An Chomhairle Náisiúnta Eacnamaíoch agus Shóisialta
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NESC

BACKGROUND PAPER

# 5. The Impact of European Environmental Policy in Ireland

by Noel Cahill

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# Abbreviations

**AIE**
Access to Information on the Environment

**BMW**
Biodegradable Municipal Waste

**CAP**
Common Agricultural Policy

**CAFE**
Clean Air for Europe

**CBD**
Convention on Biological Diversity

**CFP**
Common Fisheries Policy

**CIS**
Common Implementation Strategy

**ECJ**
European Court of Justice

**EEA**
European Environment Agency

**EIA**
Environmental Impact Assessment

**EP**
European Parliament

**EPA**
Environmental Protection Agency

**ETS**
Emissions Trading Scheme

**EU**
European Union

**GHG**
Greenhouse Gas

**GMO**
Genetically Modified Organism

**GPP**
Green Public Procurement

**IMPEL**
Implementation and Enforcement of Environmental Law

**IPPC**
Integrated Pollution Prevention and Control

**NGO**
Non-Governmental Organisation

**NHA**
Natural Heritage Area

**NMS**
New Member States

**NPWS**
National Parks and Wildlife Service

**OECD**
Organisation for Economic Co-operation and Development

**OEE**
Office of Environmental Enforcement

**OMC**
Open Method of Co-ordination

**QMV**
Qualified Majority Voting

**R&D**
Research & Development

**REACH**
Registration, Evaluation and Authorisation of Chemicals

**SAC**
Special Areas of Conservation

**SEA**
Single European Act

**SEAI**
Sustainable Energy Authority of Ireland

**SDS**
Sustainable Development Strategy

**SEAP**
Sixth Environmental Action Programme

**TAC**
Total Allowable Catch

**SPA**
Special Protected Area

**WFD**
Water Framework Directive

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BACKGROUND PAPER

# The Impact of European Environmental Policy in Ireland

## 5.1 Introduction[1]

This paper addresses the environmental dimension of Ireland's relationship with the EU. Section 5.2 provides an account of the evolution of environmental policy at EU level and discusses key aspects of this policy. Section 5.3 provides an overview of institutional developments in Irish environmental policy and the challenges in this area. Section 5.4 examines the impact of the EU on Ireland's environmental policy and discusses Ireland's engagement with the EU in the environmental sphere. Conclusions are presented in Section 5.5.

## 5.2 EU Environmental Policy

### 5.2.1 Evolution of EU Environmental Policy

There was no mention of the environment in the original Treaty of Rome (1957). In the absence of an explicit Treaty basis, some environmental policy was initially based on Article 100 of the Treaty of Rome; this provided the basis for the adoption of harmonised environmental regulation as a dimension of the single market. Alternatively, environmental legislation was based on Article 235 which allows action where it is in accordance with the general mission of the Community.

These articles provided the basis for a considerable body of environmental legislation. A 1967 directive dealing with standards for classifying, packaging and labelling dangerous substances was based on Article 100 and is considered the first environmental directive. Other environmental directives that were adopted in advance of an explicit environmental basis in the Treaty include a 1970 directive establishing a framework for regulation of air pollution from motor vehicles, the Birds Directive (1979) on the protection of wild birds and their habitats and the Drinking Water Directive (1980).

A major stimulus to the development of EU environmental policy came from a call by the heads of state in 1972 to the European Commission to prepare an environmental policy and establish a directorate with responsibility for the environment. The first of the Commission's Environmental Action Programmes was published in 1973. These action programmes provide multi-year plans for legislation and other initiatives. The first two environmental action programmes established a series of principles that have endured:

1 Members of the NESC Council provided helpful comments on an earlier draft. In particular, I acknowledge written comments provided by the Department of Environment, Heritage and Local Government, Edmond Connolly of Macra na Feirme and Michael Ewing of the Irish Environmental Network.

- Prevention is better than cure.
- The polluter pays.
- Environmental impacts should be considered at the earliest possible stage in decision-making.
- Environmental action should be taken at the most appropriate level (subsidiarity) (Grant and Feehan, 2007).

In 1987 environmental action by the EU acquired an explicit Treaty basis. The Single European Act (SEA) identified protection of the environment as a Community objective. However some environmental measures continued to be based on the single market article of the Treaty. Actions based on single-market related measures were governed by qualified majority voting (QMV) and the new co-operation procedure with the European Parliament introduced by the SEA. By contrast environmental policy not related to the single market continued to require unanimity within the Council and was not covered by the co-decision procedure. The SEA appears to have been a stimulus to EC action on the environment. The EC enacted more environmental legislation between 1989 and 1991 than in the previous 20 years combined (Vogel, 1997a).

The Maastricht Treaty (1992) further strengthened the profile of the environment. Article 2 of the Treaty added 'sustainable growth' as one of the EU's key objectives. It introduced significant procedural changes regarding environmental legislation. It extended QMV to cover most environmental decisions and not just those related to the single market (Weale *et al*., 2000). Under Maastricht, the European Court of Justice (ECJ) was given the power to fine governments if they fail to comply with its judgements. The Maastricht Treaty also introduced the subsidiarity principle as a general criterion in all areas where the EU did not have exclusive competence.

The Amsterdam Treaty replaced the objective of 'sustainable growth' with the more ambitious concept of 'sustainable development'. It replaced the co-operation procedure with the European Parliament with co-decision; this strengthened the role of the European Parliament. Hence, most environmental decisions at EU level now involve a combination of QMV and the co-decision procedure. Decisions with fiscal implications (for example, environmental taxation) require unanimity.

Sustainable development means meeting the needs of the current generation in a way that does not compromise the ability of future generations to meet their needs. It embraces economic, social and environmental development. The European Council adopted the first EU Sustainable Development Strategy (SDS) in Gothenburg in 2001. The strategy set out policies to tackle key unsustainable trends, including the areas of climate change, energy and transport. In addition, the strategy advocated adopting an integrated approach so that the EU's economic, social and environmental policies would mutually reinforce each other. The central instrument proposed to achieve this was the obligation on the Commission to submit each major new policy proposal to impact assessment.

A revised SDS was agreed by the European Council in 2006. The strategy sets objectives and actions for seven key priority challenges:

- Climate change and energy
- Sustainable transport
- Sustainable consumption and production
- Conservation and management of natural resources
- Public health
- Social inclusion, demography and migration
- Global poverty and sustainable development challenges.

Key environmental policies covered by the SDS are discussed below. Progress on the SDS is reported every two years. Ireland was among the first of the EU countries to adopt a sustainable development strategy in 1997, in advance of the EU strategy.

The first progress report on the SDS was adopted by the Commission in 2007. The report found that there had been significant policy developments to promote sustainable development but that progress had not yet translated into substantial concrete action (European Commission, 2007a). A second progress report was published by the Commission in 2009. It concluded that 'despite considerable efforts to include action for sustainable development in major EU policy areas, unsustainable trends persist and the EU needs to intensify its efforts' (European Commission, 2009a: 5). This report pointed out that new challenges to sustainable development are emerging that are currently not included or covered only marginally in the EU SDS. These include energy security, adaptation to climate change, food security, land use, sustainability of public finances and the external (non-EU) dimension of sustainable development (climate change, energy and the Millennium Development Goals). The European Council has agreed that the current pattern of development is not sustainable:

> Unsustainable trends in relation to climate change and energy use, threats to public health, poverty and social exclusion, demographic pressure and ageing, management of natural resources, biodiversity loss, land use and transport still persist and new challenges are arising. Since these negative trends bring about a sense of urgency, short term action is required, whilst maintaining a long term focus. The main challenge is to gradually change our current unsustainable consumption and production patterns and non-integrated approach to policy-making (European Council, 2006: 2).

The Lisbon Treaty affirms sustainable development as an EU objective and clarifies what is meant by this concept. According to Article 3 of the Lisbon Treaty:

> The Union shall work for the sustainable development of Europe based on balanced economic growth and price stability, a highly competitive social market economy, aiming at full employment and social progress, and a high level of protection and improvement of the quality of the environment.

The Lisbon Treaty also adds sustainable development as an objective of the Union in its external relations. International action on climate change is added as an objective of Union policy on the environment (Article 191). In 2010 a new Directorate General for Climate Action was created in the European Commission.

### 5.2.2 Current Focus of EU Policy: Sixth Environmental Action Programmes

EU environmental policy has been developed through a series of action programmes. These programmes set out multi-year plans for legislative and other action to address environmental priorities. The current programme, the Sixth Environmental Action Programme (SEAP), covers the period from 2002 to 2012. The SEAP emphasises the need to enhance the implementation of existing legislation and to deepen the integration of environmental policy into other policy areas.

The programme is organised around four priority areas: climate change; nature and biodiversity; environment and health; and sustainability in the use of natural resources and management of waste. In addition, the programme identified seven key issues for the development of 'thematic strategies': air pollution; the marine environment; sustainable use of resources; prevention and recycling of waste; sustainable use of pesticides; soil protection and the urban environment. Each of the four priority areas is now discussed.

#### *Climate Change*

Objective: 'in line with the aim of the United Nations Framework Convention on Climate Change, to stabilise the atmospheric concentration of greenhouse gases at a level that will not cause unnatural variations of the earth's climate' (European Commission, 2001: 15).

Climate change has become a central part of overall EU strategy. The priority given to climate change is based on the increasingly clear evidence of global warming and the risks that this poses for humankind.

The Stern review of the scientific evidence prepared for the UK government concluded that:

> The scientific evidence is now overwhelming: climate change presents very serious global risks and it demands an urgent global response (Stern *et al*., 2006: vi).

The report drew on the most recent scientific evidence and projected that under a 'business as usual' scenario, the global concentrations of greenhouse gas emissions could treble by the end of the century. This is estimated to give rise to at least a 50 per cent increased risk of exceeding five degrees global average temperature change during the following decades. 'This would lead humans into unknown territory. An illustration of the scale of such an increase is that we are now only around five degrees warmer than in the ice age' (Stern *et al*., 2006: iv).

The Stern review identified the risk of very significant consequences arising from climate change:

> Climate change will affect the basic elements of life for people around the world – access to water, food production, health and the environment. Hundreds of millions of people could suffer hunger, water shortages and coastal flooding as the world warms (Stern *et al*., 2006: vi).

In a similar vein, Krugman interpreted the evidence on the potential impact of climate change in these terms: 'We're facing a clear and present danger to our way of life, perhaps even to civilization itself' (Krugman, 2009).

The European Council and Parliament reached final agreement on an ambitious strategy to tackle climate change in December 2008. The content of this agreement and its implications for Ireland are discussed below.

### *Nature and Biodiversity*

Objective: 'to protect and where necessary restore the structure and functioning of natural systems and halt the loss of biodiversity both in Europe and on a global scale' (European Commission, 2001: 19).

The term 'biodiversity' originated from 'biological diversity'. Biodiversity can be defined as the variety of life: the different plants, animals and micro-organisms, their genes and the ecosystems of which they are a part.

The SEAP identifies the protection of natural systems as a major priority both because healthy natural systems are essential to life and because nature is valued for its own sake. From an economic perspective, the European Commission (2006a) argues that biodiversity provides benefits to current and future generations by way of critical ecosystem services. These include the production of food, fuel, fibre and medicines, regulation of water, air and climate and maintenance of soil fertility. From the Commission's perspective, the protection of biodiversity is ultimately a matter of human survival: 'humanity cannot survive without this life support system' (European Commission, 2006a:5). The Commission regards the loss of biodiversity as serious a global threat as climate change (European Commission, 2010a).

The economic value of biodiversity is not widely understood or appreciated. To address this gap, the German Federal Ministry for the Environment and the European Commission have initiated a major global study, the Economics of Ecosystems and Biodiversity (TEEB). An interim report from this study found that 'damage to global ecosystem services and biodiversity is acute and accelerating' (TEEB, 2009, chapter 1: 2).

The European Council in Gothenburg in 2001 adopted the goal of halting the decline in biodiversity within the EU by 2010. This was followed a year later by a commitment of 130 world leaders to significantly reduce the worldwide rate of loss of biodiversity by 2010.

A key policy to protect nature and biodiversity in the EU is the establishment of a network of nature protection areas under the Habitats Directive (1992) and the Birds Directive (1979). The areas designated under these two pieces of legislation are known collectively as Natura 2000. Selection of Natura 2000 sites is based on scientific criteria, such as size and density of populations of target species. The selection of sites is a member state responsibility, subject to these scientific criteria. The selection of sites has been subject to considerable controversy and legal challenges in some member states and there have many complaints to the Commission. The implementation of this policy in Ireland is discussed below.

Considerable progress has been made in the implementation of the habitats policy. An area equivalent to 18 per cent of the EU territory has been designated for the Natura 2000 network which is the largest network of protected areas in the world. The management of the selected areas is a major challenge. Some EU funding is available to partially fund the management of the conservation areas. The Commission's

Mid-Term Review of the SEAP identifies four challenges in regard to nature protection as follows: ensuring available EU funds are fully used for nature protection; extending Natura 2000 to cover marine areas; completing the designation of sites in the member states that have joined the Union since 2004; and understanding and then responding to the impact of climate change on the network (European Commission, 2007b).

Notwithstanding progress made, the EU target of halting loss of biodiversity by 2010 was not achieved (European Commission, 2010b). 'More than 700 European species are currently under threat, 43 per cent of European bird species have an unfavourable conservation status, while the number of invasive alien species in the pan-European region continues to increase' (European Commission, 2008a: 6). The European Commission (2010a) refers to the 'alarming trends of loss' of global biodiversity.

Protection of the marine environment is another dimension of the nature and biodiversity strategy. In 2008 a Marine Strategy Framework Directive was adopted. This establishes a framework obliging member states to take the necessary measures for achieving or maintaining good environmental status in the marine environment by 2020.

The European Commission (2006a) noted that the policy framework to halt the loss of biodiversity was largely in place, but the pace and extent of implementation was insufficient. It highlighted two particular threats to biodiversity: ill considered land use and development; and the increasing impact of climate change on biodiversity.

An international agreement was reached in 2010, supported by the EU, on the establishment of an Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES). It is intended that this body would undertake work comparable to that of the Intergovernmental Panel on Climate Change.

*Environment, Health and Quality of Life*

Objective: 'to achieve a quality of the environment where the levels of man-made contaminants, including the different types of radiation, do not give rise to significant impacts on or risk to human health. Health is defined as a state of complete physical, mental and social wellbeing' (European Commission, 2001:24).

Policy in this area is focussed on problems related to air and water pollution, chemicals and noise. The SEAP sets out a wide range of measures to address problems in each of these areas.

The key measure to addressing the health issues in regard to water is the implementation of existing legislation, in particular the Water Framework Directive (2000), the Drinking Water Directive (1998) and the Nitrates Directive (1991).

The SEAP also points out that there is only limited knowledge of the risks posed to health and the environment by the vast majority of chemicals in use today. A new approach to the regulation of chemicals was introduced with the adoption of the Registration, Evaluation, and Authorisation of Chemicals (REACH) in 2006 (see Section 5.2.7 below). A thematic strategy on pesticides has also been developed and a proposal for a framework directive on pesticides was published in 2006.

A revised directive on air quality was adopted in 2008; this sets new standards reflecting new scientific information and consolidates existing legislation. A new approach to the regulation of industrial emissions of various kinds was taken in 1996 with the adoption of the Integrated Pollution Prevention and Control (IPPC) Directive. Industrial operators covered by this directive are required to comprehensively address the environmental impact of their activities through a public licensing process. Following a review of EU legislation on industrial emissions, the European Commission in 2007 proposed a new directive on industrial emissions.

*The Sustainable Use of Natural Resources and Management of Waste*

Objective: 'to ensure the consumption of renewable and non-renewable resources and the associated impacts do not exceed the carrying capacity of the environment and to achieve a decoupling of resource use from economic growth through significantly improved resource efficiency, dematerialisation of the economy and waste prevention' (European Commission, 2001: 31).

The SEAP points to the pressures arising from the current rates of consumption of both renewable and non-renewable resources. The Commission has produced a thematic strategy on the sustainable use of natural resources (European Commission, 2005). This strategy sets out a framework to allow the environmental impact of resource use to be factored into policy making generally. The framework is based on product life-cycle; i.e., considering the material use and energy impact of a product across its life-cycle. The approach is to be applied through existing and emerging policies and member states are encouraged to develop programmes on sustainable resource use.

*Conclusion*

The Mid-Term Review of the SEAP states that the EU is 'generally on track with adopting the measures outlined in the action programme' (European Commission, 2007b: 17) but that it is too early to see the results of most of the proposed measures. Full implementation of all the actions involved would have far reaching implications and yield substantial environmental benefits. For example, implementation of the strategy on climate change will involve changes in transport, industry, services and households. The Mid-Term Review refers to the 'far from satisfactory' (16) situation with regard to implementation of environmental policy generally as indicated by the high number of complaints (to the Commission) and infringement proceedings.

### 5.2.3 New Policy Instruments

Since the 1990s there has been change in the nature of EU environmental policy with some movement from the use of regulation to alternative instruments, collectively referred to as 'new policy instruments'. New policy instruments include market-based instruments (taxes, charges, emissions trading), voluntary or negotiated instruments and information devices such as eco-labels. A common feature of new policy instruments is that they involve less intrusive intervention and offer those affected greater flexibility than regulation. Market-based instruments can improve price signals by reflecting environmental costs in the prices faced by companies, individuals and public authorities. They can encourage immediate responses and also over time affect the pattern of innovation in an environmentally desirable direction.

The following are some examples of the use of 'new policy instruments' in EU environmental policy:

- The most significant new policy instrument in EU policy is the Emissions Trading Scheme (ETS) for greenhouse gas (GHG) emissions. This covers around 40 per cent of GHG emissions in the EU (see Section 5.4.2 below).
- The Eco-management and audit scheme (EMAS) allows a firm to be registered as an 'EMAS business', if it adopts an officially verified environmental management scheme. It is a voluntary scheme that aims to induce firms to take account of environmental effects early in the production process (Lenschow, 2005).
- The Framework Directive on Energy Taxation (2003) seeks to harmonize and gradually increase the minimum rates of duty applicable to a range of energy products (Lenshow, 2005).
- The Water Framework Directive (2000) requires that member states, except in very limited circumstances, introduce by 2010 water pricing policies that encourage efficient water use.

The European Commission is keen to promote the development of market-based instruments at both EU and national levels and has published a green paper on this subject (European Commission, 2007c). The Commission is considering playing a more active role in promoting environmental tax reform at national level; EU action on taxation depends on unanimous agreement. It envisages market-based instruments playing an important role in the transition to a low carbon economy. There has also been a gradual change in European legislation from end-of-pipe regulation to addressing problems in a systemic way, encouraging good practice and problem prevention as well as punishing end-of-pipe polluters.

### 5.2.4 Open Method of Co-ordination and Learning

As an alternative or complement to legislative Community policies, use is made in economic and social policy of the open method of co-ordination (OMC); the OMC is particularly significant in the implementation of the Lisbon strategy. The OMC is defined as follows:

- Fixing guidelines for the Union combined with specific timetables for achieving the goals which they set in the short, medium and long terms;
- Establishing, where appropriate, quantitative and qualitative indicators and benchmarks against the best in the world and tailored to the needs of different member states as a means of comparing best practice;
- Translating these European guidelines into national and regional policies by setting specific targets and adopting measures, taking into account regional and national differences;
- Periodic monitoring, evaluation and peer review organised as mutual learning processes (European Council, 2000).

Over more than three decades, the EU has developed a comprehensive body of environmental legislation. As such there is less need for OMC in the environmental area than other policy areas and there are no formal environmental OMCs. There are however a number of processes in the environmental area that have some of the characteristics of OMCs and a wide range of EU environmental networks that promote learning. Some examples of OMC-type processes are now described.

The EU SDS was summarised above. It is an overarching strategy that encompasses a range of policy areas. The SDS overall has some OMC characteristics. It sets high-level EU goals and there is bi-annual national reporting on progress. Peer review is encouraged but is voluntary. A peer review of the Dutch SDS was undertaken in 2007. The SDS does not have all of the elements of an OMC as defined above. There could be merit in developing the SDS as a more formal OMC as sustainability touches on many complex questions that do not easily lend themselves to legislative solutions (for example, adopting sustainable transport).

The European Union Network for the Implementation and Enforcement of Environmental Law (IMPEL) is an international non-profit association of the environmental authorities of the EU member states, acceding and candidate countries of the EU and European Economic Area countries. IMPEL was set up in 1992 as an informal network of European regulators and authorities concerned with the implementation and enforcement of environmental law. The network's objective is to create the necessary impetus in the EU to make progress on ensuring a more effective application of environmental legislation. IMPEL has OMC characteristics in that it promotes a harmonised approach to EU legislation and it encourages peer learning; peer review studies of individual regulatory authorities are also undertaken.

IMPEL has developed into a well established organisation, recognized in a number of EU policy and practice documents; e.g. the Sixth Environment Action Programme. Ireland is represented by the EPA, which regards IMPEL as a powerful tool for sharing experience and information on the practical application of environmental legislation across Europe.

The Water Framework Directive (WFD) (2000) sets out a long term, comprehensive approach to achieving good water quality in the EU. It is a classic legislative approach. However, its implementation is promoted by the Common Implementation Strategy (CIS). This is a process that seeks to promote a harmonised approach to implementation of the WFD. It has been described as 'a non-legislative procedure embedded in the legislative framework of the WFD' (ten Brink *et al*., 2005: 47). The primary output has been guidance documents on implementing the WFD. These provide non-legally binding and practical guidance to the experts responsible for implementation. A review found that the CIS had 'accelerated and considerably improved the implementation of the WFD' (ten Brink *et al*., 2005: 4).

A review of the performance of OMC-type processes in the environmental field found that they had contributed significantly to learning, that the impacts appear mostly positive but 'perhaps not major and only long term' (ten Brink *et al*., 2005: 3). This review found that they had performed less well with respect to generating decisions.

### 5.2.5 Enlargement

EU environmental policy poses substantial challenges for the new member states (NMS). The NMS have a legacy of environmental problems and require major investment to meet EU environmental standards. It has been estimated that the costs of compliance with the EU environmental *acquis* (accumulated EU law) could be €50 to €80 billion for the ten NMS (Skjaerseth and Wettestad, 2007: 10). The NMS were given extended transition periods to meet the environmental *acquis*.

Many commentators have expressed concern that the enlargement of the EU would have the effect of weakening environmental policy. The NMS have low GDP and are perceived to attach low priority to the environment. Hence it has been argued that the NMS would join the 'laggard' group of member states that sometimes seek to weaken the environmental proposals of the Commission. Furthermore there was concern that weaknesses in administrative capacity would further widen the 'implementation gap' in environmental policy.

A paper by Skjaerseth and Wettestad (2007) provided an early assessment of the extent to which these fears have been realised. They examined the role of the NMS in three environmental policy areas: air quality, climate change and genetically modified organisms (GMOs).

In the area of air quality, the EU commenced the development of its Clean Air for Europe (CAFE) programme in 2001. The NMS participated in the development of this strategy, both as candidate countries and as member states. In the development of this strategy, Skjaerseth and Wettestad (2007) find that the NMSs placed themselves in all of the main 'camps'. Poland was a critic of the policy but others supported it (Cyprus, Latvia, Bulgaria and Romania) while others were neutral.

In relation to emissions trading, Skjaerseth and Wettestad (2007) found no evidence that the NMS either complicated or held up the development of the ETS. In terms of implementation of the ETS there have been considerable problems and delays in the NMS.

The NMS have taken a restrictive position on the regulation of GMOs. Policy on GMOs in the EU generally has developed in a more restrictive way than in the US. In 1998 an unofficial moratorium on the approval of new GMOs for commercial use was adopted in the EU; this was a source of tension between the EU and the US. In 2003 the Commission announced its intention of ending this unofficial moratorium and new GMOs were authorised in 2004. Meanwhile, several member states adopted national bans. In 2005 the Commission sought to overturn the national bans in five member states (Austria, France, Germany, Greece and Luxembourg). However the Environmental Council voted strongly to support national bans. All ten NMS supported the national bans at the June 2005 Council meeting. Skjaerseth and Wettestad cite this of evidence of support for environmental protection among the NMS.

The presence of NMS did not pose an obstacle to the agreement by the EU Council of an ambitious strategy to tackle climate change. Poland and other East European countries had raised concerns about the cost implications of the proposed strategy. In particular these countries had been concerned about

the impact of the proposed requirement for its coal-based electricity sector to purchase emission rights by auction in the ETS. However East European countries were not alone in their concerns about the cost implications; western countries, in particular Germany, had concerns about the impact of the cost of emissions on international competitiveness. Concerns about costs were addressed in the final agreement by a substantial increase in the share of allowances to be allocated free of charge rather than being auctioned. Countries with below average GDP will be given a temporary derogation from the rule that all allowances for the electricity sector are to be auctioned by 2013. Energy intensive industries that are exposed to significant non-EU competition will also benefit from free allocation of allowances. The partial shift from auctioning of allowances to free allocation does not change the environmental impact of the climate change strategy. The impact is essentially distributional with free allocation resulting in greater gains for shareholders of the industries affected at the cost of consumers.

As regards emissions outside the ETS, East European countries were successful in negotiating lenient targets. In fact for three countries (Bulgaria, Czech Republic and Poland) emissions allocations are more than they can hope to emit (Tol, 2009).

In conclusion, Skjaerseth and Wettestad (2007) found that there is no indication that enlargement will result in any breakdown of EU environmental policy. On the critical issue of addressing climate change, East European countries were not an obstacle to the agreement of an ambitious EU strategy.

### 5.2.6 Effectiveness of EU Environmental Policy

The EU has developed a comprehensive and sophisticated body of environmental law. The involvement of the EU has undoubtedly raised the profile of environmental issues and put pressure on member states to devote greater efforts to environmental concerns.

The key question for the effectiveness of environmental policy is whether it has had a positive impact on the state of the environment. The European Environmental Agency (EEA) reports periodically on the state of the European environment. In the foreword to the third of these reports (2005), the executive director of the EEA observers as follows:

> Looking back, the last report, published in 1999 concluded that, despite 25 years of Community environmental policy, environmental quality in the EU was mixed and that the unsustainable development of some key economic sectors was the major barrier to further improvements. That remains the EEA's key conclusion, despite significant progress on some issues demonstrating that environmental policy works (EEA, 2005: 8).

Key achievements in efforts to improve the European environment include the following: the elimination of lead from petrol; the phasing out of ozone depleting chlorofluorocarbons; increased treatment of urban waste water has reduced pollution of rivers and lakes; the designation of 18 per cent of EU territory as protected natural areas; slight increase in forests; elimination of smog in many areas and reductions in acid rain; and many other advances (EEA, 2005:1, 3).

Notwithstanding these successes, major environmental challenges and problems persist. First, climate change poses major global risks. Second, notwithstanding improvements in air quality, concentrations of certain air pollutants remain high, often above existing targets; air pollution related diseases result in the loss of 200 million working days a year. Third, the citizens of Europe are exposed to a growing cocktail of chemical pollutants from food and consumer goods. Fourth, water pollution problems persist. Fifth, many of Europe's fish stocks are depleted and the European fishing fleet is putting pressure on fish stocks further afield. Sixth, notwithstanding the designation of nature protection areas, Europe's landscapes are undergoing widespread and potentially irreversible changes with impacts on species and ecosystems (EEA, 2005).

It has long been recognised that there are problems in the implementation and enforcement of EU environmental law. It is possible to distinguish three legal dimensions of implementation and enforcement problems. First, there are failures to implement (transpose) EU directives into national legislation by specified deadlines (this is referred to as 'non-communication'). Second, EU directives may be improperly transposed ('non-conformity'). Third, legislation may be correctly transposed but not enforced ('bad application'). There are persistent infringements in each of these dimensions. At the end of 2009 the Commission was dealing with 451 open infringement cases in the area of the environment.

There are many steps in the procedure for dealing with potential infringements of EU law. The procedure can be summarised as follows. Where the European Commission considers that an infringement may have taken place, it first issues a 'letter of formal notice' to the member state concerned. The member state is required to reply promptly setting out the facts on the issue concerned. In light of this reply, the Commission may issue a 'reasoned opinion' setting out why an infringement has taken place. At this stage the member state may provide credible assurance that the issue will be addressed; most cases can be resolved in this way. However, if the member state fails to comply with the reasoned opinion, the Commission may bring the case to the ECJ. If the ECJ decides that an infringement has taken place, then the member state is required to take action to comply with the law in question. If the member state does not comply with the original ECJ ruling, the Commission may bring the matter back to the ECJ. If the ECJ finds that the member state has not complied with the original judgement, it may impose fines.

Concerns about implementation led the Commission to designate implementation as one of its key priorities in the SEAP, as discussed above. In 2008 the Commission issued a communication on the issue of implementation of environmental law (European Commission, 2008b). This communication presents a number of proposals to enhance implementation. These include a directive (currently with the co-legislators) that would enhance citizens access to justice in the environmental area; a pilot problem solving mechanism in 15 member states that seeks to respond better to citizens inquiries concerning the application of EU law; and more immediate and more intensive treatment of infringements in priority areas.

There is considerable variation in the implementation of EU environmental policy across member states. Ireland's experience is examined in Section 5.4 below.

### 5.2.7 A Perspective on the Dynamics of Environmental Protection and the Global Role of the EU[2]

The creation of the single market and the growth of trade has been a major focus of the EU while the global economy has also been characterised by significantly increasing interdependence. It is possible that this growth in economic interdependence could have led to downward pressure on environmental standards if countries with low environmental standards gained cost advantages over countries with high standards. However, the evidence over several decades of growing interdependence is that there has not been any 'race to the bottom' in environmental standards, either in the EU or globally (Lenschow, 2007). The long run rise in trade has been accompanied by rising environmental standards in all industrialised countries and some semi-industrialised countries as well.

This raises the question as to how this outcome has emerged. One significant reason is that for most industries, the costs of complying with rising environmental standards have been relatively low. For most US industries, the cost of compliance with (stringent) American environmental standards is less than 2 per cent of total production costs (Vogel, 1997b). A second reason is that increases in wealth are associated with an increasing preference for higher environmental standards. There are often additional benefits associated with environmental protection such as health benefits and a more attractive environment for tourists. Third, there have been dynamics in play during the rise in economic interdependence that have led to the 'exporting' of the environmental standards of countries with high standards to other countries. One dynamic arises from terms of market access and the other dynamics are the EU itself and international agreements on the environment. The rest of this sub-section section examines these dynamics.

#### *The California Effect*

The California effect is a phenomenon whereby the high standards of one political jurisdiction spread to other jurisdictions, motivated by market access. The term originates from the experience of US car emission standards since the 1970s. California was permitted to set higher standards than those required by federal law and availed of this right. The standards spread beyond California as producers elsewhere had to meet these standards if they wished to sell to the Californian market. This eventually led to the adoption of the Californian standards as US national standards in 1990 while California could again set higher standards. Other states were given the option of adopting either national or Californian standards.

This effect is not limited to the US. In the case of car emission standards, German companies had significant US exports and sought to have these standards adopted in the EU. This was initially opposed by other EU countries. Eventually a directive on higher standards was adopted in 1988 with an exemption from the higher standards for small cars and the new standards were finally adopted for all cars in 1991.

2 This sub-section draws on Vogel (1997b).

Other industries in which this effect has been observed include agriculture and chemicals. The EU adopted the Registration, Evaluation and Authorisation of Chemicals (REACH) regulation in 2006 which provides for a new comprehensive approach to the regulation of chemicals. The REACH regulation is particularly directed at the large backlog of existing chemicals placed on the market prior to 1981 that had not been subject to testing regarding the risks posed. REACH places the responsibility on producers or importers of chemicals to demonstrate the safety of their products. There are particular safeguards regarding 'substances of very high concern'. There was strong opposition to REACH from the US federal government. However non-governmental organisations (NGOs), academics and states in the US have shown strong interest in REACH. It has influenced recent and planned legislation in the states of California, Massachusetts and Maine. Analysis by Scott (2009) shows that there are both economic and environmental factors motivating interest in REACH in the US. US states are concerned that REACH could place their chemical industry at a competitive disadvantage in the absence of regulatory changes in the US.

The California effect applies mostly to product standards. Much of the environmental impact of a product derives from the process of production rather than the product in itself. Changes in the production process to meet environmental standards to ensure market access sometimes occur but are relatively rare. It is generally not allowed under the World Trade Organisation to exclude a product from a market on the basis of how it is produced. Western countries have not generally used their economic leverage to upgrade the environmental standards of production in Asia. The one significant exception to this is climate change where western countries have been concerned about the global impact of the technology used in Asian economies.

### *Role of the EU in Diffusing High Environmental Standards*

The adoption of directives and other policy measures in the EU is a key mechanism for the diffusion of high environmental standards across the EU. EU directives are frequently based on environmental standards developed initially in 'greener' member states such as Germany, the Netherlands and Denmark. EU policy now sets standards across key environmental dimensions, including product standards, water, waste and nature preservation while in recent years the EU has promoted action across member states to limit climate change.

Vogel *et al*. (2005) examine diffusion of environmental standards across US states and EU member states in three environmental areas: car emissions, packaging waste and climate change. Notwithstanding the presence of the California effect, they conclude from their analysis that 'in the long run, there is no substitute for centralized standards, they represent the most important mechanism of policy diffusion' (Vogel *et al*., 2005: 19).

The successful diffusion of high standards in car emissions in the US and eventually to the EU has been discussed above. By contrast, in the case of packaging waste and climate change in the US, there has been considerable innovation at state level but relatively little diffusion across US states. Vogel *et al*. (2005) attributed this to the lack of federal direction in these policy areas, related to the decline in the

influence of the environmental movement at federal level. On the other hand, in the EU there has been greater political consensus at both EU and member state level on key environmental issues. Greater central support for policy on packaging waste and climate change in the EU has led to greater diffusion of action in these domains than in the US.

### *The Global Role of the EU*

The EU is a significant contributor to the diffusion of higher global environmental standards. In addition to its economic impact, as illustrated by the discussion of REACH above, the EU 'has also played an important role in negotiating and strengthening a number of international environmental treaties, including the Montreal Protocol, the Lomé Convention (which bans exports of hazardous and radioactive wastes) and the Convention on Long-Range Transboundary Air Pollution' (Vogel, 1997b: 564). The EU has promoted the concept of sustainable development in global forums. It played an active role at the UN Conference on Environment and Development in 1992 in Rio. An outcome of this conference was agreement on a comprehensive action plan on economic development and environmental protection, *Agenda 21*. This plan was adopted by 178 governments. Sustainable development is the central focus of Agenda 21. Commitment to Agenda 21 was reaffirmed at the World Sustainable Development Summit in Johannesburg in 2002.

Two major global priorities for the EU are climate change and biodiversity. The EU played a crucial role in securing agreement on the Kyoto Protocol on climate change; this Protocol was first adopted in 1997 and entered into legal force in 2005. Although the direct impact of Kyoto on the global growth of emissions is modest, it represents a major historical landmark as the first legally binding global agreement on climate change. The US did not ratify Kyoto; nonetheless, its presence has motivated action within the US by states, cities and corporations (including major multinationals).

The EU is now seeking to secure a new international agreement to tackle climate change. The EU's negotiating positions are prepared by the EU's working party on International Environmental Issues (IEI) that meets twice a month with final positions being adopted by the Council of Environment Ministers or the European Council. Consensus is required on the negotiating position. The presidency plays an important role in advancing negotiations at EU co-ordination meetings (Brennan and Curtin, 2008).

The EU is a driving force in seeking to stem the worldwide loss of biodiversity. The EU is a party to the UN Convention on Biological Diversity of 1992. In 2002 the parties to this Convention agreed to significantly reduce the rate of biodiversity loss by 2010. The EU adopted the aim of halting the loss of biodiversity within the EU by 2010. It appears that neither the EU nor the global targets will be met (European Commission, 2010a and 2010b). In 2010 the EU adopted a new goal of halting the loss of biodiversity and the degrading of ecosystem services within the EU by 2020.

According to one Commission official, one third of EU environmental measures can be traced back to international agreements on water, the atmosphere, waste etc (as quoted in Lenschow, 2005: 323). International policy on the environment is an area of mixed competences with both member states and the EU having roles: 'Non-EU states are not always ready to accept the EU as a signatory, unless it is made sufficiently clear how the agreed obligations will be implemented internally' (Lenschow, 2005: 323). For example, the EU has been prohibited from ratifying the Convention on International Trade in Endangered Species; this convention was ratified by member states. The Kyoto agreement was ratified both by the EU and the member states.

There are now well over 100 international agreements on the environment. The experience of international agreements is mixed. Successful international agreements on the environment include the Montreal Protocol, the Long Range Transboundary Air Pollution Convention and the Convention for the Protection of the Marine Environment of the Baltic Sea Area. According to Vogel (1997b), many of the most effective agreements cover regional groups of countries while there are relatively few truly effective global agreements. Vogel identifies the commitment of rich countries as key to effective international environmental governance: 'they must be willing to change their own policies and provide less affluent or green countries with sufficient incentives to change theirs as well' (Vogel, 1997b: 567-568).

### 5.2.8 Conclusion

The EU has developed comprehensive environmental policies and laws. The focus of the EU on markets and trade has not been an obstacle to the development of strong environmental policies. There is no evidence of a race to the bottom in environmental standards. Environmental policy is primarily based on legislation supplemented by a number of OMC-type processes that promote co-ordination and peer learning. EU environmental action has had significant achievements such as phasing out of ozone-depleting chlorofluorocarbons and elimination of acid rain. However, unsustainable trends persist including trends in climate change and energy use, natural resource use generally and loss of biodiversity. There are problems of implementing EU environmental policy across many member states; Ireland's experience is examined in Section 5.4 below. There were concerns that EU enlargement would weaken the EU's ability to address environmental concerns. The agreement by the EU institutions of an ambitious package on climate change at the end of 2008 is an indication that the enlargement will not be a major obstacle to pursuing environmental objectives. Climate change is an urgent global problem and has become a major focus of EU policy.

## 5.3 Irish Environmental Policy

### 5.3.1 Key Institutional Developments

Ireland was a relative latecomer to widespread awareness of the significance of environmental issues. As a relatively low income, under-populated country, environmental concerns historically were less pressing than issues of economic and social development. A significant symbolic change in 1977 was the inclusion of 'environment' for the first time in the name of a government department with the renaming of the Department of Local Government to the Department of the Environment and Local Government (Flynn, 2007).

This reflected a growing familiarisation and engagement with the environmental agenda, partly associated with Ireland having joined the then EEC in 1973 and having had an environment attaché assigned from the Department to Ireland's permanent representation to the EU in Brussels since the mid 1970s. The evolution continued into the 1980s, with the establishment of an explicit 'environmental policy' section concerned broadly with the environment.

Incidences of serious pollution during the 1980s raised awareness in Ireland of the need for stronger environmental policies. Two incidents in particular received widespread attention (Flynn, 2007). The first was the pollution of lakes in the North East, most notably Lough Sheelin. This pollution was related to intensive pig farming. This problem raised awareness of the need to address the environmental impact of intensive agriculture in Ireland.

The second incident was the case of a farmer in Tipperary, John Hanrahan, whose cattle experienced severe health problems. This was alleged to be the result of a neighbouring chemicals plant. After an extended legal battle, the Supreme Court eventually ruled in his favour. This protracted case received prominent attention and highlighted the need for a more effective approach to industrial pollution. There were a number of other environmental disputes with the chemical industry during the 1980s.

A key landmark in Irish environmental policy was the establishment of the Environmental Protection Agency (EPA) in 1993 and the adoption of a new approach to the regulation of industry and other entities with significant environmental impact. One key factor motivating the new approach was awareness of the lack of resources and expertise of local authorities to deal effectively with the pharmaceutical industry and other high-tech industries, as highlighted by the Hanrahan case. Second, in the absence of suitable regulatory alternatives, a practise developed of using planning permission as a means of specifying environmental conditions in, for example, the ongoing operations of an industrial plant. However, Taylor points out that the planning system was never intended to be used in this way and that it was 'hopelessly unsuitable' for this purpose (Taylor, 2005: 156). Furthermore, 'it was widely acknowledged that the regulatory framework was bureaucratic and unwieldy and had failed to regulate industry' (Taylor, 2005: 162). Third, there was also a need to address the situation in which local authorities were exempt themselves from many of controls that they were responsible for enforcing on others, for example in regard to waste management.

The role of the EPA is to protect and improve the natural environment. From the start, a core responsibility was the management of an Integrated Pollution Control (IPC) licensing system. The IPC system was introduced in anticipation of a later EU Directive on Integrated Pollution Prevention and Control (IPPC) (1996). The introduction of the IPC/IPPC regime has made a significant change to environmental regulation. It involves integration of all environmental impacts (water, air waste, soil, odour and noise) into a single licence. Licenses are required for certain large-scale industrial and agricultural activities including the intensive pig and poultry sectors and the recovery or disposal of waste in a facility connected with or associated with an IPPC activity. The EPA must be satisfied that the emissions from the activity would not cause a significant adverse environmental impact. With IPC/IPPC, 'the onus shifts to the operator to justify and defend the technology and practises

to be used, a process it was hoped would encourage a new level of environmental awareness among management' (Taylor, 2005: 162). In assessing license applications, the EPA applied the principle of 'best available technology not entailing excessive cost' (BATNECC); subsequently the requirement became 'best available technology' (BAT). This licensing system also seeks to foster continuing improvements in preventing or reducing emissions. Companies with an IPPC license are required to publish annual environmental reports (AERs) so that information on companies' environmental performance is publicly available. The system emphasises pollution prevention techniques and waste minimisation rather than end-of-pipe treatments (Taylor, 2005).

Some environmentalists were unimpressed with the focus of the EPA on IPC/IPPC licensing, seeing it as a license to pollute, but 'probably misunderstood this highly technical and negotiated style of industrial pollution control' (Flynn, 2007: 94). There is evidence that it has been effective in reducing pollution. According to estimates by Clinch and Kerins (2002), prior to the introduction of IPC, the average compliance ratio by industry was 0.7 (i.e., emissions of various kinds were on average 70 per cent of the maximum permitted level). By 1998 when the system was fully operational, the ratio had fallen to 0.5, indicating a significant improvement in environmental performance. Scannell (2006) has observed that the EPA has a 'record for competent and fair regulation of activities subject to the Directives on IPPC and waste' (Scannell, 2006: 2).

In addition to IPPC licensing, the EPA has a range of other responsibilities. These include overseeing local authorities' environmental responsibilities, supervising the supply of drinking water, monitoring environmental quality, managing Ireland's Emissions Trading Scheme, research and promoting environmental awareness.

Since 2003, enforcement has had a more prominent profile in the work of the EPA with the establishment of a dedicated Office of Environmental Enforcement (OEE) within the EPA. According to Flynn (2007) this stemmed from pressure from the European Commission to improve implementation. The OEE has direct responsibility for the enforcement of EPA licenses and also supervises the environmental protection activities of local authorities. The OEE can prosecute individuals, companies and local authorities; a number of local authorities were prosecuted by the OEE for the first time in 2005. In order to achieve a more effective approach to enforcement, the EPA co-ordinates a national Environmental Enforcement Network. This network consists of the EPA, all local authorities, an Garda Siochána, the National Bureau for Criminal Investigations and other public bodies.

Local authorities continue to have extensive responsibilities for implementing environmental policy, including of course EU policy. The EPA has a monitoring role and powers of sanction over local authorities. If the EPA believes that a local authority has not carried out its statutory responsibilities in a satisfactory manner, the EPA may request a report from the local authority. If a satisfactory response is not provided the EPA may implement the required changes and impose the costs on a local authority. The EPA is undergoing a public review process in 2010.

The Sustainable Energy Authority of Ireland (SEAI) is a public body that promotes energy efficiency and uptake and development of renewable energy. It replaced the former Irish Energy Centre.

The Department of the Environment, Heritage and Local Government's National Parks and Wildlife Service (NPWS) is responsible for conservation of a range of habitats and species in Ireland under national and EU legislation. It manages Ireland's six national parks. These functions had previously been undertaken by, Duchás, a division of the Department of Arts, Heritage and the Gaeltacht. The experience of implementing EU legislation on habitats and species is discussed in the Section 5.4.4.

Comhar is a forum for discussion on national sustainable development policy. Its terms of reference include advancing the national agenda for sustainable development and building national consensus on this goal. Its members are nominated by five pillars: the State sector, economic sector (comprising trade union, business and farming organisations), environmental non-governmental organisations (NGOs), social NGOs, and professional/academic bodies. Comhar publishes reports on a range of sustainable development themes including climate change, energy, biodiversity and spatial planning.

The Heritage Council is a statutory body that promotes the conservation of Ireland's natural and built heritage. It raises awareness of heritage, provides grants for conservation and also provides policy advice.

An Taisce is an NGO that promotes environmental conservation. Although an NGO, it is a 'prescribed body' under planning and development regulations. As a prescribed body, local authorities are required to refer planning applications to An Taisce in a range of contexts defined in legislation, such as development that has a significant effect on nature conservation or is a threat to water pollution. Among its activities, it acts as a monitor of the application of EU environmental legislation at local level. It runs the Green-Schools programme that promotes environmental awareness in schools.

The Environmental Pillar is one of the five pillars of social partnership and is made up of 27 national NGOs. The Environmental Pillar has the right to nominate persons to national, regional and local government bodies.

### 5.3.2 Ireland's Environmental Challenges

The EPA publishes overall assessments of Ireland's environment every few years; the most recent of these was published in 2008. The EPA concluded that on balance the quality of Ireland's environment is relatively good but identified key environmental challenges that need to be addressed. The four main challenges were identified as follows:

(i) Limiting and adapting to climate change: The EPA regards climate change as the greatest challenge facing humanity. Ireland is an active participant in the co-ordinated EU effort to limit climate change. Ireland also needs to address the mitigation of climate change including issues such as flood prevention.

(ii) Reversing environmental degradation: Two areas where unsatisfactory conditions were considered to be extensive by the EPA were water pollution, and the conservation status of natural habitats and species. It also identified remediation of contaminated soil as an important issue.

(iii) Mainstreaming environmental considerations: Policies and plans across a range of areas have significant environmental impact (for example, energy, housing and transport) and there is a need for greater integration of environmental considerations across these areas. In addition the EPA argued that businesses and individuals need to take greater responsibility for their environmental impact.

(iv) Complying with environmental legislation and agreements: There is a need for a strong culture of compliance with environmental legislation as well as a higher and more consistent standard of enforcement, given the range of EU and international obligations on the environment that Ireland has to meet.

The EPA (2007) set out a long term vision for Ireland's environment and identified the following six priority goals for Ireland's environment:

- Limiting and adapting to climate change
- Clean air
- Protecting water resources
- Sustainable use of natural resources, including waste minimisation
- Protecting soil and biodiversity
- Integration and enforcement.

Developments in each of these areas, along with an examination of the impact of the EU, are presented in Section 5.4 below.

The Organisation in Economic Cooperation and Development (OECD) conducts peer reviews of environmental conditions and progress in OECD member countries. As part of this process, efforts to meet both domestic objectives and international commitments are scrutinized. The most recent OECD Environmental Performance Review for Ireland was published in May 2010. It concluded that substantial progress has been achieved since the previous review in 2000. Improved policies, actions to support the development of an innovation-based, green, low-carbon economy, institutional strengthening and significant investment in environmental infrastructure were highlighted by the OECD, and the report pointed to good air and water quality and low energy intensity outcomes.

The report also made some 38 policy recommendations to encourage further environmental progress in Ireland and in particular highlighted three areas where action is required:

- **Greenhouse Gas Emissions:** Efforts to mitigate greenhouse gas emissions should be strengthened, particularly from transport, agriculture and the commercial and residential sectors.
- **Water:** Incentives for efficient use of water resources should be introduced by effectively charging households for the consumption of water.

- **Aarhus:** The Aarhus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters should be ratified (OECD, 2010).

Another key environmental priority identified by NESC is implementing sustainable, high quality settlements in urban and rural areas. This affects the achievement of many of the above goals. In its report on housing (NESC, 2004), the Council expressed the view that a strong case could be made that the patterns of settlement, neighbourhood design and density in Irish housing in the previous decade were storing up significant social, environmental, budgetary and economic problems. The report pointed out that there is a clear alternative to unsustainable suburban sprawl: sustainable urban densities, consolidated urban areas, compact urban satellites, rapid communications networks and sustainable rural settlement. The Council welcomed the new principles that now underpin Irish housing policy and the new hierarchy of plans and guidelines that seek to promote and implement these principles. However, the Council also drew attention to a range of risks that can prevent the realisation of development based on these principles.

Since then the housing market has collapsed. While the sector can be expected to recover in time, there is a need now to consider what changes are required to ensure that, when a housing recovery takes place, it is based on a more economically, socially and environmentally sustainable pattern than was evident during the boom.

## 5.4 EU Environmental Policy in Ireland: Impact and Engagement

### 5.4.1 Introduction

There is widespread agreement among academics and practitioners that Irish environmental policy has been hugely influenced by the EU, as illustrated by the following observations:

- Unquestionably the EU now exerts the most important and effective influence on both British and Irish environmental policy and politics (McGowan, 1999: 175).
- Very little in Ireland has happened with regard to the environment that wasn't driven by the EU. The only yardstick for measuring legislation is EU legislation (Trevor Sargent, TD, in interview with O'Mahony, 2007).
- The EU as a political entity emerges as a progressive force, steering, prodding and pushing the lukewarm Irish authorities towards a more sophisticated type of environmental policy (Flynn, 2007: 160).

The implementation and enforcement of EU environmental law in Ireland has often been problematic. At the end of 2009, Ireland had the third highest number of outstanding cases (34 cases) with the European Commission in regard to the infringement of environmental law. This has also been the case in each year since 2005. In terms of cases where the European Court of Justice (ECJ) had already found that an infringement had taken place, Ireland had the highest number (14) at the end of 2009.

However, a significant effort has been made in recent years to address the issues associated with the transposition and enforcement of EU environmental legislation in Ireland. This has resulted in the number of 'open' infringement cases declining progressively since 2005, falling from 45 to 21 at June 2010.

The European Commission distinguishes three types of infringement, as described above: non-communication, non-conformity and non-application. Ireland's greatest difficulties in complying with EU environmental law have been in the areas of non-application; i.e., i.e., a failure to effectively implement legislation that has been correctly adopted (Laffan and O'Mahony, 2008). At the end of 2005, two thirds of Ireland's open infringement cases in environmental law were for non-application, while for the EU as a whole, non-application represented 57 per cent of outstanding cases. However, enforcement, as noted in Section 5.3, has benefited from the establishment of a dedicated Office of Environmental Enforcement within the EPA in 2003.

The remainder of this section will consider the impact of the EU in Ireland and Ireland's engagement with the EU in the policy areas identified by the EPA as Ireland's priority goals for the environment. As noted above these are: climate change; clean air; water; sustainable use of natural resources and waste management; protected soil and biodiversity; and integration and enforcement. This discussion will illustrate both positive and negative dimensions of Ireland's interaction with the EU on the environment. The agricultural sector affects the achievement of many of these priorities so there is also a discussion of the environmental implications of agriculture.

### 5.4.2 Climate change

Given the nature of the climate change problem, it can only be tackled through international agreements. Ireland's international commitments on climate change are agreed at EU level. This section begins with an examination of the impact on Ireland of current climate change policy; i.e., the impact of the Kyoto agreement. The section goes on to outline the content of the major climate change and energy package agreed by the EU institutions at the end of 2008 and its implications for Ireland.

#### *The Impact of the Kyoto Protocol in Ireland*

The Kyoto agreement to curb the growth of greenhouse gas (GHG) emissions was ratified by both the member states and the EU. Ireland's contribution was a commitment to our EU partners to limit the increase in emissions to 13 per cent over the period from 1990 to 2008-2012[3]. In 2009 Ireland's emissions were 12.1 per cent above the estimated 1990 baseline, following a reduction in emissions of 7.9 per cent in 2009.

3 The Kyoto target refers to the annual average of emissions over the years 2008-2012.

The current recession has reduced Ireland's emissions and projections have been revised sharply downwards. Ireland's total level of projected GHG emissions for the period 2008-2012 is likely to be very close to the Kyoto limit and it is not expected that Ireland will be required to undertake any further purchases of emissions permits to meet its Kyoto commitments[4].

Emissions from the industrial and commercial sectors were broadly stable during the current decade up to 2007 and are now falling. The broad stability of emissions despite substantial output growth mainly reflects the structure of Irish growth (i.e., most of the growth has been in services and there is not much heavy industry). Improvements in energy efficiency, particularly in large industry, also contributed. Emissions from agriculture fell by 12 per cent between 2000 and 2009. In recent years emissions in the electricity generation sector have been reduced by the development of renewable electricity.

At the same time choices made have contributed to the growth of Ireland's GHG emissions. The sector with the most rapidly growing emissions (prior to the downturn) was transport with emissions up by one third between 2000 and 2007 and an increase of 177 per cent between 1990 and 2007. Emissions in this sector fell in 2008 for the first time since 1993. Some of the growth in Ireland's transport emissions is due to 'fuel tourism'; i.e., sales of fuel within Ireland for use in the UK and elsewhere. However, Ireland's spatial pattern of development, with its high incidence of dispersed, low density green-field development, reinforced dependence on cars and contributed to the strong growth in transport emissions.

Emissions in the residential sector increased only modestly during the current decade despite the very large increase in the housing stock. This reflected the improved energy efficiency of additions to the housing stock and a decline in the use of peat and coal, although there remains huge scope to secure efficiency improvements in the existing stock. There was growth of almost 9 per cent in these emissions in 2008, but this is largely attributed to lower than normal temperatures. While energy efficiency standards for building increased, standards were not set at the highest attainable level based on existing technology in advance of the building boom. The 2008 and 2010 Building Regulations will improve matters greatly in this regard.

It is clear that in the absence of the current sharp economic downturn, Ireland's emissions would have substantially exceeded the Kyoto limit. At the same time, the economic downturn is not the only factor that has limited the growth of Ireland's GHG emissions. There is great potential to build on the initial steps taken to improve energy efficiency and develop renewable energy in the years ahead.

4 Ireland's Kyoto target is for average annual emissions of 62.8 million tonnes over the period 2008-2012. The EPA projects that Ireland's annual emissions in this period will be from 62.3 to 63 million tonnes. Ireland's need for government purchases of emissions permits to meet its Kyoto targets depends not only on the total level of emissions but also on the allocation of emissions between the EU emissions trading scheme (ETS) which covers electricity and other energy intensive industries and the emissions from the rest of the economy (the non-ETS sectors). In its National Allocation Plan for 2008-2012, Ireland made an annual allocation of 22.3 million tonnes of its annual Kyoto limit of 62.8 million tonnes to the ETS sector. This implies a national Kyoto target for the non-ETS sector of 40.6 million tonnes. In April 2010 the EPA projected emissions for the non-ETS sectors of 43.1-43.6 million tonnes, leaving an annual gap of 2.5 to 3 million tonnes. Some of this gap will be bridged by existing government purchases. In addition the allocation of allowances to the ETS sectors now appears likely to exceed actual emissions for this sector. Some of this excess allocation will be available to bridge the remaining gap in the non-ETS sectors (see EPA, 2010a).

### *The EU Energy and Climate Change Package*

Agreement was reached by the EU on a far reaching energy and climate change package at the end of 2008 as noted above. The European Council has adopted a core climate change objective of limiting the rise in global temperature to two degrees. If achieved, this would greatly reduce the risks of serious negative impacts from global warming, although it is not possible at this stage to eliminate all the effects and risks of global warming. The scientific consensus is that to achieve this objective it will be necessary to first stabilize and eventually reduce greenhouse gas (GHG) emissions. Based on the scientific evidence, the Commission's position is that global GHG emissions will need to be cut by 50 per cent by 2050. Allowing for increases in developing countries in the medium term, the Commission considers that this will require cuts in emissions in industrialised countries of 60 to 80 per cent by 2050. The European Council has affirmed the goal that developed countries should reduce emissions by 60 to 80 per cent by 2050.

The agreement reached by the EU institutions on energy and climate change at the end of 2008 followed a number of years of discussions and intense political negotiations. Many member states were concerned about the potential implications for international competitiveness; East European member states had concerns about that a climate change agreement would adversely restrict their development potential while Ireland had concerns that targets to limit emissions could impose unacceptable costs on the economy. It is striking that despite these difficulties, it was possible to find a political agreement that addressed these concerns while making real commitments to tackle climate change.

Over the period to 2020, the European Council has adopted an EU objective that emissions be cut by 30 per cent compared to 1990 levels, subject to reaching an acceptable international agreement. The European Council has made an independent commitment to achieve at least a 20 per cent reduction in EU emissions by 2020. The primary mechanisms for achieving the reductions in emissions are energy efficiency and renewable energy. The EU has adopted a target of a 20 per cent saving in energy use through energy efficiency by 2020. The European Council also agreed to a binding target of achieving 20 per cent of energy from renewable sources by 2020 for the EU as a whole.

The EU strategy to reduce GHG emissions distinguishes two broad sectors of the economy. First, there is that part of the economy covered by the Emissions Trading Scheme (ETS). This covers the large energy users, including electricity cement and steel. For the EU, these sectors comprise over 40 per cent of emissions, whilst in Ireland they represent about one third of all emissions. Second, all other sectors comprise the non-ETS sectors. This covers agriculture, transport, households, smaller industry, private and public services, and emissions from the waste sector.

The ETS is a key instrument to reduce GHG emissions in the EU. It is a 'cap and trade' scheme—this means that the total level of emissions is capped. Allowances for emissions are then allocated to the firms such as the ESB that participate in the scheme. If a company has emissions higher than its allocated level of emissions, it must purchase additional emission allowances. Conversely, if a company's emissions are less than its allocation of emission rights, it can sell its surplus.

In the revised scheme that was agreed in December 2008 and will apply from 2013, the allocation of emission allowances will be managed on a harmonised basis across the EU rather than being allocated by member states, which is the situation for the current scheme. The target reduction in emissions for the ETS sector is 21 per cent by 2020, calculated on 2005 base. The allowances will be allocated by a mixture of free allocation and auctioning; the substantial revenue from auctioning will accrue to member states based on an agreed allocation methodology. For the non-ETS sectors, the EU target is a reduction of 10 per cent by 2020, compared to 2005. Ireland, Denmark and Luxembourg are the countries with the highest target reduction of 20 per cent.

The EPA publishes projections annually for Ireland's GHG emissions to 2020. In its projections of April 2010, it set out two scenarios for the trend in emissions (EPA, 2010a). The 'with measures' scenario is based on the implementation of all existing policies and measures in place by the end of 2008. The 'with additional measures' scenario also assumes full achievement of the targets set out in the Government's White Paper on energy (Government of Ireland, 2007a) and the national energy efficiency action plan (Department of Communications, Marine and Natural Resources, 2009). Essentially this scenario incorporates existing and planned government policies. There is some uncertainty regarding the treatment of the impact of foresting in absorbing carbon ('carbon sinks') in the EU targets. A decision of March 2009 by the EU Parliament and Council states that if there is no international agreement to address climate change by the end of 2010, the European Commission should develop proposals to include the impact of carbon sinks in EU targets. The Commission would also assess whether this would require amendments to member-state targets.

The EPA projects that under the 'with measures' scenario (i.e., based on existing policies), Ireland's emissions from the non-ETS sectors will increase by 5.6 per cent by 2020 relative to the 2005 baseline before taking account of forest sinks. When account is taken of forest sinks, emissions fall by 3.7 per cent. Under the 'additional measurers' scenario and taking account of forest sinks, emissions fall by almost 14 per cent by 2020. These projections show the significance of forestry and the large potential impact of planned government policies to the achievement of Ireland's GHG emissions targets.

**Table 5.1** Projected Percentage Change in Emissions for Non-ETS Sectors in Ireland From 2005 to 2020

| | With Measures Scenario | With Additional Measures Scenario |
|---|---|---|
| Without Carbon Sinks | +6.6% | -3.6% |
| With Carbon Sinks | -3.7% | -13.9% |

**Source** EPA (2010), 'Ireland's Greenhouse Gas Emissions Projections 2010-2020'.

The biggest challenges for Ireland in achieving the target reduction in non-ETS emissions are in transport and agriculture. Up to the economic crisis transport emissions were growing strongly; over the period 2005 to 2020, the EPA projects growth in transport emissions of 23 to 37 per cent, depending on the policies adopted. Emissions in agriculture are falling in relative and absolute terms. However, agriculture represented 39 per cent of non-ETS emissions in 2008. Over the period 2005 to 2020, it is projected that emissions from agriculture will fall by almost 11 per cent. Ireland's high level of agricultural emissions derives from its role as a major exporter of beef and dairy products. The current methodology for calculating emissions means that emissions are calculated on the basis of production rather than consumption.

Measures to reduce greenhouse gas emissions will incur costs. The European Commission estimated in May 2010 that the cost of achieving the 20 per cent reduction in emissions by 2020 would be an annual cost of €48 billion or 0.32 per cent of GDP in 2020[5] (European Commission, 2010c). The estimated costs are €22 billion less than the Commission's estimate of two years earlier. Costs have fallen as a result of: (i) lower economic growth which reduces the stringency of the 20 per cent target; and (ii) the rise in oil prices which improves the incentive for energy efficiency. These cost estimates do not take account of the value of enhanced energy security or ancillary benefits from reduced air pollution which are also noteworthy.

Not all actions taken to reduce emissions will result in net costs. For example, there are many opportunities to reduce emissions through enhanced energy efficiency that over time will yield net savings. Of course there are also major costs arising from not addressing climate change, as discussed above in Section 5.2.

Prior to the final agreement, the ESRI had estimated that Ireland could face very high costs in achieving reductions in its emissions from the non-ETS sector. However, a key change in the final agreement that it is now possible for member states that exceed their target emission in the non-ETS sector to purchase emission allocations from other member states. The allocation of emission allowances in the non-ETS sector to Eastern Europe is such that there will be surplus allowances available. According to Tol (2009), this new flexibility will greatly reduce the cost to Ireland of reaching its targets; Tol estimated at the time that non-ETS emission allowances would be available at a cost of €30/tonne.

This new flexibility is to be welcomed. It is important however to bear in mind that Ireland along with other countries will in any event need to radically reduce its carbon emissions in the longer term so the enhanced flexibility should not be used as a means of putting off necessary changes required for longer term sustainability.

The 2010 Budget introduced a carbon tax at €15 per tonne of carbon. This can be expected to make a modest contribution to reducing Ireland's GHG emissions[6] and is estimated to yield €330 million in a full year. Its impact on fuel prices ranges from 3.5 per cent for petrol to 11.1 per cent for coal. The impact on households has

5 This cost represents the net additional energy cost needed to secure the reduction in emissions by 20 per cent.

6 It was estimated by Conefrey *et al.* (2008) that the introduction of a carbon tax would reduce emissions by between 0.1 per cent (assuming the revenue was recycled as a lump sum transfer) and 1.7 per cent (assuming the revenue is used to repay debt).

been estimated at €2 to €3 per week. Its proportionate impact will be higher on low income households while rural households will also be more affected. These affects will be partly offset by the use of revenue from the carbon tax to alleviate fuel poverty and to support rural transport. Revenue may also be used to invest in energy efficiency.

The achievement of the ambitious target of a 20 per cent reduction in non-ETS emissions by 2020 will require additional action. The effective realisation government plans would have a huge impact on emissions. Policy to reduce GHG emissions should seek to limit the costs involved, be structured fairly and help to reposition the economy towards a low carbon future.

### 5.4.3 Resource Use and Waste Management

*Resource Use*

The European Commission (2005) has pointed out that if current patterns of resource use are maintained in Europe, environmental degradation and depletion of natural resources will continue. It pointed to the need to develop means to identify the negative environmental impacts of the use of materials and energy throughout life cycles. In 2005 the Commission published a strategy on the sustainable use of natural resources with the objective of reducing the negative environmental impacts generated by the use of natural resources in a growing economy (decoupling) (European Commission, 2005).

Sustainable consumption and production is one of the priorities of the EU's SDS. A consultancy review of the EU's SDS found that progress on this priority was limited. The consultants noted that the concept of 'sustainable consumption and production' was poorly defined and that 'there is only limited evidence in the area of sustainable consumption and production that countries are scratching below the surface of this fundamental objective. Moreover, it is questionable whether the EU SDS has sufficient leverage in this domain to trigger change' (Ecorys, 2008: 8).

One practical way in which the EU has sought to promote sustainable use of resources is through the promotion of good environmental practice in public procurement; i.e., green public procurement (GPP). Public authorities within the EU spend 16 per cent of EU GDP on the purchase on goods and services. The SDS set a formal target that by 2010 the average level of green public procurement in member states would be the same as the best performing member states in 2006. Subsequently the European Commission (2008c) proposed that 50 per cent of all public procurement should be green by 2010 where green means compliant with specified core green criteria. The target will only apply to those parts of GPP for which core green criteria have been agreed at EU level. The revised Programme for Government (2009) contains a commitment 'to put in place new public procurement procedures to ensure that green criteria are at the centre of all public procurement' (10). This commitment will be given effect chiefly by means of the forthcoming Green Public Procurement National Action Plan.

*Waste Management*

By the early 1990s, Ireland's approach to waste was under pressure from several domestic factors: the growth in the volume of waste, the impending exhaustion of landfill sites and the difficulty in finding new facilities in the light of public opposition. A key national policy document that signalled a change in the direction of waste policy and practice in Ireland was the 1998 statement from the Department of the Environment, *Changing Our Ways*. This statement affirmed the commitment of policy to the internationally recognized hierarchy of options: prevention, minimization, reuse, recycling and environmentally sustainable disposal of residual waste.

The *Changing Our Ways* document affirmed the desirability on national grounds of reducing reliance on landfill. But it is also clear from the document that the EU was influential in promoting Ireland to move in this direction:

> There is a sound rationale, from a national perspective, in reducing our reliance on landfill. In any event, however, developments at EU level will require movements in this regard. EU Environmental Ministers have reached political agreement on a draft Directive on the landfill of waste, which has major long term implications for the way municipal waste is managed. Apart from imposing high environmental controls and standards in relation to the operation of landfills (which have already been anticipated by the EPA licensing system), it will require each Member State to draw up a national strategy for the reduction of the proportion of biodegradable municipal waste going to landfill, and will impose a series of mandatory reduction targets, culminating in a 65 per cent reduction within fifteen years. Accordingly, Member States will have to develop the infrastructure to segregate and treat very substantial volumes of organic wastes. For Ireland, this implies a minimum diversion of over 0.6 million tones of biodegradable waste annually, at current waste generation levels (Department of the Environment and Local Government, 1998).

The *Changing our Ways* document set a range of targets for increasing recycling and reducing reliance on landfill by 2013. Policy was further developed through subsequent policy documents. *Delivering Change*, published in 2002, examined how a range of specific waste streams should be managed at end of life, with an emphasis on recycling, prevention and the application of the producer responsibility approach. This was followed by *Taking Stock and Moving Forward* in 2004, which measured the progress towards targets and highlighted the development of a national waste prevention programme. The publication in April 2006 of the *National Biodegradable Waste Strategy* provided the policy framework for meeting Ireland's targets for the diversion of biodegradable municipal waste from landfill under the Landfill Directive (1999).

Considerable progress has been made in achieving the recycling targets. A target was set of recycling 35 per cent of municipal waste by 2013 while by 2008, 38 per cent of municipal waste was recovered[7]. A target was set of recycling 85 per cent of construction and demolition waste by 2013; by 2008, 75 per cent of this waste was recovered.

The most demanding target for waste policy however is the target to reduce the volume of biodegradable municipal waste (BMW)[8] going to landfill. This is a legally binding EU target set in the Landfill Directive (1999). By 2010 Ireland is required to reduce the volume of BMW going to landfill by 25 per cent of the 1995 volume with further progressive reductions by 2016. There is the threat of fines if these targets are not achieved. By 2008, the volume of BMW landfilled in Ireland was 2 per cent below the level of 1995; this was 280,000 tonnes or 23 per cent above the target level for 2010. Strong economic growth from the mid 1990s had led to a large increase in the absolute volume of BMW, notwithstanding the increase in recycling. In 2008 for the first time there was a large reduction in the volume of BMW landfilled of 19 per cent. This was in part due to the recession-induced fall in municipal waste generated of 5 per cent in 2008 but was also influenced by the 100 per cent increase in separate collection of organic waste since 2007 and improved management of different waste streams. In July 2010 new regulations were adopted that require the producers of food waste in commercial outlets (shops, hotels restaurants) to segregate this waste. The progress made may allow Ireland to meet its first 2010 target for the volume of BMW under the Landfill Directive (1999)[9].

The targets of the Landfill Directive (1999) are now a key focus for the waste sector. Much more is required to reach all of the landfill targets. Investment in waste infrastructure is required; regulatory uncertainty is an obstacle to this investment. There is a need for greater co-ordination of regional waste plans to realise economies of scale. Incentives faced by those in the waste business need to be consistent with policy targets.

In addition to the landfill targets, the EU has promoted a reduction in waste disposal through a range of regulations that impose obligations on producers. These relate to packaging, electrical and electronic equipment, tyres, and end-of-life vehicles. Ireland has achieved many of these targets ahead of schedule. The packaging directive requires that 60 per cent of packaging waste be recovered by 2011; in 2008, 65 per cent of packaging waste was recovered. Ireland has met its targets for recovery of electrical and electronic equipment with recovery rates of 72 to 92 per cent achieved in 2008 for the various types of electronic waste.

The highest level of the waste hierarchy is waste prevention. A National Waste Prevention Programme began in 2004, led by the EPA. The EPA (2008) has pointed out that the scale of this programme would need to be increased significantly if it were to have any realistic chance of impacting on national waste generation.

7 Recovery includes material recycling, energy recovery and composting.

8 Biobiodegradable municipal waste refers to food and garden waste as well as paper and packaging.

9 Lags in data availability mean that it will be after 2010 before it is known if the 2010 target was achieved.

Once waste has been generated, there are four broad ways of managing it: material recycling, conversion of waste into energy[10], composting or landfill. Ireland's rate of material recycling (at 32 per cent in 2008) is now higher than Denmark's (24 per cent). The rate of composting of waste in Ireland in 2008 was just 3 percent. This was relatively low by EU standards. Despite progress on recycling, Ireland's reliance on landfill remains among the highest in the EU; some other EU countries rely substantially on energy recovery to reduce their reliance on landfill (Forfás, 2010).

There is considerable scope for learning about best practice in waste management from other EU countries. There is a European network of local authorities that shares expertise on sustainable use of resources and the effective management of municipal waste (the Association of Cities and Regions for Recycling and Sustainable Resource Management). Three Irish local authorities are members of this network. There is also a European network of national associations of waste management industries (the European Federation of Waste Management and Environmental Services). The Irish Waste Management Association is a member.

An international review of Irish waste management policy was completed in 2009. In 2010 a draft statement of a new waste policy was published for consultation. This policy statement shifts the focus from residual waste management to prevention, minimisation and recycling. It is vital that the policy review is speedily concluded and a policy put in place that provides an effective way of addressing Ireland's waste challenges and offers clarity and certainty to stakeholders. The revised Programme for Government (2009) contains a commitment to 'embed resource recovery and sustainable consumption and production systems in waste policy, leading to increased employment and new opportunities for business' (24).

A new Waste Framework Directive was adopted by the European Council in 2008. This directive places increased emphasis on waste prevention. This directive requires member states to prepare waste prevention programmes by 2013; these programmes will seek to break the link between economic growth and the environmental impact associated with waste generation. Ireland has already developed a waste prevention programme, as noted above. Member states will set appropriate qualitative and quantitative targets; there is a requirement to evaluate programmes at least every sixth year. The European Commission will prepare a report by the end of 2014 that will set waste prevention and decoupling objectives for 2020, based on best available practices. Ireland already had prepared a waste prevention programme.

New targets for recycling are also set by the new waste directive. By 2020, member states are required to recycle or reuse at least 50 per cent of household derived paper, metal, plastics and glass and similar waste and 70 per cent of construction and demolition waste (excluding soils and stone). By 2008 Ireland had already exceeded the first of these targets (52 per cent of the specified household waste was recycled in 2008) and was on target to meet the second target (62 per cent of the specified construction waste was recycled in 2008).

10 This normally involves incineration.

To conclude, there is no doubt that the EU has helped to change Irish practice in a desirable direction and Ireland has had considerable success in achieving national and EU targets for recycling and recovery of waste materials, often ahead of schedule. However, meeting EU targets for landfill remains a substantial challenge while other substantial issues to be addressed include hazardous waste and illegal backyard burning and fly tipping (OECD, 2009). There are also more fundamental issues of sustainability of resource use generally that need to be addressed, as in other countries.

### 5.4.4 Biodiversity and Soil

*Biodiversity*

The EPA (2008a) identified the conservation status of Ireland's habitats and species as one of two primary areas of environmental quality in Ireland for which it had greatest concern (the other primary concern was water quality). The protection of nature and biodiversity in Ireland is influenced by international, EU and national policies. Ireland and the EU are party to a number of relevant international agreements, including the Bonn Convention on conservation of migratory species of wild animals and the Berne Convention for the conservation of European wildlife and habitats and 1992 Convention on Biological Diversity (CBD). This was ratified by both the EU and its member states. Following the CBD, the EU adopted a Biodiversity Strategy in 1998 while Ireland adopted its National Biodiversity Plan 2002-2006 to meet its commitments under the CBD. A new biodiversity plan was published by the EPA in 2010 (EPA, 2010b).

Two key directives on nature conservation are the Birds Directive (1979) and the Habitats Directive (1992). The Birds Directive (1979) sought to conserve species of wild birds and required the designation of a network of habitats for birds, based on scientific criteria. These designated sites are known as Special Protected Areas (SPAs).

The Habitats Directive (1992) is the EU policy that has most affected the approach to nature conservation in Ireland. Indeed Laffan and O'Mahony (2004) refer to it as involving a shift in the policy paradigm concerning nature conservation in Ireland. A key change associated with the Habitats Directive was a shift from a primary focus on nature conservation on state land to requiring protection of habitats on privately-owned land.

Under the Habitats Directive, member states were required to identify sites for special conservation and to submit these to the European Commission. As with the Birds Directive, designations are based on scientific criteria. At the end of the process, selected sites were designated as Special Areas of Conservation (SACs). Member states are required to take all necessary measures to guarantee the conservation of habitats in SACs and to encourage the management of features of the landscape that benefit wild species.

The sites designated under the Habitats Directive (SACs) together with the sites designated under the Birds Directive (SPAs) together form Natura 2000, as noted above.

The transposition and implementation of the Habitats Directive in Ireland met with strong opposition from landowners. Concerns with the Directive led to its inclusion in the negotiations of the 1997 to 1999 social partnership agreement, Partnership 2000. In the agreement reached with the farm organizations, compensation was provided for landowners affected by the directive. Farmer representatives also sought and achieved an independent appeals board. Having reached agreement with the farm organizations, the Habitats Directive was transposed into Irish legislation through regulations adopted in 1997. There continued to be difficulties with the directive following formal transposition and it has been the subject of several ECJ rulings against Ireland. The OECD found that many Natura 2000 sites required a far more active monitoring and management approach than is currently undertaken (OECD, 2009).

In January 2009 the Commission closed its infringement proceedings with Ireland on two long running nature protection cases. The first concerned Ireland's earlier failure to submit a complete list of designated sites as required by the Habitats Directive. The original deadline was 1995; this original deadline was not met by any member state. The Commission is now satisfied with the sites designated by the Irish authorities. The second case concerned damage caused by overgrazing of sheep. The ECJ had ruled against Ireland in 2002 on two accounts: first, for not protecting the Owenduff-Nephin Beg in Mayo from erosion due to sheep overstocking; second, for not protecting the habitats of red grouse, also threatened by overgrazing over a wider area. These breeches arose under the Habitats Directive and the Birds Directive. The Commission dropped this case on the grounds that it was satisfied with the steps taken to reduce sheep numbers on Irish hills and additional measures taken to protect the Owenduff-Nephin Beg complex and the Twelve Bens (European Commission, 2009b).

Environmental NGOs played a role in the implementation of the Habitats Directive in Ireland. From 1997 five NGOs—Birdwatch Ireland, Irish Peatland Conservation Council (IPCC), An Taisce, Coastwatch Europe and the Irish Wildlife Trust—became closely involved in monitoring the designation of habitats for protection during the site designation phase (Laffan and O'Mahony, 2004). The NGOs continue to have concerns in regard to the protection of habitats in Ireland. A report by An Taisce (2007) has examined the extent to which the planning system provides protection of habitats when dealing with applications for development in SAC and SPAs. Based on an examination of the legislation and planning applications over the period 2003 to 2006 in six counties, An Taisce argued that Ireland's planning system was not providing the degree of protection of habitats required by the Habitats Directive.

A report on the status on EU protected habitats and species in Ireland was published in 2008 (National Parks and Wildlife Service, 2008). The preparation of this report was a requirement under the Habitats Directive and was the first report of its kind for Ireland. The report covered the whole country. This report showed that the current status of the majority of habitats is not satisfactory. The report found that only 7 per cent of the habitats examined are in good status, with 46 per cent inadequate and 47 per cent bad. A particular concern identified in the report is the status of the midland's bogs. The status of Ireland's animals and plants is considerably more satisfactory. Approximately 50 per cent of the species examined are in good

### Box 5.1 The Habitats Directive and the Protection of Bogs

**One dimension of the Habitats Directive is the protection of selected bogs. Commercial turf cutting was banned on these designated bogs. Under arrangements announced in 1999, a ten-year derogation was provided for domestic turf cutting on the bogs affected. This ten-year derogation expired for 32 designated bogs in 2009.**

**Concerns about the depletion of bogs led the Irish authorities to provide national protection to additional bogs by designating them as Natural Heritage Areas (NHAs) under national legislation. This national designation affected 148 bogs (60,000 hectares) by 2008 with a further 630 bogs (65,000 hectares) proposed for future designation (EPA, 2008a). The NHA bogs were initially designated in 2004 and were also provided with similar ten-year derogation for domestic turf cutting. The total area of bogland available for cutting peat in the State is 850,000 hectares.**

**Significant loss of Irish bogs has continued over the past decade. A key category of protected bog is active raised (i.e. dome-shaped) bog; these bogs are active in the sense that peat is still forming in a significant area of the bog. A 2008 report on the status of EU protected habitats in Ireland found that active raised bogs had declined by 35 per cent over the past 10 years and less than 1 per cent of the original active raised bog area is remaining. The status of both active and raised bogs was deemed to be bad in this assessment (National Parks and Wildlife Service, 2008).**

**Domestic turf cutting on protected bogs continued during 2009 on a transitional basis. A working group was established to examine the issues involved in the protection of bogs. Arising from its work, cutting has now been required to cease on the 32 raised bogs subject to the 10-year derogation from 1999, and suitable compensatory arrangements are being developed.**

condition with 10 per cent considered to be in bad condition. Examples of species in good condition were bats, seals, dolphins and whales. An example of a species in bad condition is the freshwater pearl mussel which is on the brink of extinction in Ireland.

*Soil*

The EPA has identified soil as an immensely valuable, finite resource. Soil provides vital services including the growing of food, regulating water flows and filtering potential pollutants (EPA, 2008a). A report from the European Commission recently emphasised the importance of soil in mitigating climate change. This arises from the vast quantities of carbon are stored in soil. It is estimated that Europe's soil contains 73 to 79 billion tonnes of carbon; bogs are particularly rich in carbon and 50 per cent of this carbon is stored in the bogs of Sweden, Finland, Ireland and the UK. Management of this carbon is important. When it is released into the atmosphere it causes climate change while conversely ongoing accumulation of carbon in soil is beneficial in terms of climate change. Land use and farm practices significantly affect the carbon storage capacity of soil (European Commission, 2009c).

The EPA (2008a) notes that the consensus view is that soil quality in Ireland is good but this is based on limited information. Historically soil in Ireland has not been subject to much pressure. There are however greater contemporary pressures. There is no national inventory of contaminated sites but the EPA estimates that there are between 1980 and 2300 sites with potential for groundwater and/or soil contamination. These include disused landfills and abandoned industrial sites. Other pressures on soil quality include the use of fertilizers and sewage sludge on land and also pollutants generated by the burning of fossil fuel.

In contrast to other dimensions of environmental policy, there is little EU or national legislation directly related to soil protection. Soil protection is a dimension of other legislation, for example water. In recent years soil protection has received more attention at EU level and in 2006 the Commission published a thematic strategy for soil protection (European Commission, 2006b) and a proposal for a framework strategy on soil protection (European Commission, 2006c). This proposal has been blocked in the European Council.

The EPA has identified policy priorities to protect soil in Ireland. The first priority is to address the information deficit through the preparation of a comprehensive national soil map. Second, there is a need for a critical assessment of the pressures on soil and then to address these pressures along with the impact on climate change. Third, there is a need to develop a national plan for the remediation and management of contaminated soil. There are similarities between the priorities identified by the EPA and the proposed approach of the EU framework directive. Adoption of the EU framework would support the actions required in Ireland to address soil protection.

*Conclusion*

The EU has had a huge influence on Ireland's approach to nature and biodiversity. In particular, the Habitats Directive (1992) led to a major change in policy and practice on the protection of habitats and species in Ireland. There have been delays surrounding the Habitats Directive in Ireland, but ultimately the Habitats Directive and other EU nature policies are being implemented. An assessment of the status of protected habitats in Ireland found that a majority of these had poor or bad status; the situation was more satisfactory regarding the status of animals and plants (National Parks and Wildlife Service, 2008). The objectives of EU policy on nature and biodiversity are worthwhile. While nature preservation is a goal in its own right, the EU is concerned with protecting natural ecosystems on account of their critical contribution to the sustainability of mankind. The EPA has also identified the protection of habitats and species as among Ireland's top environmental priorities. Ireland's national protection of areas of natural heritage has been greatly expanded in recent years.

There is a need to improve information on the state of Ireland's soil and develop measures to protect it and address its climate change implications. The adoption of the Commission's proposal for a framework directive on soil would support the protection of Ireland's soil.

### 5.4.5 Water

The protection of Ireland's water resources is a major priority of the EPA. This section begins with a brief outline of the current situation and recent trends regarding the quality of water in Ireland. The impact of the EU and ongoing engagement with the EU in this area is then discussed.

#### *Status of Water in Ireland*

The status of Ireland's water bodies (rivers, lakes, ground water, estuarine and coastal waters) and of drinking water is monitored regularly by the EPA in accordance with EU and national legislation. A brief summary of key EPA findings is now presented.

As a result of the EU Water Framework Directive (2000), a new water classification system is now being used by the EPA. In this system water quality is classified in five categories: high, good, moderate, poor and bad. The EPA published results using this system for the first time in 2009 (EPA, 2009a). Good or high status was achieved by 49 per cent of rivers, 56 per cent of lakes and 60 per cent of estuarine and coastal waters (see Table 5.2).

During the 1990s the proportion of river water classified as unpolluted declined continuously, from 77 per cent in 1987-1990 to 67 per cent in 1998-2000. This share increased to 71 per cent in 2004-2006 but subsequently declined to 70 per cent in 2006-2008 (EPA, 2009a). The EPA identifies the most significant sources of river water pollution as municipal and agricultural sources. The EPA (2009a) also reported on the trend in river sites of high ecological quality; these are important for supporting the diversity of aquatic species. The EPA has found that the share of river sites with high ecological status has almost halved since 1987. In 1987, 30 per cent of rivers sampled were of high ecological status while by 2006-2008 this had fallen to 17 per cent.

**Table 5.2** Key Indicators of Water Quality in Ireland

| | Percentage of Rivers (2007) | Percentage of Lakes (2007) | Percentage of Estuarine and Coastal Waters (2006/2008) |
|---|---|---|---|
| High | 9% | 28% | 30% |
| Good | 40% | 28% | 30% |
| Moderate | 28% | 35% | 29% |
| Poor | 21% | 6% | 11% |
| Bad | 2% | 3% | 1% |

**Source** *EPA (2009), Water Quality in Ireland 2007/2008, Key Indicators of the Aquatic Environment*, Wexford: EPA.

The quality of groundwater (i.e. water found underground in soil or rock) raises concerns. In 2007-2008, approximately 34 per cent of groundwater samples tested positively for the presence of faecal coliforms. Groundwater is the source for approximately one quarter of Ireland's drinking water.

With regard to bathing water, the EPA reports that the overall quality in Ireland is high but there are a small number of bathing areas consistently failing to meet mandatory requirements. In its most recent assessment, the EPA (2009b) confirmed the generally high standard of Ireland's bathing water with 93 per cent meeting statutory EU standards. However the EPA found that there had been a fall of 4 per cent in the number of bathing waters meeting minimum EU standards in 2008.

Comprehensive monitoring of the quality of Ireland's drinking water is undertaken by the EPA. There are continuing concerns regarding the quality of drinking water in Ireland. One key measure is the presence of e.coli which is an indicator of whether human or animal waste has entered the water supply. In its most recent assessment published in 2009, the EPA reported that e.coli was detected at least once in 5 per cent of public water supplies in 2007 (EPA, 2009c). Most of the problems in public water supplies occurred in small public supplies (supplying less than 20,000). Compliance was 99.7 per cent in large public supplies. More widespread problems occur in private group water schemes – 31 per cent were contaminated with e.coli at least once during 2007. There was an improvement in private group schemes in 2007, with a fall in the number of schemes in which e.coli was detected from 246 in 2006 to 184 in 2007 (see Box 5.2 below on group water schemes).

The importance of maintaining water quality standards was highlighted in 2007 by the infection of water in Galway with the parasite cryptosporidium. This caused illness in 240 people and led to a requirement to boil water for a period of five months. Two treatment plants were identified that were not removing this parasite. The EPA issued a direction to Galway City Council requiring specific actions to be taken and these have been completed (EPA, 2008b).

Discharges from municipal waste water treatment plants and agriculture are the principal suspected causes of water quality problems in the State (EPA, 2008b). Industrial discharges and several other sources also contribute. For groundwater, septic tanks are a significant risk. In October 2009, the ECJ issued a ruling against Ireland in relation to wastewater from septic tanks and other on-site systems. The Court found that Ireland has failed to adequately legislate for the treatment of such wastewater. According to the 2006 Census, in excess of 441,000 houses were served by septic tanks and other on-site wastewater treatment system. A report prepared for the Western River Basis District considered that the prevention of contamination of drinking water from these systems is of 'critical importance' (ESB International, 2008: 4). Cavan County Council has adopted its own bye-laws as a means of protecting its water sources from the widespread use of septic tanks. The revised Programme for Government (2009) includes a commitment to introduce a national scheme for the licensing and inspection of septic tanks and wastewater treatment systems. The implementation of this commitment will ensure compliance with the ECJ ruling of October 2009.

### *EU Impact*

The EU has had a major influence on the management of Ireland's water. EU directives have triggered major public investment in the areas of water and waste water and also had significant implications for the private sector as well, particularly farmers. The main channels of EU influence are now outlined.

### *Urban Waste Water Directive (1991)*

This EU directive sets standards for the treatment of urban waste water. It has been the main driving force behind investment in environmental infrastructure under successive NDPs since the 1990s (Morgenroth and Fitz Gerald, 2006). As a result of investment motivated by this directive, there was a huge increase in the share of waste water subject to secondary treatment from just 26 per cent in 1998-1999 to 92 per cent at present. This increase is due mainly to new plants at Dublin, Cork, Limerick, Galway and Dundalk. Notwithstanding major progress, Ireland was found to be in breach of this directive by the ECJ in September 2008. This arose from the failure to provide secondary treatment facilities in six towns with populations over 15,000. Of the six towns identified, two now have the required infrastructure in place while work is in progress on a further three. The contract in relation to the final town involved will be awarded shortly.

This directive has been criticized by Morgenroth and Fitz Gerald for distorting investment choices:

> The priorities for investment due to this Directive were rather different from the environmental priorities that might have been determined on an objective basis for Ireland. A higher priority should have been given to the pollution of rivers and lakes than was the case (Morgenroth and Fitz Gerald, 2006: 182).

## Box 5.2 Group Water Schemes

**Group water schemes are voluntary organisations that provide water to their members. They emerged as a response to the almost total absence of piped water supplies in Ireland outside the cities and towns up to the 1950s. They grew strongly from the 1960s, encouraged by capital grants from the State and often supported by voluntary labour. Local authorities also encouraged these schemes. Some schemes draw their water from the local authority mains supply but the distribution network is managed by the scheme while others will use a private source such as a well. The latter are referred to as private group schemes. Group water schemes, including those drawing their water from a public supply, serve over 8 per cent of the national population. Private group schemes serve 5 per cent of the population.**

**Group water schemes have been a particular focus of EU attention in Ireland in recent years as discussed in the main text. The problems with water quality have arisen mainly in private group schemes. Schemes that cover less than 50 members are not covered by the EU water regulations unless water is provided in a commercial or public context (such as a school). The majority of exempted schemes are individual private wells. These exempted schemes serve around 4 per cent of the population.**

**Today group water schemes receive both capital grants and operational subsidies. Metering is increasingly used as members are responsible for costs beyond those covered by capped grants and subsidies. Major investment has taken place in recent years to upgrade water quality in private group schemes.**

Source: National Federation of Group Water Schemes (nfgws.ie) and EPA (2009c).

Given the extensive use of the seas surrounding Ireland for the discharge of urban waste water, investment in urban waste water treatment implied prioritising discharges to these seas rather than the pollution of rivers and lakes (Scott and Convery, 1999).

### *Local Authority Discharges*

In 2005 the ECJ found against Ireland for not having a system for regulation of discharges of dangerous substances (including waste water) by local authorities. A subsequent written warning on this issue was issued by the European Commission in March 2007. The Commission pointed that out lack of or inadequate treatment of the waste water discharges of local authorities was one of the main causes of surface water pollution in Ireland (European Commission, 2007d). A new authorisation system for urban wastewater treatment discharges has been put in place under the Waste Water Discharge (Authorisation) Regulations 2007. It is managed by the EPA.

### *Regulation of Drinking Water Quality*

The ECJ ruled in 2002 that Ireland was failing to comply with the EU Drinking Water Directive (1998). This was mainly due to quality problems in private group water schemes (Department of the Environment, Heritage and Local Government, 2007). This ruling was followed by a major programme of investment to upgrade group water schemes. In March 2007 the ECJ issued a final written warning to Ireland for failing to comply with this ECJ ruling. The Commission pointed out more than half of private group water supplies in Cavan, Kerry, Leitrim, Mayo, Donegal and Sligo breeched the e.coli standard in 2005 and that causes included pollution by animal waste and defective septic tanks. The risk of substantial EU fines has helped sustain continuing substantial investment to upgrade standards.

Under the Water Services Investment Programme, the Government provided substantial capital funding to upgrade drinking water infrastructure in public and group schemes. A programme of work, including administrative and regulatory measures, was agreed between the Irish Government and the European Commission in 2007 to fully address the judgement. Following the implementation of these measures by the Irish Government and the local authorities, the European Commission announced that it had closed the drinking water infringement proceedings on 18 March 2010 (European Commission, 2010d).

As a result of drinking water regulations that came into force in 2007, the EPA is the supervisory authority over public water supplies. Prior to these regulations, the EPA's role in drinking water was limited to assessment, monitoring, advice and assistance to local authorities. Under the new regulations, the EPA has enforcement powers to require local authorities to take action to address quality concerns in water quality. The EPA has the authority to prosecute local authorities if they do not comply with its directions. Between January and September 2008, the EPA issued 47 legally binding directions to 15 local authorities requiring actions to improve the security of water supplies and prosecuted one local authority (Galway County Council). During 2009 the EPA held meetings with all local authorities to highlight issues of water safety and security of supply.

### *Nitrates Directive (1991)*

This Directive was designed to prevent pollution of water from agricultural sources. It sets limits on livestock numbers and limits on the volume of organic nitrogen fertilizer that can be spread. It also requires investment in storage facilities for animal manure.

The Nitrates Directive and is complex one and this is reflected in difficulties encountered in implementation in Ireland and other member states. By 1998 it had only been implemented correctly in two member states (Finland and Sweden) and 13 of the then 15 member states were subject to legal proceedings (Grossman, 2000). The Irish authorities initially proposed a voluntary approach. The European Commission was not satisfied and initiated infringement proceedings against Ireland in 2001. The ECJ found against Ireland in 2004. At the same time, there was strong opposition from farmers to the Nitrates Directive. Eventually in 2006 agreement was reached with the European Commission on nitrates regulations and an action plan; agreement was also reached on a derogation that allowed higher nitrates use in certain circumstances (O'Mahony, 2007). The EPA (2008a) emphasises the importance of full implementation of the nitrates action plan in order to tackle pollution from agricultural sources.

### *Water Framework Directive (2000)*

The Water Framework Directive (WFD) was adopted in 2000 and involves a new comprehensive approach to achieving high water quality standards. It is concerned with standards in all waters: groundwater, rivers, lakes, estuaries and coastal waters. It sets long term goals: all waters are to achieve 'good status' by 2015. Where 'high status' exists, it must be maintained. There is provision for some exceptions to these goals. Less stringent objectives or delayed targets may be accepted where these goals are not practicable or prohibitively expensive. The EPA (2009a) found that 49 per cent of rivers, 56 per cent of lakes and 60 per cent of estuarine and coastal waters were of good or high status, as noted above.

The WFD adopts a river basin district approach. For the purposes of the WFD, the island of Ireland is divided into eight river basin districts. Four of these are entirely in this jurisdiction, one is entirely in Northern Ireland, and the other three are cross-border. Local authorities, acting jointly, are required to prepare river basin management plans. These plans must include programmes of measure to address the water quality issues identified in the plans. There has been a high level of co-ordination between the authorities in both jurisdictions in preparing the river basin management plans.

Ireland has made good progress in implementing the Directive; the river basin management plans were completed in early July 2010. These set out the status of waters in each river basin district, the environmental objectives and the programmes of measures required to achieve those objectives. A comprehensive monitoring programme was established under the management of the EPA as required by the Directive. The work to date on the WFD has primarily involved scientific, apolitical work. The most challenging part of the WFD will be to improve water quality through the effective delivery of the river basin management plans.

To meet the goals of the WFD by 2015 will be very demanding. The EPA has pointed out that 'extensive measures will be required to meet the target set out in the Directive' (EPA, 2008a: xviii). While the general aim is to achieve good status in all waters by 2015, the river basin management plans specify extended timescales in some waters where it is not possible to achieve good status by 2015 due to technical constraints or longer natural recovery periods.

Public participation is a feature of the WFD. Article 14 of the WFD states that 'Member States shall encourage the active involvement of all interested parties in the implementation of this Directive, in particular in the production, review and updating of the river basin management plans.'

Public participation in the development of the plans in Ireland was facilitated through Advisory Councils in each river basin district. These Advisory Councils comprised of elected representatives and various stakeholders; their role was to consider matters relating to the preparation of river basin management plans and to advise and make recommendation to the relevant public authorities. The Department of the Environment, Heritage and Local Government also provided funding to the Sustainable Water Network (SWAN), an organisation which was established to coordinate the involvement of various environmental NGOs in implementation of the Directive.

An interesting feature of the WFD is the use of economic analysis in water policy (European Commission, 2008d). By 2010, member states are to ensure water pricing policies that provide adequate incentives to use water resources efficiently. In addition, when making key decisions on measures to achieve the WFD objectives, member states are required to use economic analysis to make judgements about the most cost effective combination of measures.

It has been government policy since 1998 to charge non-domestic customers for water and waste water services to recover the full costs of providing such services, in accordance with Article 9 of the EU WFD. Metering of all non-domestic uses is largely complete.

Ireland's representatives succeeded in including a clause in the WFD that allows member states to exempt a water use activity from charges where this is in accordance with established practice and does not compromise the achievement of the objectives of the directive. This was understood to provide a basis for exempting domestic water users from charges in Ireland. Since 1997, capital and current costs for domestic users generally have been met by the exchequer. However, charges apply in private group schemes if costs exceed subsidies provided. Many of these schemes have introduced metering. This was not required by the WFD. These schemes receive some financial assistance to meet their investment needs but not sufficient to meet any demand for water. When faced with the challenge of improving water standards, many private group schemes decided that it was preferable to use metering and volume-based charges rather than incurring the costs of investing to meet all of the demand that would exist in the absence of any volume-related charges.

Following a recent Government decision, legislation is to be introduced by the Minister for Environment, Heritage and Local Government to enable local authorities to charge domestic users for water services in a manner which provides incentives for efficient water use and which recovers an adequate contribution of the costs of water services. Proposals will also be brought forward for a metering programme for domestic users.

Forfás (2008) reported on projected supply and demand for water in each of the main population centres based on current investment plans. This analysis shows deficits for Dublin, Athlone, Galway and Letterkenny by 2013. Supply and demand are very evenly balanced at present for Dublin. Dublin in particular faces high costs in increasing supply. Options being considered for Dublin include a desalination plant to treat sea water or transferring water from a major Shannon lake. There is scope for conservation to reduce the investment in new capacity needed in Dublin. The findings of the Forfás Report have been taken into consideration in drawing up the Water Services Investment Programme 2010 – 2012.

A substantial volume of water is lost in water distribution systems, with losses ranging from 16.8 per cent to 58.6 per cent across counties nationwide (Local Government Management Services Board, 2009). Such water loss is referred to as 'unaccounted for water' (UfW). There is a clear need for many local authorities to take concerted action to tackle this problem. Since the mid 1990s, local authorities in the Dublin region have been engaged in a comprehensive leakage control programme as a key source of increased drinking water to meet huge growth in demand. Investment in leakage control via mains rehabilitation works is continuing in the Dublin area and other local authority areas.

The Water Services Investment Programme for the period 2010 to 2012 will focus, in particular, on water conservation. Almost all local authorities now have water management and active leakage control operations in place that provide the platform for an effective mains rehabilitation programme. The new programme will provide for a very significant increase in local authority water conservation activity, especially in the area of mains rehabilitation, to reduce water loss in a county and to meet environmental and economic goals. To that end, investment in water conservation is expected to increase to €300 million over the next three years, more than double the €130 million spent on water conservation in the last 7 years.

### *The Marine Environment*

The EPA identifies commercial fishing as the greatest human impact on Ireland's marine environment. It is estimated that as much as 75 per cent of commercially important fish stocks are being harvested beyond safe biological limits (EPA, 2008a). In addition to putting great pressure on commercial fish stocks, excessive fishing is a threat to marine diversity generally. Fish stocks across EU coastal waters are under great pressure.

The Common Fisheries Policy (CFP) of the EU seeks to achieve a sustainable level of fishing. The CFP sets maximum quantities of fish (known as total allowable catches, TACs) for each significant species that can be caught each year. These TACs are then allocated by national quotas across member states through political decisions. The inshore fishing area, defined as within 12 miles of the coast is mainly regulated nationally.

It is widely accepted that to date the CFP has not achieved its objective of keeping fish stocks at sustainable levels. A series of related pressures has worked against this policy objective. One of the identified issues is that the fishing industry across the EU is characterized by excess capacity; ongoing technological improvements add to this excess of capacity. The European Commission (2008e) points out that this excess capacity has a number of consequences. It leads to political pressure to agree excessive quotas and illegal fishing beyond the formal quotas. Excessive fishing depletes the stocks to a level that is unsustainable and exacerbates the problem of excess capacity. The combination of excess capacity and low fish stocks means that the fishing industry is characterized by low profitability. At the same time the marine ecosystem may be damaged to an unrecoverable level, which has long term ecological, social and economic implications.

A series of reforms have been introduced in recent years to tackle these problems. These include the harvesting of fish under multi-annual plans; establishment of an EU Fisheries Control Agency to improve enforcement of fishing controls and establishment of Regional Advisory Committees. Efforts have been made to reduce the fleet size. In Ireland a series of decommissioning schemes have been implemented. There are now examples of fish stocks being restored to the benefit of the ecosystem and the industry (European Commission, 2008e).

A long standing concern of the Irish fishing industry is the 'perceived lack of even handed conservation and enforcement for the fishing activities of all fleets in Irish/EU fishing waters and the impact these factors are having on the viability of Irish fishing vessels and processing plants'; i.e. a concern that fishing regulations are enforced disproportionately on Irish fleets (Seafood Industry Strategy Review Group, 2006: 4). The European Commission (2008e) points to problems with the current control system which it regards as inefficient and not producing the desired results. The Commission refers to the 'severe shortcomings of national regulations' and notes that the 'frequency and intensity of control and inspections differ considerably from one Member State to another' (European Commission, 2008f: 4).

The European Commission has proposed a series of further reforms to improve fisheries control. These include simplifying the legal framework, introducing harmonized sanctions, improving co-operation between member states and with the Commission and strengthening the powers of the Commission to enhance the ability of the Commission to ensure that member states respect their CFP obligations.

The CFP is currently under review and a reformed CFP will be adopted by 2012. The Commission's Green Paper, published in April 2009, recognises 'that economic and social sustainability require productive fish stocks and healthy marine ecosystems. The economic and social viability of fisheries can only result from restoring the

productivity of fish stocks. There is, therefore, no conflict between ecological, economic and social objectives in the long term' (European Commission 2009d: 9). It is therefore expected, that an ecosystem-based approach to fisheries management, incorporating a robust application of the precautionary principle, will be the first priority of the reformed CFP and will be defined in an operational way, in order to ensure the long term social and economic viability of the European fisheries sector.

A reformed CFP could contribute greatly to the restoration of fish stocks and the protection of ecosystems from damaging and unselective fishing practises, but is restricted to the fisheries sector. The wider marine environment and its resources need to be safeguarded for future generations. The EU Marine Strategy Framework Directive (2008) has now come into effect and has as its objective the effective protection of the marine environment across Europe. It aims to achieve good environmental status of the EU's marine waters by 2021 and to protect the resource base upon which marine-related economic and social activities depend. The Directive is based on a similar model to that of the EU Water Framework Directive (2000). European marine waters will be divided into regions and each member state will be required to develop strategies for its respective areas (EPA, 2008a).

The EPA (2008a) and Comhar (2004) have both expressed concern with regard to the environmental impact of aquaculture. This sector contributes to employment and export earnings in remote coastal communities. However, according to the EPA, the sector's potential will be realised 'only if the impacts of aquaculture on the marine environment are fully addressed and managed so that they are maintained within acceptable levels' (EPA, 2008a: 133). A system of licensing is used to regulate the sector, with licenses are issued for a ten-year period. However, many of the areas used for aquaculture are now protected under the EU Habitats (1992) and Birds (1979) Directives, which require any developments in these sites to undergo comprehensive appropriate assessments to ensure that the development does not significantly negatively affect the sites concerned. In December 2007 the ECJ ruled that Ireland had not met its obligations in respect of authorisation of aquaculture programmes in protected areas. There is now a large backlog of aquaculture licence applications for aquaculture projects in these areas. This highlights the challenge of devising a system that provides effective environmental protection and also provides enterprises with prompt decisions on aquaculture projects.

### *Conclusion on Water*

The EU has had a strong positive influence on the protection of water quality in Ireland. Ireland has been subject to a number of adverse ECJ rulings related to water protection. On the other hand, the Irish authorities have shown substantial commitment to addressing water questions through large-scale investment. Total investment under the NDP in water and waste water services over the period 2000 to 2006 was €3.7 billion.

The EU WFD is guiding a comprehensive, long term approach to good water quality. Ireland has to date made good progress in putting in place the arrangements required by this directive. The river basin management plans have been finalised. The general requirement of the Directive that all water bodies be of good quality by 2015 represents a major challenge.

Given imminent water deficits in a number of Irish cities including Dublin and the need to achieve high quality standards, there is a case for volume-based charging. The revised Programme for Government has a commitment to introduce charges for consumption in excess of a free basic allowance.

The CFP has struggled to achieve its objectives of conserving fish stocks and protecting the marine environment. Reforms are being made to enhance the effectiveness of this policy. Ireland has an interest in a stronger EU role to more effectively control fish stocks and the protection and conservation of healthy marine ecosystems, and should avail fully of the opportunity to reshape the CFP in the planned review of this policy by 2012. Domestically, the obligation to correctly transpose the Marine Strategy Framework Directive, along with the obligation to ensure compliance with the EU Habitat and Birds Directive, will drive changes in fisheries governance over the immediate future.

### 5.4.6 Air Quality

The EPA considers that Ireland's air quality is very good. Ireland's air quality benefits from a number of underlying advantages: prevailing winds from the Atlantic, the relative absence of large cities and heavy industry. Policy has also contributed. The ban on smoky coal in large urban centres improved air quality while the IPPC licensing system has largely controlled emissions from industry (EPA, 2008a).

While air quality is very good, road traffic poses threats to air quality. In Dublin and Cork, traffic emissions mean that the level of certain air pollutants—nitrogen dioxide and particulate matter (PM)—is close to the specified EU limits. Emissions of PM in urban areas have been substantially reduced (OECD, 2009).

In addition to air quality standards, Ireland also has EU commitments regarding emissions of certain transboundary air pollutants. The EU National Emissions Ceilings Directive (2001) sets limits to be reached by 2010 for four main transboundary pollutants: sulphur dioxide, nitrogen oxides, volatile organic compounds and ammonia. With the exception of nitrogen oxides, emissions of these pollutants are falling substantially and are projected to be below the required levels by 2010. Factors supporting the fall in emissions include the following: fuel switching to natural gas; reduction in the sulphur content of oil and gas; decreased use of peat and coal domestically; improvements in vehicle technology; falling cattle numbers; and operation of the IPPC system (EPA, 2008a). In urban areas, particularly Dublin, air quality has improved through investment in public transport, tunnels and bypasses (OECD, 2009).

The one air pollutant for which emissions levels on the current trends are not projected to meet the EU standards by 2010 is nitrogen oxides. The growth in road traffic has offset reductions due to improved technology. Curbing the growth of nitrogen oxides is another reason for seeking to limit the growth of road traffic (EPA, 2008a).

### 5.4.7 Integration and Enforcement

The EPA also identifies two over-arching procedural challenges for Ireland:

- Better integration of environmental and natural resource considerations into the policies, plans and actions of economic sectors;
- Improving the enforcement of environmental legislation.

Each of these is now discussed.

*Integration*

The protection of the environment has become increasingly prominent as an EU policy objective and environmental concerns have become more integrated across a range of EU policies. The EU Sustainable Development Strategy seeks to integrate sustainability into all major policies. Environmental considerations now feature prominently in, for example, EU energy policy and the Common Agricultural Policy (CAP). The implementation of EU policies in Ireland has made a contribution to an integrated approach to the environment in Ireland. However, achieving an integrated approach remains a major challenge. It involves ensuring sufficient attention is given to the environmental impact in policy areas such as energy, transport, housing, agriculture and enterprise development and depends on the actions of the public service, enterprises and citizens. The goals of climate change policy in particular will only be achieved with major advances in the level of integration achieved to date

EU directives on environmental impact assessment (EIA) and strategic environmental assessment (SEA) are of relevance to improving integration. The EIA Directive, adopted in 1985, requires assessment of the environmental impacts of projects likely to have significant environmental effects. The SEA Directive, implemented in Ireland since 2004, has a more wide ranging requirement for the environmental assessment of plans and programmes. According to the EPA (2008a), while some sectors are beginning to address the requirements of the SEA Directive, 'it is notable that a number of significant sectors, in particular the forestry, tourism and transport sectors, have yet to fully engage in the process' (EPA, 2008a: 256). In addition, the EPA points out that the National Development Plan (2007-2013) was not itself fully subject to an environmental assessment in accordance with the SEA Directive.

In its 2006 Strategy, NESC pointed to a number of potential pitfalls of environmental impact assessment. First there are knowledge constraints; in many spheres it is not possible in advance to predict with great accuracy the effect of policy, expenditure or regulation. The second pitfall is that EIA and SEA, can become an adversarial and protracted process rather than a problem-solving one. The third is that, like other systems of proofing, environmental impact assessment can be reduced to a bureaucratic process, another set of boxes to be ticked (NESC, 2005).

There is an undoubted role for EIA and SEA. However, the integration of environmental considerations into sectoral policies, plans and programmes is a major challenge so it is unrealistic to expect that any single EU directive can in itself resolve this issue.

*Enforcement*

The EPA notes that are over 200 environmental laws in Ireland at present, the majority of which derive from the EU. Enforcement of environmental law is essentially a national responsibility. Pressure from the EU to implement the State's EU obligations puts some pressure on national authorities to enforce EU environmental legislation. Environmental NGOs in Ireland frequently make complaints to the Commission regarding the implementation of EU legislation in Ireland.

There have been some improvements in Ireland in recent years regarding the enforcement of environmental legislation, as discussed above. Institutional innovations in recent years to improve enforcement have included the establishment of the Office of Environmental Enforcement within the EPA and the Environmental Enforcement Network, a network of agencies involved in enforcement. In recent years there have significant successes in tackling illegal dumping and cross-border movement of waste (EPA, 2008a).

*Access to Information, Participation and Justice: the Aarhus Convention*

Informed citizens who participate in environmental decision making can play an important role in encouraging an integrated approach to the environment and enhancing enforcement of environmental policy. The EU is a party to an international convention, the Aarhus Convention that involves significant commitments by public authorities to ensuring access to information on the environment, opportunities for participation and access to justice regarding decisions related to the environment. Whilst Ireland is a signatory it is the only EU state not to ratify the Convention. Ireland's ratification of the convention is linked in part to implementation of EU directives.

The key provisions of the Aarhus Convention are as follows. First, there is a requirement to provide general access to information held by public authorities, with limited exceptions. In addition the convention also has requirements on the active dissemination of information and putting in place practical arrangements that make information effectively accessible. Second, the convention provides rights to participate in decision-making on the environment, including rights by the public affected and NGOs to comment on relevant projects, plans, programmes and policies and that these be taken account of in decision making. Third, the convention requires that the member of the public have rights to challenge decisions made affecting the environment and the procedures involved must be timely, effective, binding and not prohibitively expensive.

Following on from the EU's ratification of the Aarhus Convention, two directives have been adopted: Directive 2003/4/EC, a directive on public access to environmental information and Directive 2003/35/EC on public participation in environmental decision making. The directive on information covers both access to information as well as a requirement on public authorities to organise their information on the environment with a view to active and systematic dissemination to the public. The public participation directive requires that public be given early and effective opportunities to participate in the preparation and modification or review of certain plans or programmes that affect the environment. There is also a right to challenge decisions made under EU legislation on EIA and IPPC.

Comprehensive research has been undertaken on the situation in Ireland with regard to the Aarhus Convention and the related EU Directives for the EPA by a research team from Sligo IT, UCC and Comhar. A draft report has been published (Ewing *et al*., 2008) and we draw here on its findings.

Although Ireland has yet to ratify the Convention, it has transposed the two EU Directives introduced to help implement the convention in Europe. Various bodies have recommended ratification, with the OECD being the most recent in its Environmental Performance Review for Ireland (2010), and it is understood that work on the remaining issues which must be addressed to allow Ireland to ratify the Convention is being progressed as a priority.

The EU directive on access to environmental information has been transposed in Ireland through 2007 regulations that made provision for a new regime of access to information on the environment (AIE). The new regulations overlap with freedom of information. There are however some differences. First, freedom of information does not cover commercial state bodies while these are covered by AIE. Many commercial state bodies undertake activities with significant environmental impact, for example, Eirgrid, ESB and Coillte. Second, the AIE regulations go further than freedom of information in requiring that public authorities 'make all reasonable efforts to maintain environmental information held by or for it in a form or manner that is readily reproducible or accessible by information technology' (Government of Ireland, 2007b: 6).

Ewing *et al*. (2008) judged that good legislative provision has been made on access to information but that there were weaknesses in its implementation. There was a lack of familiarity with the new regulations in local authorities (in 2008). They found that the gathering of data by public bodies and its distribution in the form of useful information ranged from poor to very good. They also expressed concern that the transfers of emissions data from IPPC licensed premises were slow and on paper so that it can take as long as six months before the public can access the data.

Ewing *et al*. found that the conduct of participation is often poor and limited both by the personnel resources and skills of public authorities. They cited some examples of good practice, including regulatory impact analysis as practiced by the Department of the Taoiseach.

The AIE regulations contain transparent procedures for both internal and external review of decisions on access to information. One concern however is that the fee for external reviews by the information commissioner is €150. Ewing *et al*. point out that citizens face substantial cost barriers to participation in administrative review by an Bord Pleanála and more so in accessing the courts to contest decisions affecting the environment. This runs contrary to the Aarhus Convention.

To conclude on the Aarhus Convention, this is potentially a very significant agreement for the development of a better informed public and real public participation on environmental matters. The achievement of these goals is not simply a legal matter but requires changes in approach by public bodies

and development of skills for providing real participation. The fact that the EU is also a party to this convention increases the pressure on the Irish authorities both to formally ratify this convention and to put in place arrangements for effective implementation.

### 5.4.8 Agriculture

Agriculture has a major impact on the environment. In the EU around half of the total land area is used for agriculture while in Ireland 61 per cent of land is used for agriculture and a further 11 per cent is used for forestry. In addition to their role as food producers, farmers have an important role as custodians of the countryside. However, agriculture can also have negative environmental impact including water and pollution and damage to habitats.

EU policies have had a major impact on agriculture. This applies both to dedicated environmental directives that have been discussed above—the Habitats Directive (1992) and the Nitrates Directives (1991)—and the EU's Common Agriculture Policy (CAP). In its original form, the CAP mainly provided support for agriculture in the form of price support. Price support encouraged the intensification of production with negative environmental consequences (Matthews, 2005); the average intensity of land use in Ireland, however, is relatively low by EU standards. A series of reforms have greatly reduced the price support dimension of CAP. The primary form of income support under CAP is now provided through the single farm payment. This payment is based on historic production; it is 'decoupled' from current production. Land must be maintained in good agricultural and environmental condition and the payment is subject to 'cross compliance' with relevant environmental regulations as well as regulations on public health, animal welfare and plant health.

The Mac Sharry reforms introduced an agri-environment scheme to reward good environmental management. This was implemented in Ireland in the form of a series of Rural Environment Protection Schemes (REPS). At the end of 2008, REPS covered over 1.7 million hectares and there were over 46,000 participants. The most recent scheme, REPS 4, was closed to new entrants in 2009. A new agri-environmental scheme was introduced in March 2010. Participants are required to choose from a range of actions that go beyond complying with environmental regulations which are required in any event under the cross-compliance condition.

The EU has provided financial support for investment to mitigate farm pollution. The current scheme for supporting environmental protection on farms is the Farm Waste Management Scheme. As with other public investment programmes, this is now primarily financed from national resources. This scheme is now closed for new investments.

Climate change poses major challenges for the agricultural sector. Agriculture is the single largest source of GHG emissions in Ireland so climate change policy has significant implications for the sector. In 2009 agriculture contributed 29 per cent of Ireland's total GHG emissions. Agriculture's share of total emissions has fallen sharply; in 1990, agriculture had accounted for 36 per cent of total emissions. These figures do not take into account the impact of forestry in absorbing carbon. The fall in the share of agriculture reflects growth in other emission along with some fall in agricultural emissions due to a fall in cattle numbers and fertiliser use.

Looking ahead to 2020, Ireland is required to reduce its emissions in sectors outside those covered by the ETS by 20 per cent on 2005 levels (see Section 5.4.2 above). Agriculture represented 39 per cent of these non-ETS emissions in 2008 so that Ireland's target poses major challenges for agriculture. In the EPA's projections to 2020, it was estimated that based on existing policies, emissions from agriculture would fall by 11 per cent by 2020, compared to the 2005 baseline (EPA, 2010a).

Forestry makes a substantial contribution to reducing Ireland's GHG emissions. There is however uncertainty regarding the treatment of forest sinks by the EU in the achievement of member state targets, as discussed in Section 5.4.2 above.

## 5.5 Conclusions

The EU has over several decades developed a comprehensive body of environmental policy and environmental law. EU environmental policy regulates key environmental dimensions of water, waste management, nature preservation, chemicals and air quality. The environmental effects of both agriculture and industry are subject to EU regulation. In recent years climate change has become a major focus of EU policy.

### 5.5.1 Impact and Engagement of the EU in Ireland on the Environment

Ireland's engagement with the EU on the environment takes place at multiple levels. High level political engagement takes place at the Environment Council of Ministers and the European Council but there are many other forms of engagement. For example, the Water Framework Directive (WFD) was negotiated by the Council of Ministers and the European Parliament. Its implementation is shaped by discussions convened under the Common Implementation Strategy; this process provides practical guidance to those responsible for the implementation of the WFD. Within this process there are two levels of discussion: a more political level at which directors of water services meet and a more technical level of discussion by working groups. The EPA participates in a network of similar environmental protection agencies from other EU countries, IMPEL. Among other functions, this facilitates a harmonised approach to the implementation of EU environmental law. Irish NGOs monitor the application of EU environmental law and make complaints to the European Commission where they see infringements of this law.

It is widely agreed that the EU has been a major driver of Irish environmental policy and that its impact on the environment has been a positive one. This impact is evident across a range of environmental dimensions. The EU led to increased commitment in Ireland to addressing issues of water quality. The ECJ ruled against Ireland in 2002 on account of problems with water quality, mainly in private group water schemes; this led to a programme of major investment to upgrade rural water schemes but there are continuing water quality problems. In waste management the EU prompted a change in Irish practise towards a considerable increase in recycling and recovery of waste materials. By 2008, over 37 per cent of Irish waste was allocated for recovery which is similar to the Danish level. The EU led to a new and enhanced level of protection of natural habitats and species. Ireland adopted an IPC licensing system to control emissions of various kinds from

industry in anticipation of an EU directive. This IPC/IPPC system has been successful in addressing industrial emissions. EU policy on agriculture has been modified to enhance environmental protection. The EU has part-funded much environmental infrastructure over successive NDPs.

The EU's Common Fisheries Policy (CFP) has struggled to achieve its objectives of conserving fish stocks and protecting the marine environment. Reforms are being made to enhance the effectiveness of this policy. Ireland has an interest in a stronger EU role to more effectively control fish stocks as it not plausible that fish stocks will survive without enhanced international co-operation.

There have undoubtedly been tensions regarding Ireland's engagement with the EU on the environment. Ireland has been subject to a series of adverse ECJ rulings on environmental matters. In 2006 and 2007 Ireland had the third highest number of environmental infringement cases with the EU; the number for the UK was similar. However, since then there is evidence of a significant reduction in the number of outstanding Irish infringement cases.

Notwithstanding the difficulties that have arisen from time to time, in some ways Ireland shows a strong commitment to meeting its EU commitments and there has been substantial progress on the environment. Ireland's has made huge advances on waste management with several EU targets achieved ahead of deadlines. Air quality in Ireland is very good and emissions of air pollutants have fallen. Renewable energy has developed strongly in recent years. There has been a high level of public investment in environmental infrastructure with a view to meeting EU standards. The Commission has commended Ireland's efforts in establishing monitoring systems under the WFD. The EPA runs the IPPC licensing system effectively to control industrial pollution, as noted above.

Where difficulties have arisen in meeting environmental commitments, this is often related to behaviour and difficulty in securing agreement with relevant stakeholders domestically. There are costs—to the exchequer, individuals, enterprises— involved in meeting environmental commitments and it is often only at the implementation stage that the full costs are widely appreciated. It is important that the most effective means of achieving environmental objectives are pursued and that the costs are fairly shared; in particular, environmental measures should be structured to avoid any significant negative effects for people on low incomes. Of course there are typically other costs arising from not addressing environmental concerns.

Ireland's settlement patterns and related transport issues are the source of a number of environmental problems. There has been public opposition to the creation of infrastructure needed to meet compliance with the EU Landfill Directive (1999). The Nitrates and Habitats Directive were delayed by opposition from those affected. Biodiversity continues to decline. There has been reluctance in Ireland to make much use of fiscal incentives to encourage environmentally-friendly behaviour. Ireland opposed efforts at EU level to make domestic water metering and charging compulsory. The absence of metering increases the need for expensive investment to meet water deficits. It has recently been decided to introduce domestic water charges.

### 5.5.2 Towards a National Perspective on Future EU Environmental Policy

Looking ahead, Ireland faces several EU and international environmental commitments. First, on climate change, Ireland has a commitment to achieve substantial reductions in greenhouse gas emissions. Ireland's biggest challenges in meeting its national target for a reduction in emissions by 2020 are in transport and agriculture. Second, under the WFD, there is a requirement that all waters (rivers, lakes etc) achieve good status by 2015. Third, the Landfill Directive (1999) requires substantial further reductions in the volume of biodegradable municipal waste going to landfill in 2010. Fourth, Ireland also faces a challenging requirement to reduce emissions of nitrogen oxides which are related to traffic growth. Fifth, under the Aarhus Convention and associated EU Directives, Ireland has to radically alter the way in which decisions are made that affect the environment and to provide easy access to justice to challenge decisions that affect the environment.

These challenges are demanding. However, with or without the EU, Ireland needs to find ways of addressing a range of environmental problems such as the causes of water pollution and the challenges of waste management and waste reduction. Ireland's most significant international commitments on the environment are agreed through the EU, but in the absence of the EU, Ireland would still have international obligations on climate change, environmental governance, biodiversity and other environmental issues.

Our approach to the EU environmental agenda needs to be informed by our understanding of the place of the environment in Ireland's long term economic and social development. The increased attention to environmental concerns associated with the EU need not be in conflict with economic objectives. In its 2006 Strategy NESC pointed out that two of the core ways in which Ireland now earns its living—advanced manufacturing and services—are not areas of poor environmental governance and not essentially environmentally damaging. Ireland's recovery from the current economic recession will need to be export led. Ireland's ability to continue to attract multinational investment in advanced manufacturing and services requires that Ireland sustain a high quality environment. Two of Ireland's key sources of indigenous exports, food and tourism, are also very much dependent on both the reality and reputation of high environmental quality. More fundamentally, it is a global environmental imperative to reduce greenhouse gas emissions. The move to a global economy characterised by much lower dependence on carbon has been described as a new industrial revolution. Ireland's future prosperity depends on the ability to effectively make this transition. This includes developing alternative energy sources, adopting low carbon technology and finding new sources of competitive advantage consistent with the environmental imperative. Improved land use planning that is co-ordinated with transport can contribute to economic, social and environmental sustainability.

If Ireland is to improve its record in meeting EU and international commitments, this will depend on support and co-operation across government departments, the economy and society. Substantial progress on the degree of integration of environmental concerns across other key policy areas including transport, housing, energy, agriculture and enterprise is essential to achieving these commitments. A cabinet sub-committee and senior officials group are seeking to address the climate change challenge in an integrated way. However the National Sustainable Development Strategy, now 13 years old, has had limited influence in significant decision-making, such as the National Development Plan.

In its 2006 Strategy report, NESC noted that 'Progress on solving a number of important environmental problems in Ireland is blocked by tensions between social groups and sectors that, in turn, frequently induces an element of policy sclerosis' (NESC, 2005: 109). There is a need to build greater shared understanding of Ireland's environmental objectives and EU/international environmental commitments. Greater understanding needs to be accompanied by more effective domestic conflict resolution and decision making mechanisms (NESC, 2005). In a situation of much more constrained public finances, it becomes even more important to have public commitment if environmental objectives are to be achieved. There is less scope for public investment to absorb environmental problems. Waste minimisation, water and energy conservation are all means through which public co-operation can reduce the financial costs of achieving environmental objectives. Ireland's adoption of the Aarhus Convention could encourage a better informed public and more effective public participation on the environment.

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