can exert considerable pressure on producers, suppliers and retailers regarding the type of goods produced for sale, including their content and method of production, packaging and facilities for disposal. This pressure can affect many sectors of the economy, including agriculture (through demand for organically-produced food), and industry (by demand for longer-life and energy-efficient household appliances, less use of toxic chemicals in products and processes, and less packaging). Consumer pressure can affect services as well as goods, including repair and conversion, transport and tourism. Other areas where consumer behaviour and preferences can influence more sustainable consumption and production include:

- demanding and supporting goods which are less materially-intensive, e.g., products which are eco-efficient in their design and manufacture;
- using durable rather than throwaway products, repairing and recycling goods where possible; and
- leasing, instead of buying, large household appliances, and buying services rather than purchasing goods.

Production and consumption are at the core of present day economic activity, and are the driving forces of modern lifestyles. Ultimately, the end consumers of goods and services can create a major impetus for sustainable development by informed and aware choices. To improve information on the environmental impacts of goods, and reinforce opportunities to choose the most environmentally-friendly goods, the Government will ask the Director of Consumer Affairs to consider new arrangements for providing full and authoritative environmental information to consumers. The Office of Consumer Affairs will also be asked, in consultation with the Departments of Enterprise and Employment and the Environment, to prepare a **Code of Practice** on green marketing, to which producers and retailers may voluntarily subscribe.

The EU Eco-label Scheme was introduced under a 1992 Regulation as an information aid for consumers, setting criteria for categories of products which establish their environmental credentials. To date ecological criteria have been set for 12 product groups: washing machines; dishwashers; soil improvers; toilet paper; paper kitchen rolls; laundry detergents; double-ended light bulbs; single-ended light bulbs; bed linen and T-shirts; copying paper; indoor paints and varnishes; and refrigerators. The EU is committed to the concept as a visible sign to consumers that manufacturers are taking environmental issues into account. The Eco-label Scheme is currently under review and the possibility of extending it to the services sector is being examined.

### Energy consumption

The implications for sustainable development of Ireland's increasing energy consumption have already been analysed in Chapter 8. The contribution of the residential sector, at 28% of total energy consumption in 1993, makes it second only to transport as the largest sectoral consumer of energy.<sup>6</sup> The residential sector (including emissions from electricity generation which is consumed in the sector) accounts for approximately one-third of national energy-related carbon dioxide (CO<sub>2</sub>) emissions. In effect, Irish homes represent the single biggest contributor to emissions of CO<sub>2</sub>, a major factor in global warming and climate change.

The financial costs of domestic energy consumption are illustrated in figures prepared by the Irish Energy Centre; the average household energy bill is estimated at £675 per year (1995 prices), which indicates a total annual energy cost for the 1.15 million Irish homes of over £750 million. The Centre also estimates that average energy costs in an uninsulated house are £2.80 per day, or over £1,000 a year. Simple conservation measures which can save energy, and thereby reduce these costs are outlined in Fig 16.3. The message is clear; energy wasted is money wasted.

**Fig 16.3** Examples of Home Energy Conservation Measures

<i>Measure</i>	<i>Typical cost</i>	<i>Typical payback period</i>
Hot water cylinder insulation	£10	2-4 months
Draught-proofing (average house)	£55	1-3 years
Attic insulation (150 mm.)	£135	approx. 3 years
Cavity wall insulation	£300-£500	3-5 years

Source: Irish Energy Centre<sup>7</sup>

The potential for Irish consumers to save energy in the home is also highlighted in an ESRI study on energy conservation in the home, published in 1993.<sup>8</sup> This showed that:

- only 66% of households had attic insulation (described by the Irish Energy Centre as one of the most cost-effective ways of achieving energy savings in the home);
- only 59% had lagged their hot water tanks (which can save 30% of the energy used to heat water); and
- only 32% had double glazing.

While these figures represented an improvement over the position reported by An Foras Forbartha in a previous (1985/86) survey<sup>9</sup>, they demonstrate that there is still significant scope for further savings in domestic energy consumption. The savings benefit the consumer financially, while the environment benefits from the effects of reduced energy consumption, including lower CO<sub>2</sub> emissions.

### **Water consumption**

Domestic water requirements are increasing throughout most of Europe. This increase is partly associated with changes in household structure and in living patterns (e.g. the trend is towards smaller households, which tend to be less resource-efficient). Increased availability and use of domestic appliances such as washing machines and dishwashers, arising from improved economic conditions, results in a greater volume of water used and of sewage/waste water produced. Greater emphasis on personal hygiene leads to increased use of water in baths and showers. Gardening practices such as the use of hosepipes and sprinklers also increase pressure on water resources, particularly during summertime when these resources are at their most limited.

*"Domestic and commercial water requirements, in urban areas, amount to approximately 250 litres per person per day."*

- Environmental Protection Agency<sup>10</sup>

Water losses through leakage and other faults in the supply system have been identified as a major factor in shortages and ability to meet growing demand, as well as an inefficiency in the economics of water supply and treatment. The domestic contribution to these water losses is often underestimated, yet a dripping tap or leaking water fitting can waste many thousands of litres of water in a year. It has been estimated<sup>11</sup> that domestic losses in the greater Dublin area, for example, amount to approximately 5% of total supply. While modest in the overall context of water losses, this represents some 60 litres per property per day. Distribution losses are being addressed by the public authorities concerned. Individual consumers can save water by simple measures such as fixing leaks and dripping taps, choosing more water-efficient washing machines/dishwashers when purchasing these appliances, and economising in the use of water for gardens.

Questions are being raised in a number of countries and organisations - particularly by environmental NGOs - about the possibility of using either untreated or "grey" (recycled) water within the domestic setting. While all water supplied to households meets the high standards specified for drinking water quality, only a small percentage of this water is actually used for drinking or cooking. Most is used for bathing, washing clothes and other goods, flushing toilets and other miscellaneous uses such as washing cars and watering gardens. A dual supply system, which would allow the use of untreated or recycled water for these latter purposes would have the potential to save water and also economise on both the costs of treatment and the use of chemicals. However, a duplicate system would be expensive to install, and might not be economically justifiable. In all likelihood, this is not an option in the short-term. A more practicable alternative would be for consumers to recycle water within their households, for example, by using rainwater and water from washing for garden purposes or for car washing.

### **Transport**

*"A cyclist can travel 1,600 miles on the energy equivalent of one gallon of petrol."*

- Global Action Plan Ireland<sup>12</sup>

People, as consumers of transport, also have a significant impact on growth in the transport sector and its environmental implications, including energy consumption. With over 990,000 private cars registered at the end of 1995 and car sales in excess of 100,000 units during 1996, private transport is placing increasing pressure on the environment and sustainability, in terms of air pollution, congestion, noise, etc., as detailed in Chapter 10.

Consumer action to ease these pressures can take many forms; transport volume growth can be curbed by the use of alternatives to private cars. These may include:

- **using public transport**, where this is an option. This Strategy places emphasis on better public transport options and traffic management measures, particularly in urban areas;
- **choosing to walk or cycle**, especially for short journeys; where safe cycling facilities are not available, consumers can actively seek them, for example, by participating in the local planning and development process. The Dublin Transportation Initiative set out criteria for the development of cycle facilities and emphasised the importance of creating an efficient and convenient network of such facilities; the basis of their approach was that the overall aim of cycling policy should be to increase the share of travel undertaken by bicycle; and
- **making car-pooling arrangements** with colleagues for commuting to work, with neighbours for school runs or shopping trips, with friends for social occasions; this cuts down on the number of cars on the roads and increases the efficiency of car transport.

Where cars are used, there is also considerable scope for consumers to use unleaded, rather than leaded petrol, and, when buying new cars, to choose more efficient and less polluting models.

### Waste

*"Almost everybody in Ireland contributes to the growing waste stream and so must bear a share of responsibility for what is produced."*

- Environmental Protection Agency<sup>13</sup>

While the contribution of the domestic sector to the overall waste stream, at 11.5% of total non-agricultural wastes, is relatively modest, it is part of the noticeable trend of increasing amounts of waste produced by Irish society. Domestic waste is biogenic in composition and has, therefore, a potentially greater impact on the environment than more inert wastes, such as construction wastes. Domestic and commercial waste increased

by around one-third over the past decade.

A continuing increase in waste production is not sustainable. Improved recycling rates and better disposal practices can reduce environmental impacts, but volume is the first issue for sustainability. Waste minimisation/reduction at source is paramount, followed by recovery, reuse and recycling, with disposal as the final resort.

Previous chapters have addressed wastes produced by the main economic sectors, principally agriculture and industry. However, the role of individual consumers and households in, firstly, minimising waste production, and secondly, reusing and recycling waste material, is also important. At present, only a very low proportion of domestic waste is recycled; the vast bulk of consumer waste goes directly to landfill.

*"... it is estimated that, theoretically, between 70 and 80 per cent of the household and commercial waste stream is either recyclable or re-usable. This figure reduces to about 60 per cent when the practical problem of contamination is accounted for."*

- Environmental Protection Agency<sup>14</sup>

The national recycling strategy *Recycling for Ireland* (1994) focuses on the possibilities of recycling domestic and commercial waste, and will divert 20% of this waste to recycling by 1999. Government policy is to provide for the supporting infrastructure to meet this target; this includes expanding the number of collection points to a total of 500 multi-material sites, including 20 civic amenity sites for this purpose in the short-term and 75 in the medium-term. Consumers must play their part in availing of the opportunities provided. This consumer support is evident in relation to existing recycling schemes, such as Kerbside in Dublin which now involves some 42,000 households.

Past surveys of public attitudes to the environment have identified litter as a major concern,

possibly because it is the most widespread and visual example of waste production. The Government launched the national *Action Against Litter*<sup>15</sup> campaign in 1996, and is committed to sustaining it over the next two years. The campaign is an integrated approach to a key environmental issue which is readily amenable to individual and community action. It includes the promotion of awareness of, and a more responsible attitude to, litter to motivate the public to tackle the problem. Local and national voluntary groups are being invited to participate actively in the campaign, which will also target measures at specific groups such as motorists, shoppers, public transport users and leisure groups.

Legislation will be strengthened; a new Litter Pollution Bill, which will replace the *Litter Act, 1982*, is progressing through the Oireachtas and when enacted, will be vigorously implemented. This will broaden the powers of local authorities to deal with litter polluters and place a renewed emphasis on the responsibility of individual citizens for litter control. Penalties for litter polluters will also increase. Clear goals will be agreed for improving local authority performance in preventing and controlling litter with a strong emphasis on effective enforcement of legislation.

**Fig 16.4** Europeans and the Environment, 1995

Within Ireland, the greatest concerns of the respondents were

1. *pollution of rivers and lakes; pollution of seas and coasts; and industrial waste*
2. *harm caused to animals, plants and the natural habitat; pollution of agricultural origin (insecticides, pesticides, slurry, etc.); and risks connected with the use of nuclear power*
3. *air pollution; and possible risks for the environment from the development of biotechnologies*

In the respondents' immediate environment, the greatest causes of complaint were

1. *the amount of traffic*
2. *waste disposal*
3. *drinking water quality*
4. *air pollution*
5. *damage to landscape*

### **Supporting Consumer Responsibility for the Environment**

There is an ongoing need to increase public sensitivity to environment and development problems and at the same time to encourage individual involvement in their solution. Personal environmental responsibility must be encouraged to create greater motivation and commitment towards sustainable development. To achieve these aims, *Agenda 21* set as an objective:

*"to promote broad public awareness as an essential part of a global education effort to strengthen attitudes, values and actions which are compatible with sustainable development".*<sup>16</sup>

**Fig 16.5** Europeans and the Environment, 1995

What did/would Irish respondents do to protect the environment?

- *avoid dropping paper and waste on the ground (89%)*
- *save energy, e.g. by closing doors/windows and using less hot water (60%)*
- *buy environmentally friendly products, even if they were more expensive (43%)*
- *save tap water (42%)*
- *sort household waste for recycling (39%)*
- *use less-polluting transport than a private car (28%)*

### ***The role of community and environmental groups***

Growing environmental awareness reflects local concerns about environmental quality and resources, growing media coverage of the environment and the campaigning activities of community and environment groups. Advances in the understanding of environmental sciences, increased material prosperity and a level of globalisation which underlines the interconnectedness of environmental systems and resources have also contributed to this heightened environmental awareness, which encompasses world environmental issues such as climate change as well as local concerns more directly amenable to individual action.

The *Clean Up The World Campaign*<sup>17</sup> was developed in Australia in 1989, and has operated in Ireland since 1993 under the coordination of the Dublin Healthy Cities Project. Based on the principle of "Think Globally - Act Locally", this initiative unites people in over 1,000 cities around the world in carrying out a simultaneous clean-up of their local environs on one weekend each year. Activities undertaken to date in Ireland have included the clean-up of rivers, woods, beaches and local areas, as well as graffiti removal, tree planting, exhibitions, street

theatre and competitions. The aims of the campaign include raising awareness of local environmental issues, particularly in relation to waste minimisation, recycling and waste management, and serving as a catalyst for permanent changes in attitudes and behaviour. The annual event also helps to instil respect for the environment in participants and can make the introduction of more sustainable policies and practices, such as recycling, more acceptable to consumers.

### **The GAP Household ECOTEAM Programme**

... is designed to guide and support individuals in taking effective action for the environment through:

- reducing waste;
- improving water and energy efficiency;
- improving transport efficiency;
- becoming eco-wise consumers; and
- empowering others through home, workplace and community action.

*Global Action Plan (GAP)* originated in the United States in 1990 to help householders to adopt sustainable lifestyles. The central principle is that individual action can make a difference, and that the actions of individuals are greatly enhanced by teamwork and the provision of proper support structures. People work together in teams of 4 to 10 households and, with guidance, learn simple and practical ways of reducing their impact on the environment by taking action at home and in their community. Teams estimate their impact on the environment before and after the programme by conducting a household audit. GAP is now operating in the United States, the Netherlands, Sweden and the United Kingdom and is being developed in Canada, Belgium, Finland and Poland. The GAP approach has now been launched in Ireland, with the assistance of the Department of the Environment and a number of local authorities, as a practical contribution towards the achievement of Local Agenda 21 objectives.

Local authorities should support similar individual and community activities within their functional areas, which can contribute to enhancing consumer awareness and action achieving sustainable development. The Department of the Environment will develop innovative mechanisms to continue support for specific environmental projects carried out in partnership, including a new Environment Partnership Fund (see Chapter 19).

#### **Environmental awareness and education**

*"The sustainable future of our cultural and physical life depends upon the education of the public".*

- An Taisce West Cork<sup>18</sup>

Progress in solving environmental problems depends fundamentally on the values, attitudes and behaviour of individuals in relation to their environment. These, in turn, can be formed and informed by processes of awareness and education.

#### *Access to environmental information*

Environmental education and awareness must be viewed in the broadest context, which includes access to information and the dissemination of information to the public. The informal and non-academic aspect of enhancing environmental awareness in this way embraces the whole population, not just those in formal education. An essential element in encouraging people to change their behaviour is to make information readily available. This will promote understanding of the long-term benefits of environmentally-friendly behaviour maximising the sustainability of our natural resources.

The *Access to Information on the Environment Regulations, 1996*, implement a number of improvements in the statutory guarantee of access to environmental information. In line with Government commitments to improve access to information generally, these Regulations will be reviewed in the context

of the new Freedom of Information legislation. In particular, a system for appeals in cases where access to environmental information is refused will be implemented by the end of 1997. The Department of the Environment will prepare a **Code of Good Practice on Issuing Environmental Information**, for implementing authorities.

The publication in 1997 of the first Pollution Emissions Register, and the making of regulations under the *Waste Management Act, 1996*, to provide for a Toxics Release Inventory (see Chapter 9) will provide additional sources of information relating to the environment. In addition, the forthcoming publication by the Department of the Environment of a comprehensive list of public rights to information from local authorities (in accordance with the commitment in *Better Local Government*) will further enhance access to information.

*"The successful implementation of recommendations arising from the Strategy will require the full involvement of the general public. In this regard, the Strategy should lead to the production of a concerted programme of education, training and awareness raising."*

- Earthwatch/Friends of the Earth Ireland<sup>19</sup>

#### *ENFO - The Environmental Information Service*

Over 345,000 people have visited the headquarters of ENFO since its establishment by the Department of the Environment in 1990.<sup>20</sup> Increasing attendance levels and the volume of queries received are indicators of increasing awareness of environmental issues in the community as a whole and of the success of ENFO.

ENFO provides information to its target groups - the general public, schoolchildren, students, NGOs, and industry and business interests - in a variety of ways, including a query-answering service, information leaflets, a video-lending service, exhibitions, lectures and other activities. The facilities available at the ENFO centre are comprehensive and include an extensive reference database with on-line access to inter-

national databases. On-line connections to the ENFO database are also now in place in 36 public libraries, spread over 26 counties, where they are available for use by members of the public. ENFO has also established a site on the Internet.

ENFO will continually review its services, in consultation with its organisational and individual customers, so as to maximise their value and impact. The Department of the Environment will continue to support and develop the role of ENFO as a core resource in the area of environmental awareness building. Measures to be taken in this regard will include:

- accelerating development of the ENFO Internet service, through the further development of an integrated site to include access to the ENFO database and links with the EPA and the European Environment Agency;
- enhancing linkages between ENFO and the County Library Services, replacing the current on-line database access with an Internet-based service and also providing a CD-ROM database service; and
- inviting local authorities to appoint environmental information officers and to draw on ENFO as a key resource in the provision of environmental information.

#### *Environmental education*

*"Environmental education should be included in, and should run throughout, the other disciplines of the formal education curriculum at all levels - to foster a sense of responsibility for the state of the environment and to teach students how to monitor, protect and improve it."*

- **The World Commission on Environment and Development**<sup>21</sup>

The formal education system also has a crucial role in promoting environmental awareness. The potential of the education system to inform attitudes and behaviour from an early age can

be a major force in support of consumer understanding and acceptance of sustainable development.

Environmental education not only promotes more responsible citizens by making them aware of problems but can provide them with the skills to participate in environmental management. This will be assisted by a more practical, dynamic and operational approach to environmental education. The overriding objectives should be to lay the foundations for a fully informed and active participation of the individual in the protection of the environment and the prudent, rational use of natural resources.

Education will continue to play a vital role in protecting the environment and all stages of the formal education system should contain an environmental component. Environmental education can provide a sound basis for sustainable development and it should be integrated into all educational systems. To achieve this the objective should be to:

- make environment and development education available to people of all ages;
- work such concepts into all educational programmes with analyses of the major issues; and
- involve schoolchildren in local and regional studies and activities on environmental issues, and the environmental and economic impacts of resource use.

Even simple activities such as nature walks and nature study tables can be developed to encompass broader issues such as improvements to school premises, gardens and parks, energy saving and recycling. These local projects can be run with the support, financial and otherwise, of the local authorities. In addition, each educational institution should carry out an internal eco-audit.

*"In order to ensure the future wellbeing of our total environment, natural and man-made, it is necessary to enlist the support of our children. It is they, and future generations, who will one day inherit the overall responsibility of caring for our environment."*

**- Report of the Inter-Departmental Working Group on Environmental Awareness<sup>22</sup>**

The need to develop identification with sustainable development in children from an early age is recognised. The education system has a key role to play in this process, both in terms of developing a fully integrated environmental dimension across the curriculum and in terms of promoting responsible environmental behaviour among young people in the school and its environs.

A *Green Schools* award scheme is being introduced to Irish schools in 1997 by An Taisce; this is part of a European-wide programme coordinated by the Foundation for Environmental Education in Europe (FEEE). The scheme, which is being run in Ireland in conjunction with local authorities, will be judged on a combination of a school's commitment to environmental education and the greening of the school itself. The Department of Education will, in consultation with the Department of the Environment, support the awards scheme which recognises schools that make a particular effort to support sustainable living.

At the higher educational levels, environmental education can also be effectively implemented through integrating environmental education concepts, skills and strategies throughout the existing general curriculum. This has a two-fold advantage:

- firstly, integration of environmental education would enhance existing programmes without competing for limited curriculum time and resources; and

- secondly, environmental education shares subject content and intellectual processes with many other disciplines such as the sciences, sociology and communications.

The third level sector has demonstrated a strong commitment to maintaining and enhancing environmental quality and a keen interest in responding to the needs of industry in the area of environmental protection and design. Positive action and awareness, understanding, and the protection of the environment are integral to many other areas of study (e.g. CERT and tourism related courses). The sector is also active in the field of environmental research.

The Departments of Education and the Environment will further strengthen bilateral contacts on environmental education matters and will set up a liaison committee to discuss matters of mutual interest. Consideration will be given to appropriate measures relating to curriculum, teacher training (both pre- and in-service) and provision of appropriate resources. In particular, Education Boards and schools will be directed by the Minister for Education to include in their Education Plans and School Plans, required by the new Education Bill, an environment policy statement in relation to the content of educational programmes and the management of facilities. ENFO will be promoted as a key resource and schools will be invited to capitalise on growing IT facilities by linking into ENFO's developing Internet service. Greater links between ENFO and the Regional Education Centres (formerly Teachers Centres) will also be developed.

### **Corporate citizenship**

The need for heightened public awareness of environmental threats and opportunities is as relevant to the corporate as the individual citizen, to Government as to the private sector. All organisations create an environmental impact as corporate citizens of their communities which is distinct from any licensable emissions which may result from their core activities. It is essential, therefore, that awareness of environmental effects among organisations and employees is not confined to the private lives of individuals but extends into their corporate lives. So, for example, awareness of the need to conserve, to reuse and to recycle should be promoted so that it is seen to be as relevant in the workplace as in the private lives of employees. Details of the approach being adopted by Government in relation to its own staff are given in Chapter 19.



# Chapter 17

## Ireland in the International Community

### Introduction

Recent decades have seen intensified international cooperation in relation to the environment; this is now reflected, *inter alia*, in some 180 international conventions relevant to the environment and sustainable development. This international cooperation is driven by increasing concern about global problems (such as climate change, ozone layer depletion, deforestation and loss of biological diversity), as well as by the transboundary dimension of many environmental problems. The environmental impacts of the increasing globalisation and liberalisation of trade (see Chapter 12) also underline the need for global cooperation in relation to environmental protection and sustainable development.

There is a growing emphasis on environmental issues in the work programmes of international organisations, including the United Nations (UN), the Organisation for Economic Cooperation and Development (OECD) and the World Trade Organisation (WTO). Environment policy and legislation have been developing at European Union level for the past 25 years and exert a major influence on environmental standards and objectives at Member State level. In addition, the EU, acting alongside its Member States, plays an influential and progressive role in wider international fora such as the UN Commission on Sustainable Development and OECD.

Active participation in international cooperation for the environment is now an integral part of Irish foreign policy, as set out in Chapter 13 of *Challenges and Opportunities Abroad*<sup>1</sup>, the White Paper on Foreign Policy published in 1996. In accordance with the *Declaration on the Environment*<sup>2</sup> adopted by the European Council meeting in Dublin in June 1990, Ireland participates fully in efforts at UN and EU level to combat regional and global environmental problems and to advance sustainable development. Ireland is committed to cooperating in the use of world resources in a manner which benefits both the global environment and the economies of the developing countries.

### United Nations

Ireland was one of some 130 countries which participated in the UN Conference on Environment and Development (UNCED) held in Rio de Janeiro in June 1992. At UNCED, agreement was reached on:

- the *Rio Declaration on Environment and Development*, a charter of basic principles for sustainable development;
- *Agenda 21*, a global plan of action to address the challenge of sustainable development into the 21st century, which calls on countries to follow practical action programmes in their own environment and development policies;
- two major new international conventions on Climate Change and Biological Diversity;
- the commencement of negotiations for a convention on Desertification (subsequently adopted, and signed by Ireland); and
- a *Statement of Principles on Forests*, which outlined a number of principles for conservation, management and sustainable development of all types of forests.

### Framework Convention on Climate Change

This Convention seeks to address the global threat of climate change, and to develop concerted action to mitigate its adverse environmental, economic and social consequences. All parties to the Convention are required to undertake general commitments, including the preparation of national inventories of greenhouse gas emissions and the adoption of national programmes for mitigating climate change. These obligations have been fulfilled by Ireland, which is also participating in current efforts to strengthen its provisions (see Chapter 8). The Convention entered into force in 1994.

### Convention on Biological Diversity

This Convention, which has been ratified by Ireland, aims at protecting global biodiversity. One of the major commitments required of parties to the Convention is the preparation of national plans for the protection of biological diversity; Ireland's plan is currently being prepared by the Department of Arts, Culture and the Gaeltacht and will be completed by end-1997.

### **Forestry Principles**

The statement of principles on forestry, outlined at Rio, is being developed internationally by an intergovernmental panel, established at the third session of the Commission on Sustainable Development. At European level, progress is largely being advanced through the Helsinki process, which commenced at the 1993 Ministerial Conference on the Protection of Forests in Europe (see Chapter 6). Ireland is participating actively in this process.

### **UN Commission on Sustainable Development**

The Commission on Sustainable Development (CSD) was established to promote and monitor effective international follow-up to the Rio agreements. Its work includes international cooperation in such sectors as trade, the environment and sustainable development as well as cooperation in the transfer of environmentally sound technologies. The Commission meets annually to review progress on the objectives agreed at Rio.

Ireland originally attended meetings of the CSD as an observer, but was elected to full membership in 1996, and commenced a three-year term of office on 1 January, 1997. This will enable Ireland to play an important role in formulating policy on the protection of the global environment, and in particular, to participate fully in the preparations for the UN General Assembly Special Session to be held in June 1997 to review progress since UNCED.

### **Global Environment Facility (GEF)**

The GEF is the primary funding mechanism for environmental measures having global environmental benefits, including the areas of climate change, biological diversity, international waters and ozone depletion. It will act as the interim financial mechanism for the Conventions on Climate Change and Biological Diversity. Ireland is committed to subscribing £1.64 million to GEF over the four years which began in 1996.

### **Other UN developments**

Many of the objectives of UNCED have been paralleled and enhanced since 1992 by other major UN conferences which have focused, in particular, on the social aspects of sustainable development. These included the Conference on Population and Development (Cairo, 1994), the World Summit for Social Development (Copenhagen, March 1995) and the Fourth International Conference on Women (Beijing, September 1995). More recently, the Second International Conference on Human Settlements (HABITAT II), held in Istanbul in June 1996, also addressed many related issues. Ireland has participated in all of these conferences, which reflect a growing international awareness of the interdependence of social, economic and political issues and of the links between these issues and sustainable development.

Ireland also participates in **Environment for Europe**, a pan-European cooperation process involving 49 countries, coordinated by the UN Economic Commission for Europe (ECE). Under this process, an Environmental Programme for Europe seeks to improve environmental conditions throughout Europe, and to promote the convergence of environmental quality and policies. At the request of the first Conference of Ministers, held in Dobris Castle in the then Czechoslovakia in 1991, a comprehensive assessment of the pan-European environment was carried out by a Task Force led by the European Environment Agency. Their report, *Europe's Environment: The Dobris Assessment*, published in 1995, assessed the pressures and human activities impacting on the European environment, and analysed prominent environmental problems of concern to Europe as a whole. The next Ministerial Conference in the **Environment for Europe** process will be held in Denmark in May 1998.

## Development Cooperation

*"It is increasingly recognised that development assistance alone is not enough; development policy must take account of a range of factors including human rights, trade and investment, the arms trade, debt, the role of women, population and the environment."*

- White Paper on Foreign Policy<sup>3</sup>

Ireland is currently working towards the UN target of increasing development assistance to 0.7% of GNP.<sup>4</sup> In 1996, Ireland's Official Development Assistance (ODA) programme amounted to £122 million, or 0.31% of GNP. While still below the UN target, this is above the OECD country average of 0.27% of GNP.<sup>5</sup> It also represents a doubling of the Irish aid programme, in relation to GNP, since 1992, when it stood at 0.16% of GNP. The Government is committed to increasing ODA by 0.05% each year in order to meet the UN target.

Ireland's development cooperation objectives are:

- to reduce poverty and promote sustainable development in some of the poorest countries of the world;
- to assist in establishing and maintaining peace in developing countries by fostering democracy, respect for human rights, gender and social equality and protection of the environment;
- to respond promptly to emergencies and humanitarian disasters, both natural and human-made, as they occur, and to support preventive measures so that such emergencies may, so far as possible, be avoided; and
- to contribute to building civil society and social solidarity.

These objectives reflect an overriding concern about sustainability in its widest sense (environmental, economic, financial institutional and administrative). The strong emphasis on the concepts of partnership and participation, with a preference for making the maximum possible use of locally-available resources, is also in accordance with the tenets of *Agenda 21*. The

basic objective of these programmes is to enhance the quality of life and productivity of poor people, thereby empowering them to deal with their problems. A key concern is that activities initiated with ODA support should be capable of being integrated into, and sustained by, the local environment. Ireland also supports the efforts being made in international financial institutions to resolve the problems caused by the heavy burden of debt carried by many developing countries.

In 1996, 61% of Irish ODA allocations were targeted to bilateral aid, and 35% to multilateral (including EU) aid; the remaining 4% was accounted for by administration costs and other items.

### **Bilateral aid**

Some 42% of bilateral aid, or approximately one-quarter of Ireland's total ODA, is targeted towards six priority countries (Ethiopia, Lesotho, Tanzania, Uganda, Zambia and Mozambique). This helps to give the ODA programme a clear poverty focus, supporting basic needs (primary health care, basic education and rural infrastructure) and capacity-building at national, regional and, increasingly, at local levels.

### **Multilateral aid**

A significant part of Ireland's ODA is allocated in the form of mandatory contributions to multilateral development and finance organisations; these include the EU, the World Bank Group and the UN agriculture and food agencies. In the case of the EU, Ireland contributes both to the European Development Fund (the funding mechanism for the developing countries of Africa, the Caribbean and the Pacific (ACP) under successive Lomé Conventions) and through the General Budget of the Community to other EU aid activities. Voluntary contributions are also made to various UN development agencies and programmes. Ireland takes a direct interest in the work of these multilateral agencies in order to ensure that they perform effectively

and that their funds are used in the most efficient manner possible.

#### **Promoting food security and sustainable agriculture**

In 1995, the Irish Aid Advisory Committee (IAAC) initiated a project towards the development and establishment of an agreed policy for Irish Aid in the areas of Sustainable Agriculture, Rural Development and Food Security. In its September 1996 report to the Minister for Foreign Affairs, *Irish Aid and Agriculture*, IAAC recommended, *inter alia*, that the following be adopted as a strategy statement for Irish Aid:

*"The strategic objective of Irish Aid in relation to food security and sustainable agriculture is to develop programmes and policies in partnership with developing countries so as to contribute to increasing the effective and sustainable use of natural resources in such a way that the food security and livelihoods especially of the poorest in those countries are enhanced; and to develop such programmes in a way that is empowering for the beneficiaries."*<sup>6</sup>

The Government has accepted this recommendation as being in line with official policy.

#### **Countries in transition**

Ireland also supports and participates in programmes providing finance and technology transfer to countries in transition, in particular, the PHARE and TACIS programmes. The PHARE programme aims at supporting Central and Eastern European countries to the stage where they are ready to assume the obligations of membership of the EU, by financing environmental and nuclear safety projects. The TACIS programme fosters the development of the New Independent States and Mongolia; it requires the integration of environmental considerations into all sectors, and encourages environmental institutional capacity-building in these countries.

#### **The European Union**

The *Treaty on European Union* (the Maastricht Treaty), which entered into force in November 1993, considerably strengthens the capacity of the Union to deal with environmental problems and to promote sustainable development.

The EU has developed a comprehensive policy on environmental protection and sustainable development. The Fifth Action Programme on the Environment, *Towards Sustainability*, adopted in 1993, set out a programme of action, including integration of environmental considerations into all other policy areas, particularly the five key areas of agriculture, energy, industry, tourism and transport, and a broadening of the range of instruments used for environmental protection.

Following the publication of a progress report in January 1996, the EU Commission submitted a proposal for co-decision by the Environment Council and the European Parliament on an Action Plan to intensify the Programme. This was a priority during the Irish Presidency of the EU, and political agreement on the proposal was reached at the Council of Environment Ministers in December 1996.<sup>7</sup>

#### **Intergovernmental Conference**

The question of strengthening the environment provisions in the Treaty on European Union (TEU) has arisen in the context of the Intergovernmental Conference (IGC), which commenced in March 1996. Both nationally and in its recent Presidential role, Ireland has taken a supportive stance on the strengthening of the TEU to improve both the Union's response capacity to challenges to the environment, and its ability to integrate environmental considerations into other policy areas.

Draft texts in this regard were prepared under the Irish Presidency of the EU and were submitted to the Dublin Summit (December 1996). The proposed text would, *inter alia*, make the achievement of sustainable development an

explicit objective of the Union. This includes balanced and sustainable economic development, as well as a high level of protection of the environment and improvement of its quality, among the tasks of the Community, and highlight the need to integrate environmental protection requirements into the definition and implementation of all Community policies. Formal negotiations to conclude agreement on revision of the *TEU* are continuing under the Dutch Presidency.

#### ***European Environment Agency***

The European Environment Agency (EEA), was established in October 1993 to provide objective, reliable and comparable information at the European level, to support policy-makers and to provide better environmental information to the public.

Ireland is represented on the Agency's Management Board, and on its Scientific (advisory) Committee. The Environmental Protection Agency acts as the national focal point for the EEA, and has an important coordinating role

between the EEA and national networks. Ireland also participates in a number of the European Topic Centres established by the EEA. Teagasc is co-leader of the European Topic Centre on Soil, which was established in 1996. The Environmental Protection Agency is a partner in the Topic Centre on Inland Waters. In addition, Forbairt is a member of ENERO (the European Network of Environmental Research Organisations) which is included in the Air Emissions Topic Centre.

#### **OECD**

As part of the Organisation's work, a programme of environmental performance reviews was instituted in 1992, whereby member countries submit themselves for peer review of their environmental policies and performance. While Ireland has assisted in the performance review of other countries, it has not yet been the subject of review. Ireland will invite this OECD review for 1998, if this can be accommodated within the work programme of the Environmental Performance Review Group.

