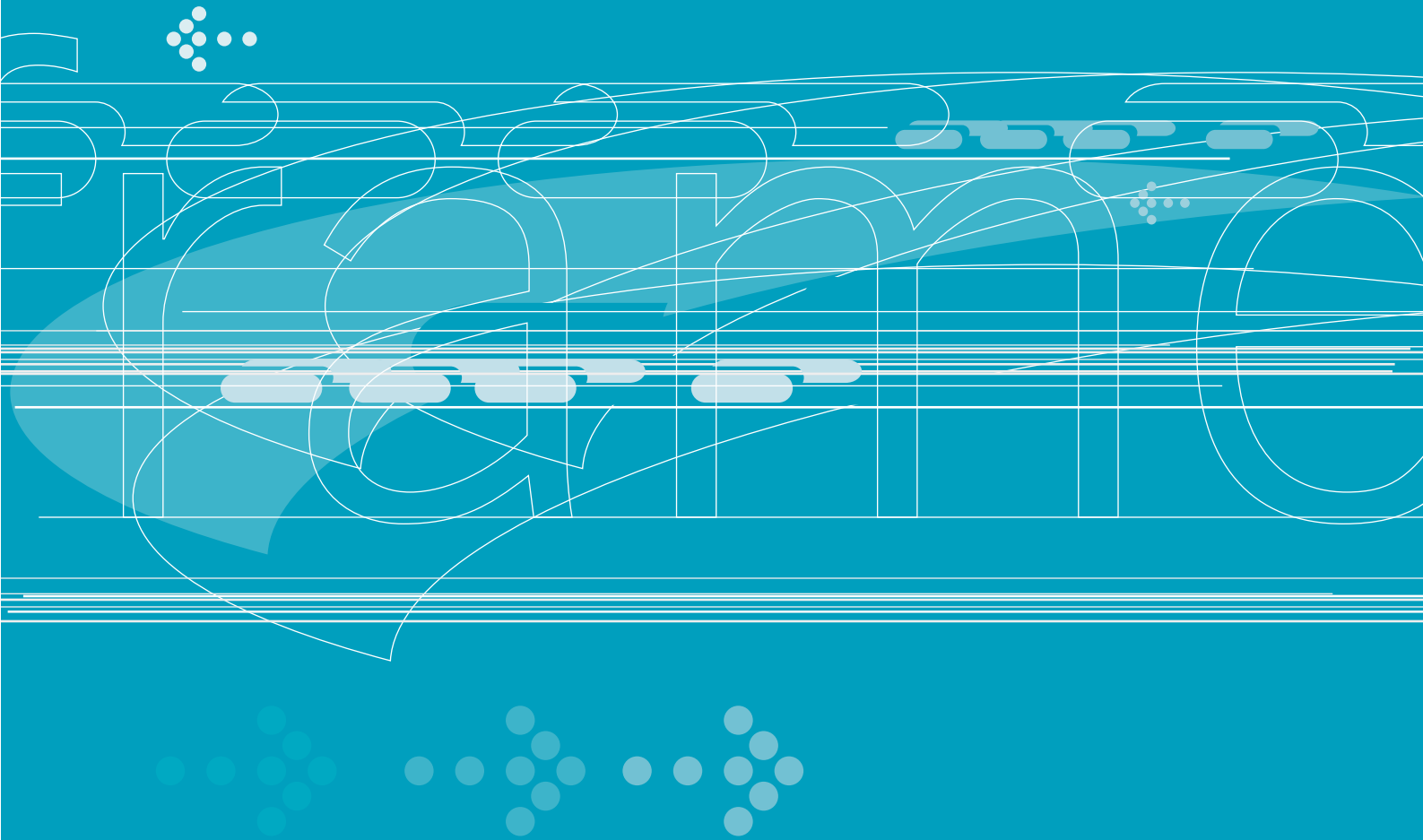


PART 2 - STRATEGIC FRAMEWORK

- 2 Overview
- 3 Overall Goals and Priorities
- 4 Environment and Economic Development



Chapter 2

Overview

Introduction

The quality of Ireland's environment, and the availability of abundant natural amenities, have traditionally been relied upon as important elements of the national resource base. Socio-economic progress, changed settlement patterns and changing lifestyles are however, in Ireland as elsewhere, leading to the transformation and transportation of increasing quantities of energy and materials; this is altering the balance between environment and society. A new strategic approach (together with policies and measures to realise it) is therefore necessary to establish a sound relationship between Ireland's economy and environment.

The *Policy Agreement for a Government of Renewal* (December 1994), committed Government to the preparation of a National Sustainable Development Strategy which

*"will address all areas of Government policy which impact on the environment and will contain detailed targets and a commitment to an annual review."*¹

This Strategy responds to that commitment. It addresses all areas of Government policy, and of economic and societal activity, which impact on the environment. It seeks to re-orientate policies as necessary to ensure that the strong growth Ireland enjoys and seeks to maintain will be environmentally sustainable. There is already evidence that traditional policies and controls have been inadequate in this regard. Despite improvements in some areas (e.g. drinking water quality), trends such as increasing water pollution, intensifying consumption/depletion of natural resources, growing waste production and energy consumption, and erosion of landscape quality are all symptoms of an ongoing and structural environmental deterioration. Some relevant indicators are shown in Fig. 2.1.

Fig 2.1 Some Recent Environmental Trends and Pressures in Ireland

Water

- there was a significant increase in 1991-1994 in slight to moderate water pollution, now up to 28% of measured river channel length
 - 39% of lake surface area examined in 1991-1994 was moderately to seriously enriched
- Natural resources/landscape*
- 18% of flowering plant species and 18% of fauna are threatened with extinction
 - important habitats for many upland bird species have been severely damaged by excessive sheep stocking in hill and mountain areas
 - the remaining area of raised bog of conservation importance is now 6% of the original total area of raised bog

Waste

- overall waste generation in Ireland has been growing by some 4% per annum for at least a decade
- at least 100,000 tonnes of hazardous waste now arise each year

Energy

- total primary energy requirement increased by 24% between 1980 and 1993
- energy consumption *per capita* is increasing

Transport

- vehicle kilometres travelled *per capita* increased by 47% between 1986 and 1995

Source: DOE/Environmental Protection Agency²

Sustainable development policies focus on causes rather than on symptoms. They also consider the balance of present and longer-term needs - socio-economic and environmental - as well as the totality of resources available to meet those needs. Certain approaches essential to implement sustainable development are already being adopted in Ireland:

- economic and environment policy integration has begun;
- policy instruments and management tools are being broadened; and
- public appreciation of the need for lifestyle changes is increasing.

But a more concerted approach must now be adopted, involving Government, economic and voluntary organisations, and the public.

Meaning of Sustainable Development

Sustainable development is based on universal principles, relevant to all nations and peoples. It seeks an acceptable quality of life for present and future generations, recognising that the actions of the present affect the inheritance of future generations. In a sustainable world, human activity must not undermine the long-term productivity of supporting ecosystems.

"Humanity has the ability to make development sustainable - to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs."

- World Commission on Environment and Development³

Sustainable development is increasingly recognised as the key to managing economic and environmental interdependence. It is neither a fixed concept nor a narrowly defined process, but an approach in which

- the exploitation of resources,
- the direction of investments,
- the orientation of technological development, and
- institutional change are made consistent with future as well as present needs. Of necessity, therefore, it involves difficult choices and depends on decisive political action.

In setting out this strategic framework, the Government looks to sustainable development as:

- a **dynamic** concept which must be given both practical and concrete expression in the present to generate a new development model for the future involving change in socio-economic and consumer behaviour;

- an **inclusive** concept bringing environment to the heart of economic growth and quality of life concerns, and requiring the active participation of economic operators and the public, as well as all levels of Government; and
- a **quality** concept which recognises that a clean environment and a conscientious approach by business to environmental protection are an advantage to, rather than a constraint on, successful economic performance.

This Strategy aims at securing the transition, over time, to an environmentally sustainable society and economy. While many of the measures and actions included will be undertaken in the short to medium term, the overall time horizon of the Strategy must, necessarily, be a long-term one, recognising that sustainable development is a continuing process which needs ongoing assessment and refinement.

International Recognition of Sustainable Development

*Agenda 21*⁴, the main product of the UN Conference on Environment and Development (UNCED) held in Rio de Janeiro in 1992, the Treaty on European Union (the Maastricht Treaty)⁵ and the EU's Fifth Environment Action Programme *Towards Sustainability*⁶ all endorsed the concept of sustainable development. They underlined the fact that traditional policies must be replaced by an integrated approach to environment and development issues, if growth is to be achieved in parallel with, rather than at the expense of, environmental quality.

Agenda 21 was elaborated as a dynamic programme which would evolve over time in the light of changing needs and be carried out by

*"the various actors according to the different situations, capacities and priorities of countries and regions in respect of all the principles contained in the Rio Declaration on Environment and Development."*⁷

These principles recognise the rights of all States to exploit their own resources pursuant to their own environmental and developmental policies, but require, *inter alia*, that

- environmental protection should constitute an integral part of the development process,
- developed countries accept responsibility for their disproportionate pressure on the global environment,
- unsustainable patterns of production and consumption should be eliminated,
- effective environmental legislation should be enacted,
- access to environmental information and public awareness and participation in decision-making should be facilitated,
- the precautionary approach should be applied, environmental impact assessment should be undertaken for activities likely to have a significant environmental impact, and internalisation of environmental costs should be promoted, and
- the needs of the least developed countries should be given special priority.

The EU's Fifth Environment Action Programme was adopted in 1993 following the inclusion, as a principal objective, in the Maastricht Treaty of the promotion of sustainable growth respecting the environment.

The Programme

- focused on the agents and activities depleting natural resources and damaging the environment,
- sought to initiate changes in current detrimental trends and practices,
- aimed at achieving changes in behaviour through shared responsibility for the environment by all sectors of society, and
- proposed a significant broadening of the range of instruments to be used for environmental protection purposes.

In its 1995 report on the environment in the European Union, for purposes of the review of the Fifth Action Programme⁸, the European Environment Agency (EEA) concluded that progress in reducing pressures on the environment was not enough to improve general quality and even less to progress towards sustainability. Without accelerated policies, the pressures observed would continue to lead to the exceedance of human health standards and environmental carrying capacity. Some successes, including the reduction of ozone depleting substances and emissions of heavy metals and sulphur dioxide, were noteworthy, but the European Union as a whole has not moved sufficiently from concept to realisation.

Recognising the need to revitalise and accelerate the Fifth Action Programme, the Council of Environment Ministers in December, 1996, reached political agreement on a Commission proposal for a co-decision by Council and the European Parliament on an action plan to intensify the implementation of the Programme.

Development of Irish Environment Policy

A high quality environment has been an assumed part of Irish national identity. For much of the 20th century, threats to the environment were not perceived as significant in view of Ireland's low population density, traditional agricultural practices and late industrialisation. But with economic growth in the 1960s came a new appreciation of the environment as a factor in development and a potential source of wealth creation.

Fig 2.2 Increased Environmental Pressures in the European Union

Ozone layer

- the ozone layer over Europe has been depleted by an average of 6-7% between 1979 and 1994
- levels of chlorine in the atmosphere have increased six fold since 1950

Acidification

- acid deposition exceeded critical loads for eco-loads in 34% of the total European area (with an even higher proportion in the EU)

Waste production

- municipal waste *per capita* has shown an increase of about 20% between 1985 and 1993; it will continue to grow, and is projected to increase by 30% by 2000 compared with 1985 levels

Transport

- over the period 1980-1990, passenger transport by road increased by almost 40%; projections for the period 1990-2010 are for a further increase of over 40%
- between 1980 and 1990, car ownership rose by 37%
- congestion problems are now being experienced regularly on 10% of the major roads within the EU

Agriculture

- while livestock trends indicate gradually declining numbers of cattle, sheep and laying hens, numbers of pigs and poultry are increasing

Energy

- electricity consumption increased almost continuously between 1974 and 1992, by an average of 2.7% *per annum*.
- an average growth in primary energy consumption of around 1.1% *per annum* is expected for the period 1990-2010

Tourism

- the number of tourist overnight stays in 1992 (840 million) represented an increase of 21.5% over 1980 levels

Source: European Environment Agency⁹

Environmental legislation distinct from the physical planning code began to develop in the 1970s, and in 1978 the Minister for the Environment was assigned general responsibility to promote the protection and improvement of the physical environment. Other Ministers of the Government were in parallel assigned responsibility for assessing the environmental implications of their policies, programmes and projects before taking decisions. But in practice, the need to achieve a balance between environment and development did not exert a strong influence on policy formation in many sectors during the 1980s.

An *Environment Action Programme*¹⁰ was adopted by Government in 1990 against the background of growing world environmental concern. Good progress, reported on in 1991¹¹ and again in 1995¹², was made in its implementation, notably by:

- the establishment of the Environmental Protection Agency;
- the development of ENFO - a new information service of the Department of the Environment; and
- an increased investment programme in public environmental infrastructure.

Subsequent policy documents, such as the Culliton Report¹³, and the *GREEN 2000 Advisory Group's Report*¹⁴, clearly underscored the relationship between an unpolluted environment and social and economic well-being, and emphasised the importance of natural resource based economic activity linked to high environmental quality and standards.

The reform of the EU Structural Funds from 1989 provided a new growth opportunity for Ireland. By 1992 and 1993, the inflow of structural funds under Ireland's *Community Support Framework, 1989-93*, amounted to some 3.5% of GNP.¹⁵ Influenced by the EU Fifth Environment Action Programme, the further reform of the Structural Funds in 1993 sought to promote sus-

tainable development and better environmental integration in EU co-financing operations. The establishment of the Cohesion Fund¹⁶ gave further impetus to the environmental dimension of EU policy and increased support to the promotion of sustainable development.

In addressing the new environmental requirements which emerged from the reform of the Structural Funds, the *National Development Plan, 1994-1999*¹⁷, sought, as a fundamental strategic consideration, the integration of environmental and economic objectives in the interests of sustainable development. This was seen to be necessary, not only for the sake of the environment, but also for the continued efficiency of economic sectors interacting with the environment. The environmental profile of the National Development Plan was incorporated in the agreed *IRELAND - Community Support Framework, 1994-99*¹⁸ (CSF), and reflected as appropriate in the more detailed approaches of relevant Operational Programmes now being implemented.

Environmental Strengths and Weaknesses

In considering how to make Irish national policies more sustainable, the following strengths are evident in the Irish situation:

- Ireland has retained, and can build on, a clean, attractive, environmental image. This is a key contributor to the quality of life, and a basis for economic advantage. Public concern about, and commitment to, environmental protection is high. Recognition by business of the range of opportunities presented by a quality environment is growing. There is a high level of investment in environmental protection by both the public and private sectors;
- Good policy foundations are in place at international and at national levels. A comprehensive, modern legislative code has been substantially completed with the enactment of the

Waste Management Act, 1996. Management and organisational arrangements have been rationalised with the mobilisation of the Environmental Protection Agency;

- Regulatory arrangements for environmental protection enjoy wide public participation; both physical planning and environmental legislation provide for public involvement in decision-making on projects. Environment and development NGOs have been active and constructive in their engagement with environmental issues. Industry and business share responsibility through voluntary action as well as investment and legal compliance. There is a supportive environmental research and development network in the academic sector; and
- Information systems continue to improve, for example, through the activities of the EPA and ENFO, and the operation of the *Access to Information on the Environment Regulations, 1996*.

There are also significant weaknesses which must be addressed in formulating a framework for sustainable development:

- Structural conflicts still exist between environment and development objectives. This is a primary reason why, despite substantial investment and increasingly stringent legislative controls, environmental quality trends continue to disimprove in several respects;
- Although policy integration has been an objective for nearly two decades, mechanisms to achieve the necessary degree of integration have not been sufficient. While this is internationally recognised as a difficult issue, practical steps are now only beginning to be taken, and must be strengthened;
- Not enough has been done to value environmental resources, so as to promote proper internalisation of environmental costs in economic activities and to prevent environmental

resources being used inefficiently, as free or undervalued goods;

- Effective action is in some respects hampered by administrative/organisational boundaries. In particular, there is a need to increase the implementation of catchment-based programmes for environmental protection;
- Although information systems are improving, substantial gaps remain. Overall, data collection is not yet adequate to allow a full evaluation of materials use and energy flows in the Irish economy. Their limitations mean that the definition and measurement of sustainable development indicators will remain tentative in the short-term.

Need for a New Approach

Over the past two decades national environment policy has developed in response to growing threats to, and growing public concern about, the quality of the environment. Organisational, legislative and voluntary initiatives have been undertaken. Information, awareness, public participation and investment in environmental protection have all increased. Some progress has been made in articulating an environmental dimension within economic, and to a much lesser extent fiscal, policy.

More is needed. The transition to sustainable development has been identified as the most important global transformation since the agricultural and industrial revolutions. The growth model of the 20th century, characterised by increases in the use of energy and raw materials and leading to over-exploitation of scarce environmental resources, cannot be sustained indefinitely into the 21st century.

At a global level, the UN Commission on Sustainable Development is seeking to develop and realise the policies and programmes of *Agenda 21*. Within the EU, the European Commission's 1994 White Paper on *Growth,*

*Competitiveness, Employment*¹⁹ proposed ideas for a new development model for the European Union to reverse the negative relationships between environmental conditions, quality of life and economic prosperity. This Strategy has been framed to direct the impressive growth of the Irish economy, and the changes now being experienced in consumption and lifestyle patterns, towards a more sustainable course, having regard to international experience, and to national environmental, economic and social imperatives.

Chapter 3

Overall Goals and Priorities

Strategic Aims and Goals

The overall aim of this Strategy is

to ensure that economy and society in Ireland can develop to their full potential within a well protected environment, without compromising the quality of that environment, and with responsibility towards present and future generations and the wider international community.

Within this overall aim, the Government affirms that:

- Ireland's environment must be protected for its own intrinsic value;
- a well managed environment sustains a healthy economy and a good quality of life: environmental, economic and social policies must be mutually supportive;
- economic growth and social development cannot be to the detriment of environmental quality and must be within the limits set by nature; in particular, this must involve changes in production and consumption patterns;
- every person is entitled to enjoy a clean, healthy environment and shares with Government the duty to maintain that environment;
- environmentally sustainable development requires, and can only succeed with, the participation of the whole of society;
- Government and other public authorities must work to improve and protect the environment for all generations, exercising leadership and fostering partnerships with economic and social groups;
- a quality environment is the natural heritage of the whole of Ireland; where appropriate, conservation action and development in the interests of environmental excellence will be pursued in a coordinated manner North and South;
- meeting the needs of the present in a sustainable way involves equity in the access to and use of resources, as well as equitable opportunities to participate in decision-making and to achieve economic and social progress;

- responsibility towards future generations involves sustainable use of renewable resources, optimised use of non-renewable resources, and the free transfer of natural capital unburdened by pollution and waste; and
- the developed world bears a disproportionate responsibility for the depletion and degradation of the global environment and natural resources, and must demonstrate leadership in the implementation of sustainable development policies.

Concepts and Principles

Concepts

The concept of **sustainability**, which has informed Irish environmental policy over recent years and which underpins this Strategy, requires development to be within the capacity of the environment to support it without suffering lasting damage or depletion. **Carrying capacity** has provided the rationale for many environmental standards and land use planning and development controls. It may be expressed as

- the ability of the environment to sustain a particular form or intensity of development, or
- the ability of the environment to support biodiversity or particular species, or
- the **critical load**¹ of a specified pollutant which an environmental medium may tolerate without lasting damage being experienced.

Where there is uncertainty in regard to the definition of carrying capacity and the limits or thresholds which it should imply for sustainable human activities, the precautionary principle must be applied; this has influenced global action, for example, in regard to the objective of stabilising CO₂ emissions to abate the threat of global warming. A further development from this is the concept of **appropriated carrying capacity**, which can be defined as the biophysical resource flows and waste assimilation capacity appropriated from global totals by a defined economy or population.

There is an increasing recognition of unsustainable development pressures on the earth's carrying capacity. These include:

- the intensive exploitation and depletion of natural resources;
- the growth in consumption and production;
- the unequal division of resources among the world's population; and
- the pressures on the developing world to match the living standards of more developed countries.

This recognition of unsustainable pressures has led to the development of new forms of measurement and analysis which can make these pressures more clearly understandable and communicable.

Fig 3.1 Increased Pressures on the Global Environment

- world population has more than doubled since 1950, from 2,510 million to 5,280 million in 1990
- world economic production has increased six fold since 1950 - world GDP has increased from 1,671 US\$ *per capita* in 1950 to 3,971 US\$ in 1990 (1990 prices)
- primary energy consumption *per capita* doubled between 1950 and 1990, from 30 gigajoules to 61 gigajoules *per capita* - total primary energy consumption increased from 76,459 petajoules to 320,563 petajoules in the same period
- world fish catch has increased five fold since 1950
- 80% of natural resources are consumed by the OECD countries, which have only 16% of global population
- 17% of Earth's land area is soil degraded (23% in Europe) - this includes 10% of agricultural land world-wide
- human-made fixation of nitrate and sulphur is now as great as natural fixation

Sources: EEA² & UNEP³

Society's **ecological footprint**, an indicator developed to illustrate human impact on a finite planet, underlines the dilemma now facing the global community. A footprint represents

"the corresponding area of productive land and aquatic ecosystems required to produce the resources used, and to assimilate the wastes produced, by a defined population at a specified material standard of living, wherever on Earth that land may be located".⁴

Applying this concept shows that the earth's resources have to a large extent already been appropriated by the wealthier sectors of global society, particularly in urban settlements. The global ecological footprint clearly shows why sustainable development has become a global imperative:

"At present, both the human population and average consumption are increasing while the total area of productive land and stocks of natural capital are fixed or in decline ... The ecological footprint of the present world population/economy already exceeds the total productive area (or "ecological space") available on Earth."⁵

Ireland's Ecological Footprint

Ireland's Ecological Footprint is already 1.23 times the size of the land available

In preliminary calculations by the UCD Environmental Institute, based on a standard methodology, the average size of Ireland's ecological footprint is 2.38 hectares per person, or a total of 86,325 km² - some 1.23 times the size of the State (70,394 km²).

Features such as low population density and a high percentage of productive agricultural land have allowed Ireland to retain a relatively small footprint for a developed country. However, as this preliminary footprint measurement includes only four categories of domestic consumption (i.e. fossil fuels, built-up land, food and forestry),

the results may be regarded as presenting a conservative illustration. Given that substantial socio-economic development needs remain, ecological footprinting provides a means of demonstrating the importance of sustainable development considerations in relation to lifestyle and consumption patterns.⁶

Principles

In approaching the definition of policies and actions to achieve the aim of this Strategy, the Government remains committed to the principles which have informed Irish environmental policy in recent years.⁷ The transition to sustainable development, however, requires these principles to be given fuller practical expression.

The **precautionary principle** requires that emphasis should be placed on dealing with the causes, rather than the results, of environmental damage and that, where significant evidence of environmental risk exists, appropriate precautionary action should be taken even in the absence of conclusive scientific proof of causes. This is more than simply giving the environment the benefit of the doubt. It is a spur to responsible action and a stimulus to scientific and technological development. Reasonable action to avoid potentially serious risks to the environment and human health maintains choice, control and quality.

Integration (of environmental considerations into other policies) is a leading mechanism for sustainable development. At **Government level**, integration is important to ensure consistency across the range of policies contributing to sustainable development; it also encourages mutually supporting policy formation and delivery, and enables environmental concerns to be addressed in an effective and comprehensive manner. At **sectoral level**, integration is fundamental to the decoupling of economic growth and environmental degradation; it promotes economic and environmental efficiency through reduced materials and energy use, waste preven-

tion and minimisation, re-use and recycling, and it assists the realisation of economic advantage founded on environmental quality.

National policy, in line with EU policy, has up to now emphasised the integration of environmental considerations in energy, agriculture, industry, transport and tourism policies. The concept is also relevant in other sectors, notably those which are based on natural resource use, such as fishing, forestry and mining, and it is increasingly important in a trade context.

Integration must also be pursued at **macro-economic and fiscal policy levels**, to reflect the value of natural as well as human-made capital, to account for natural resource use and depletion, to internalise environmental costs and to provide a more balanced and full measurement of national growth and prosperity.

Principle 1 of the *Rio Declaration on Environment and Development* states that “*human beings are at the centre of concerns for sustainable development*”.⁸

Integration of environmental considerations into **social policy** envisages:

- fair access to a clean, healthy environment;
- maintenance of public health and elimination, as far as practicable, of environmental risks;
- equity in the use of environmental resources;
- full access to education and information concerning the environment; and
- sustainable planning, development (including urban development), and human settlement policies.

Effective environmental policies require the active participation of society, so that lifestyle changes compatible with sustainable living can become established.

The **polluter pays principle** regarding cost allocation and action by public authorities has influenced public policies at OECD and EU levels for over twenty years⁹, and has been incorporated in all recent Irish environmental legislation. Its

objective is to allocate correctly the costs of pollution, consumption of energy and environmental resources, and production and disposal of waste to the responsible polluters and consumers, rather than to society at large or future generations; in turn, this provides an incentive to reduce pollution and consumption. Cost internalisation through the use of market based economic and fiscal instruments, in line with the polluter pays principle, is now widely perceived as a flexible and efficient means of addressing sustainable development objectives. While some environmental charges and taxes are in place in Ireland which lean on polluters and users of resources, use of these instruments is not yet widespread; policy objectives in this area are outlined in Chapter 19.

The principle of **shared responsibility** for the environment requires a broadly based involvement of public bodies, private enterprise and the general public so as to achieve environmental policy objectives. Public participation in environmental protection is already encouraged in Ireland through, for example, the provision of information, awareness raising, statutory consultation and reporting mechanisms, support for non-governmental organisation (NGO) initiatives and the development of Local Agenda 21 measures. Shared responsibility aims at engendering commitment throughout society, which in turn fosters a sense of public ownership of the environment. Voluntary action by individuals, through lifestyle choices, as well as by economic and social operators, are essential to realise the aims of this Strategy.

Priorities for Action

Sustaining the environment while securing development requires:

- a balance between the conservation and utilisation of resources;
- concrete action on the basis of practical programmes and clear targets; and
- an ability to measure and monitor sustainable development performance.

Accordingly, the Government's priorities within the framework of this Strategy are to:

- maintain the quality, quantity and diversity of natural endowments;
- undertake a high level of environmental protection so that renewable resources are conserved and not depleted beyond their renewal rates; ensure that non-renewable resources are used prudently and efficiently with a strong emphasis on the use of substitute resources, where practicable, on the concentration of critical natural capital, and on the needs of the future;
- ensure that the creation of wastes, and inputs of substances and emissions, are minimised to take account of the carrying capacity of the environment;
- ensure that spatial planning policies support sustainable development;
- set out sustainability objectives for agriculture, forestry, the marine, energy, industry, transport, tourism and trade so as to encourage long-term growth and competitiveness within a quality environment;
- accelerate progress towards a more environmentally sustainable society based, *inter alia*, on sustainable settlement and housing policies, promotion of sustainable consumption and lifestyle, and greater individual and community participation in protecting the environment;
- move towards the development of economic instruments and pricing mechanisms to internalise environmental costs in economic activity, as well as towards green accounting methods;
- promote information, increased awareness and education as means of supporting participation and shared responsibility;
- pursue the development of indicators to measure progress towards sustainability; and
- establish arrangements for implementing the Strategy, with particular reference to the roles and responsibilities of central, regional and local government, and the need for broadly based participation of the social partners, the voluntary sector and the public.

Chapter 4

Environment and Economic Development

Current Development Trends

Although Ireland's environment has not generally suffered from intensive development pressures in the past, trends are now changing, with significant implications for environmental quality:

Population¹

- The population increased by 21.6%, to 3.62 million, between 1971 and 1996.
- The decline in the number of births annually since 1980 has been an important demographic dynamic. However, the population is relatively young, with 26.7% in 1991 being less than 15 years old and 11.4% more than 65 years old.
- In the period to 2006, the CSO has predicted an increase in the labour force in the order of 0.7% to 1% per annum depending on outward migration assumptions.²
- In the longer-term, to 2026, the CSO also predicted a marked decline in the young population and a strong increase in the population aged 65 and over.

Settlement patterns³

- Average population density is low, at 51 persons/km², but varies from over 100 persons/km² in eastern and southern areas to less than 25 persons/km² in many western areas.
- There is an increasing trend towards urbanisation, and especially suburbanisation, characterised by low density, residential, business and commercial development at the outskirts of towns and cities.
- Over half of the population (57% approx.) live in urban settlements greater than 1,500 in population. While over a third of the national population live in the general Dublin area and its environs, the inner city accounts for only one fourteenth of the Dublin region population.
- Around 70% of the urban population lives at or near the coastal area.

Land use⁴

- Agricultural use accounts for 68% of land cover. Intensification of agriculture has brought change, including specialisation, mechanisation, increased animal numbers and need for housing for overwintering of animals. Reforms of the EU Common Agricultural Policy have seen the emergence of other forms of land use such as organic farming, forestry, wind energy and agri-tourism.
- Wetlands and bogs account for 14% of land cover. Raised bogs of conservation importance now amount to 99 sites covering 17,790 hectares, from an original area of 311,300 hectares. Some 112,300 hectares of blanket bog of conservation importance now remains from an area of 774,990 hectares.
- Forest cover, at 8% of the land area, is the lowest in the EU. The proportion of broadleaf species in Irish forests, at 16%, is also very low. Forest cover is increasing at a rate of around 0.33% a year, making it one of the significantly changing aspects of the terrestrial environment.
- While land loss due to urbanisation is not as significant in Ireland as in much of Europe, the demand for urban generated low density residential development on the outskirts of cities is a noticeable trend. New forms of commercial and business development, such as business parks and out of town retail centres, seek to locate at points of high accessibility on the periphery of cities, creating their own sphere of influence, but also potentially threatening the viability of town centres.

"Urbanisation has created new demands on the countryside as a visual amenity, a place for recreation, a location for second homes and a repository of cultural, historical and other values."

- Environmental Protection Agency⁵

Fig 4.1 Land Cover Statistics for Ireland
(excluding Northern Ireland)

	Percentage Area
Artificial Surfaces	1.2%
Agricultural Areas	68.1%
Forest and Semi-natural Areas	14.0%
Wetlands (including Bogs)	14.3%
Water	2.4%

Source: CORINE⁶

Economy⁷

- Irish economic performance is buoyant. Average GNP growth of 0.2% per annum in the early 1980s has increased to rates of 4.4% per annum on average in the years 1992-5, with growth of 7.3% in 1995 and an estimated 6.25% in 1996. GNP growth of 5.5% is forecast in 1997.
- In 1996, consumer prices remained subdued with an annual average increase in the Consumer Price Index (CPI) of 1.6%, output grew by an estimated 7.25% (measured by GDP) compared to an OECD average of 2.5%. Manufacturing output growth is estimated to have been about 9%, while high-technology sectors again expanded strongly, albeit at a more moderate pace than in 1995, with particular significant production increases being recorded in computers and pharmaceuticals.
- Unemployment still remains a major national problem. The results of the 1996 Labour Force Survey indicate that employment grew by 46,000 in the twelve months to mid-April. This growth is a feature of most economic sectors other than agriculture. The labour force continued to expand in 1996, however, reflecting demographic factors and an unusually large increase in female participation rates. Unemployment, as measured by the Labour Force Survey, fell by only 1,000 in the year to mid-April 1996 but has fallen by 40,000 since mid-April 1993. In 1996 as a whole, it is estimated that unemployment fell by 10,000.

Despite the strong economy the Live Register has remained stubbornly high: the average Live Register for 1996 was 279,000, up from 278,000 in 1995.

"... Ireland should replace the traditional adversarial approach that presents industrial development and environmental protection as opposites. The new approach should simultaneously maintain high environmental quality and promote a competitive enterprise sector."

- Forfás, *Shaping our Future*⁸

Growth and Sustainability

The relationship between economic development and environmental quality has sometimes been perceived as adversarial. Traditional economic activity, with increasing production and consumption, was seen to intensify the use and depletion of natural resources, impact adversely on the quality of environmental media, and generate growing volumes of wastes and emissions. On the other hand, strict environmental requirements have sometimes been regarded as impeding growth, for example, by delaying new projects, increasing capital investment needs, raising production costs or threatening the loss or relocation of industry.

It is now acknowledged⁹, however, that the relationship between economic growth and pressure on the environment is not straightforward. Emissions of some pollutants increase in line with economic activity, but many pressures on the environment (for example, sulphur dioxide emissions, untreated waste water) appear to decrease as economies prosper. This is partly attributed to the increasing economic share taken by service activities, which are generally characterised by low pollution levels per unit of production. In Ireland, as in most developed countries, the services sector has been a key direct source of employment growth over the past decade.¹⁰ As economies grow, technologies change, and more efficient methods of production may reduce natural resource use and pollution levels per unit of production. Willingness to

pay for environmental quality appears also to increase with income. In effect, growth increases public preference for a clean environment, and contributes financial resources for effective action.

On the other hand, it is clear that economic growth has in practice up to now increased energy, transport and materials use, as well as generation of waste and emissions. Even where greater production efficiencies are achieved, these can be offset by volume increases (a particular feature in the transport sector) and by increased demand for luxury goods and services. Reliance on regulatory controls alone, which do not capture externalities, may also reduce incentives to increased efficiency and technological innovation.

All development impacts on the environment. Sustainable development cannot eliminate such effects altogether. It aspires, however, to change the balance of impacts from negative to positive, pursuing policy choices which promote economic efficiency with less intensive natural resource use and less environmental stress. The following chapters of this Strategy consider the issues arising for key economic sectors. In many instances, concerns about the trade-offs involved centre on employment and competitiveness issues. These are now addressed in their relationship to sustainable development.

Employment

Development meets social and economic needs. Despite the strong performance of the Irish economy unemployment remains unacceptably high; the average Live Register for 1996 was 279,000, up from 278,000 in 1995.¹¹ Job creation continues to be the highest priority of national economic policy. Sustainable development policies do not conflict with the objective of job creation, and can encourage diversity in employment opportunities. Long-term employment will be underpinned by sustainable development policies which guarantee a high standard of envi-

ronmental protection and an environmental quality approach throughout productive sectors.

An estimated 155,000 jobs, outside farming, are dependent to a significant degree on a quality environment.¹² Many potential areas of employment growth also depend on the preservation of a high quality environment. Over the past decade, employment across the EU appears to have increased at a much higher rate in the environment-related sectors (including recycling, water and waste water services, instrument engineering) than in the rest of the economy. In Ireland, increased employment in environmental sectors, particularly instrument engineering and water technology, has developed at some four times the rate of employment growth elsewhere.¹³

High environmental standards are an incentive, rather than a deterrent, to the location of high performance industry in Ireland. They are also guarantors of product quality and acceptability for export markets - critical to an open economy in an era of globalisation. Lower standards place both the environment and employment at risk, as any short-term gains are offset by, for example, cost and resource inefficiencies, lack of incentive to innovate, potentially greater health and safety risks, and future difficulties with market acceptability and adjustment costs.

Sustainable development requires policies that maximise efficiency and broaden the base of employment. The extent of employment which can be generated by sustainable development policies, however, depends on:

- the nature of the policies devised;
- the efficiency with which they are pursued;
- the ability of business and industry to capitalise on them; and
- the receptiveness of consumers and trading partners.

Under this Strategy, employment maintenance and generation will remain a priority.

"A progressive environmental policy that ensures achievable and realistic standards for environmental protection ... would have a positive impact on enterprise and employment while encouraging investment and growth in Irish industry."

- IBEC, *Prosperity through Competitiveness*¹⁴

Competitiveness and Innovation

It is a commonly-quoted perception, arising from a debate which has continued for over twenty years, that the costs of environmental requirements can have a negative impact on competitiveness. Yet there is much international evidence to support the counter-argument that environmental protection promotes long-term competitiveness and encourages innovation.¹⁵ Environmental standards are only one of a range of determinants of competitive advantage, including:

- tax regimes;
- factor conditions (e.g. transportation and education systems, availability of infrastructure, and specialised factors such as the presence of a specific world class research institute);
- demand conditions (including market share, consumer preferences, behaviour of multinational companies);
- relationships with supporting industry (e.g. expansion, diversification and sophistication of the supply industry); and
- domestic rivalry.

The relative position of environmental requirements within this range is suggested by estimates made by the International Labour Organisation (ILO) which attribute only 1% of plant closures world-wide to environmental regulation.¹⁶

Research carried out in a number of OECD countries into the impact of environmental programmes on the economy has generally concluded that any negative macro-economic effects of environmental policies are quite small.¹⁷ At the micro-level, issues of local and short-term competitiveness are often a matter of debate. Small firms, which are usually more susceptible

to any competitive force, generally have greater fears in this regard than large industry. This was also borne out in the study *Cleaner Manufacturing Technologies in Ireland*¹⁸, carried out in 1993 for the Department of the Environment. Overall, stricter environmental policies do not appear to have had much long-term negative impact on either micro- or macro-economic competitiveness in OECD countries, and the perceived negative impact of environmental policies on economic competitiveness may be overstated.

National industrial policy has for some time recognised that it is in Ireland's best interests to advance ahead of other countries in environmental protection, anticipating trends, and leading rather than following. The Culliton Report (1992)¹⁹ singled out the food industry as a sector where a proactive approach to environmental protection, building on the market opportunities of the "green", wholesome image of Ireland and its food products, could be a major factor in international competitiveness and industrial development. More recently, both the Forfás Report, *Shaping Our Future*²⁰ and the *White Paper on Science, Technology and Innovation*²¹ recognise that the environment has become a key factor in promoting knowledge-based high value-added projects in Ireland, with a demand for qualified employees.

This approach is now reinforced by the report of the Joint Oireachtas Committee on Sustainable Development, published in March 1997, which concluded, *inter alia*, that "Ireland has a definite competitive advantage in terms of its Green Image that must be exploited to its full by not only the food sector but other economic sectors such as tourism, the general green consumer industry and the fledgling environment protection industry".²² The Committee focused on highlighting market niches and opportunities which can be exploited by Irish industry in the growing global environmental market, and identified business opportunities for Irish enterprises in the areas of tourism, food, consumer products and environmental protection goods and services.

The economic sectors themselves must meet the competitive forces of the market-place and the challenges of consumer demand. Ability to innovate - achieving cleaner production, improving process technology, providing eco-friendly products and services - is critical to competitive success. The 1995 report of the Science, Technology and Innovation Advisory Council²³ pointed out that, contrary to the general trend, employment in innovative companies and industries increased internationally over the past two decades.

The Government will support enterprise in achieving environmentally responsible growth and employment.

- High planning and environmental standards will remain a precondition for development. Government has recognised, in *Partnership 2000*²⁴, the need to consider further streamlining of the planning system to minimise delays and uncertainties, and is committed to the introduction of accelerated procedures for major projects involving significant employment and added value.
- Greater flexibility of approach, complementing regulatory measures with market mechanisms, will be developed to allow economic sectors to achieve environmental objectives and realise environmental advantage in the most cost-effective manner.
- The Government supports the general approach of the EU White Paper *Growth, Competitiveness, Employment*²⁵, in advocating a shift in the tax burden away from labour and towards polluters. Such a shift would provide a means of implementing the "polluter pays principle" and underpinning the internalisation of environmental costs. It will also redress the balance between different industrial inputs and support labour-intensive, non-polluting industries. Appropriate measures will be developed for the 1998 and subsequent budgets.
- Environmental industry is a growth area, which offers many opportunities for exploitation by Irish industry. These include pollution control technology and equipment, biotechnology development and applications, and environmental consultancy services. The opportunities for Irish industry will be explored in a coordinated way and supported by Forbairt and An Bord Tráchtála (which already has a promotion unit for this purpose).
- Substantial investment in environmental infrastructure will be maintained, with a three-yearly review, to support construction, management, maintenance and supply jobs, and support sustainable growth.
- Active labour-market policies for improved vocational guidance, education and training will be put in place. These will support the transition to cleaner production and technologies, and the wider uptake of environmental management, auditing and reporting.

