

**THE ROLE OF STATUTORY AND NON STATUTORY BODIES CHARGED
WITH ENVIRONMENTAL RESPONSIBILITY IN
THE IRISH REPUBLIC**

BY

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**Thesis submitted in part fulfilment for the degree
of Master of Science in Environmental Protection**

June, 1995

Sligo Regional Technical College

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**Submitted to the National Council for Educational
Awards, June 1995**

ABSTRACT

Primary responsibility for the protection of the environment in Ireland lies with the Department of the Environment, however many other government departments have both general and specific responsibilities in this area.

Generally, government departments, on behalf of their ministers, deal with overall policy matters at national level. The administration of much of the environmental legislation is the responsibility of local or regional authorities.

In addition, some statutory bodies exercise important environmental and control functions while others provide information, research and support services.

A number of non-statutory bodies and voluntary groups such as Greenpeace, Earthwatch and An Taisce play an important role in protecting the environment and in promoting environmental awareness within the public sector. This study examines this network of statutory and non-statutory bodies in relation to their environmental responsibilities and discusses what changes could be made to improve their roles.

Alongside the DoE the main statutory bodies involved in environmental protection in the Irish Republic are the EPA, local authorities, An Bord Pleanála and the OPW. These groups are struggling to keep up with legislative change and are not progressive enough to make changes that will make a real difference. Legislation, such as the EPA Act, 1992 that governs such things as IPC licensing, environmental auditing and waste disposal, should improve environmental controls in the private sector.

The biggest challenge facing the development of environmental protection in Ireland is in the role of local authorities, this is where the real change can occur. Few local authorities have the resources and expertise to enable them to monitor and guide industry and agriculture, the greatest sources of our environmental problems. The setting up of an environmental services section

within each local authority, with a broader and greater knowledge of environmental science would give the local authorities a better opportunity to relate to other bodies associated with environmental issues. The role the EPA will play in controlling the environmental responsibilities of public authorities in areas such as sewage treatment and waste disposal is uncertain at this stage.

Acknowledgements

I would like to thank Dr Billy Fitzgerald for his assistance, guidance, encouragement and patience over the last few years. I would also like to thank the many people who took the time to supply the information for this project and a thank you to my colleagues in Loctite (Ireland) Ltd for their support. I would especially like to thank my partner Brian for his patience and understanding, our son Daniel for just being there and our families for all their encouragement and support.

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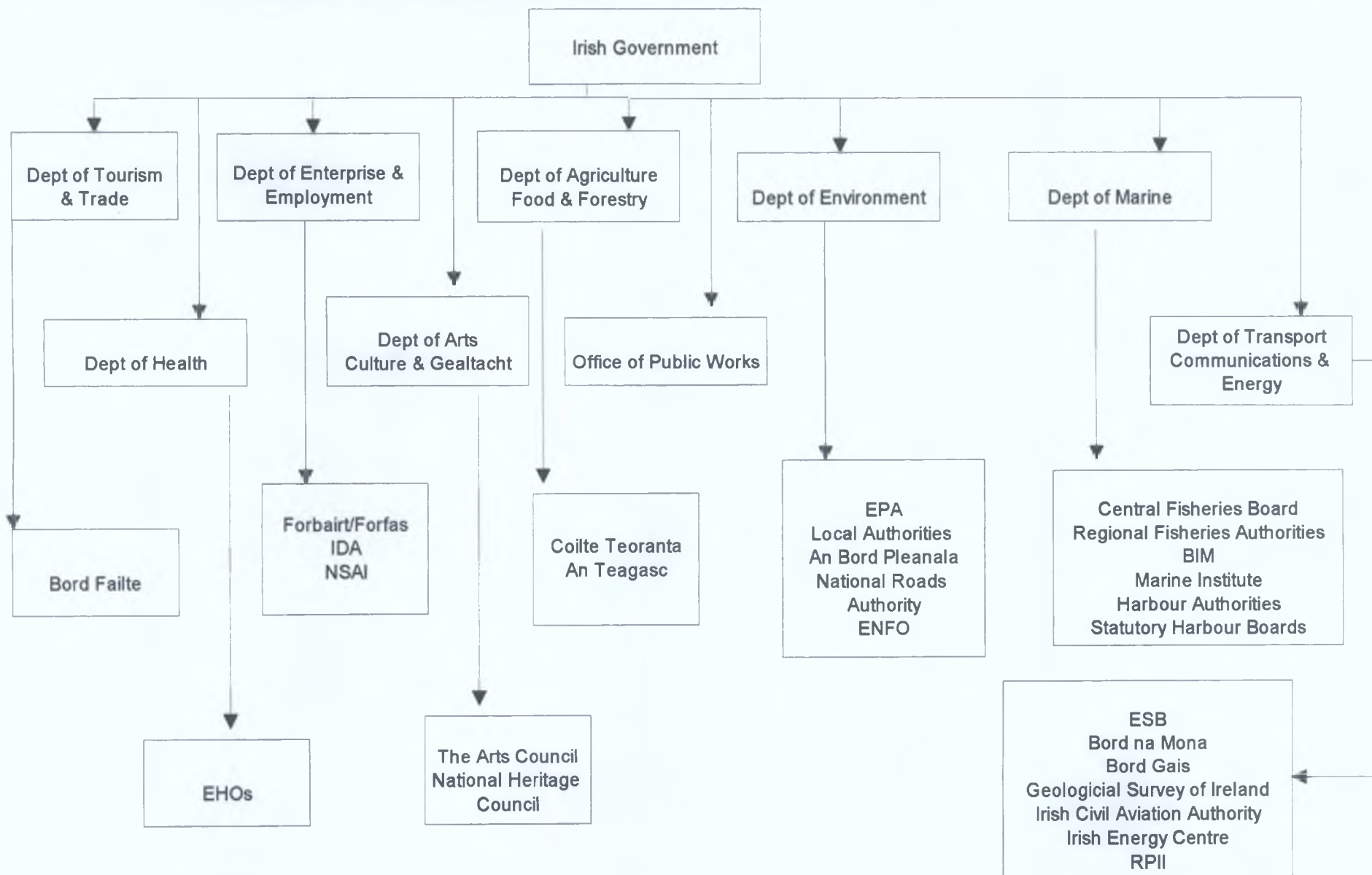
INTRODUCTION

Ireland, an island on the periphery of Europe, has a population of 3.5 million with a population density of 50 persons/km², which is low in comparison to other European countries. On joining the European Economic Community (EEC) in 1972, now known as the European Union (EU), there was a gradual growth in agricultural and industrial development. This changed the way of life in Ireland which had few large industries to having many foreign multinational companies enticed here by attractive tax incentives. Such industries were predominated by the pharmaceutical and electronic sectors. At the same time grants became available to farmers which resulted in an intensification of agriculture. As a consequence there was an urgent need to review and upgrade the infrastructure to regulate such activities in order to protect the environment.

Irish policy on its own would probably not have responded quickly enough but for EU environmental legislation which transpired to be the single biggest influence in the rapid implementation of suitable environmental controls in Ireland.

The purpose of this thesis is to examine the role played by the multitude of statutory and non-statutory bodies who have an interest in environmental protection in Ireland. The role of each of these bodies is described in relation to their terms of reference, main functions, resources available (financial and staff), subordinate bodies and contact information. The environmental roles of the main Government Departments such as the Department of the Environment, Department of Transport, Energy and Communications and the Department of Enterprise and Employment and the subordinate bodies within each department are discussed. The breakdown of the inter-relationship between various statutory bodies is illustrated in Figure 1. The location and

Figure 1. Statutory Bodies with Environmental Responsibility in Ireland



contact numbers of all bodies mentioned in the thesis text are outlined in Appendix 1.

Outside the formal structure of Irish legislative bodies exist a large mass of special interest groups known as Non Governmental Organisations (NGOs) whose very watchdog existence has kept those with environmental responsibility under scrutiny. The introduction of Directive 90/313/EEC on the Freedom of Access to Information on the Environment has made their task much easier. The public today are generally much more aware of what is happening in their environment and incidents often make for good media coverage which go some way to keeping important issues in the limelight. A listing of Irish NGO's are given in Appendix II.

The study concludes by discussing what improvements could be made on the present systems in order to harmonise the overall objective of protecting the environment.

SECTION 1

Department of the Environment

1.1 Department of the Environment (DoE)

Primary responsibility for the environment lies with the Minister for the Environment. The DoE under the guidance of its Minister must carry out the following functions in consultation with other ministers as appropriate.

1. To prepare a national environmental policy for approval by the Government and keep it under review.
2. To examine the state of the environment and to report on it to the Government from time to time.
3. To promote co-ordination in policies and programmes relating to the environment, in particular in relation to EU and international measures.
4. To promote specific programmes or projects for the protection and improvement of the environment.
5. To designate areas as national parks or regional parks.
6. Drafting and implementation of legislation on the environment.
7. Enforcement of legislation via Government circulars* to subordinate bodies such as local authorities.

**Government Circulars are letters of advice by government departments addressed to other administrative bodies. The contents of circulars are not strictly binding - that is their difference to statutes and regulations. Their contents contain a mixture of instructions and authoritative advice which is unlikely to be ignored by subordinate departments. Circulars tend to concentrate more on administrative than purely technical matters.*

The DoE was known as the Department of Local Government prior to July 1977. It is the central control body for local authorities. It guides and controls their activities in environmental matters at a national level and provides the bulk (up to 50%) of local authority finances. This ensures that it has a certain amount of control over local authority activities, particularly

those dependent on central government finances such as road, sewage, water supply, public housing and amenity developments.

The fundamental responsibility of the DoE is securing the implementation of EU environmental legislation, for co-ordinating Irish policies on environmental matters and for presenting these policies at EU and international level. The department does not get involved in the administration or enforcement of the environmental legislation which it has promoted. This is left to the Environmental Protection Agency (EPA) and local authorities.

The Minister has the power to prescribe national environmental standards and to approve and secure the co-ordination of various management plans relating to land use, water and air. The Minister gives general guidance to local authorities and general policy directives to An Bord Pleanála (Planning Appeals Board) and the EPA on the manner by which environmental legislation is to be administered and enforced.

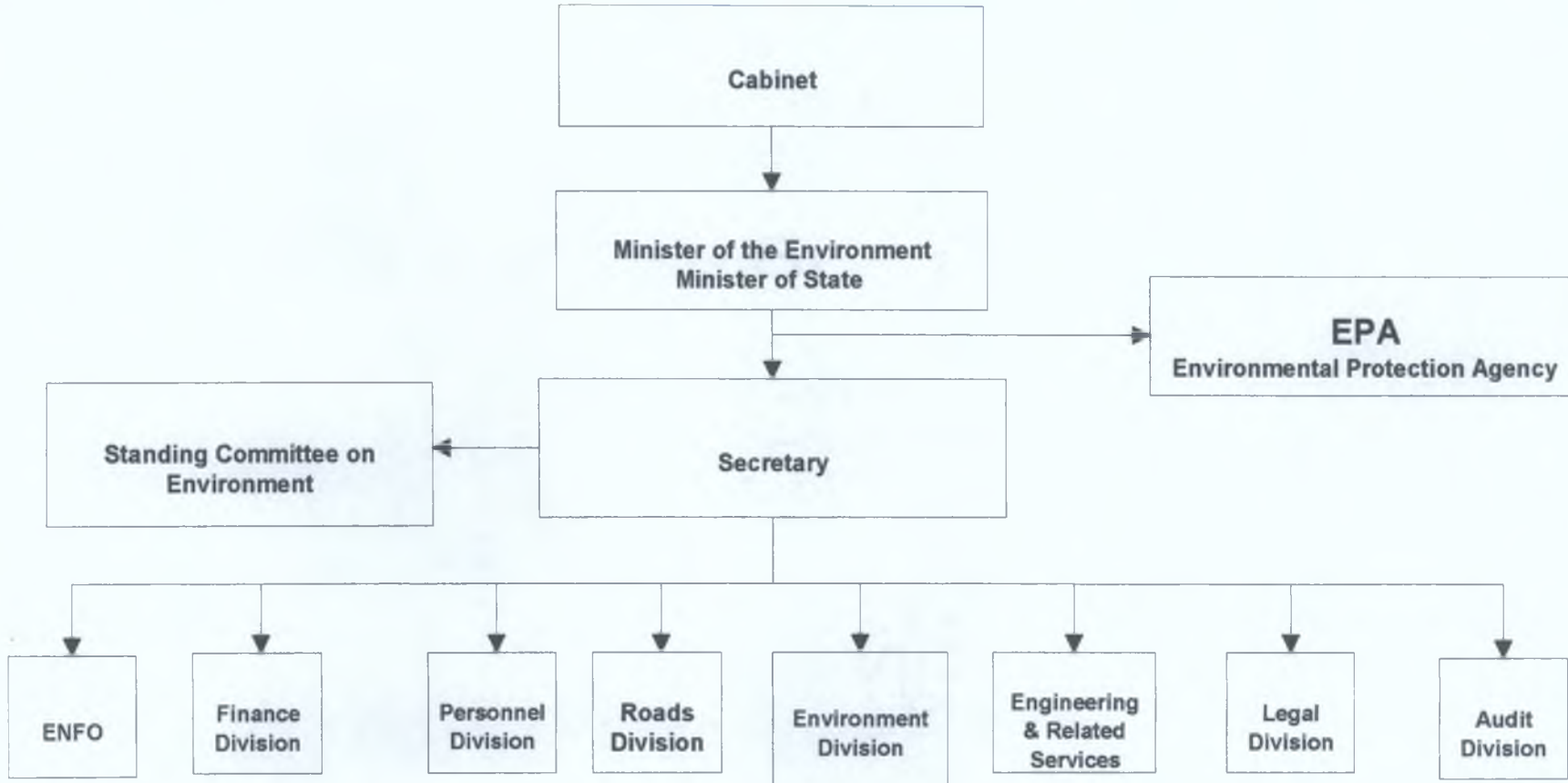
The DoE is divided into eight divisions which secretaries deal with various aspects of environmental management (Figure 2).

Within the DoE there is an Office for the Protection of the Environment which is assigned to a Minister of State for Environmental Protection within which there are four sections

1. *International Affairs:* with the EU and general international affairs.
2. *Policy:* environmental action programmes, including matters related to environmental integration into other areas of government activity.
3. *Control:* pollution policy such as air pollution, wastes, industrial emissions and coastal oil pollution.
4. *Water and Sanitary Services:* draws up guidelines implementing regulations to which local authorities will apply.

Figure 2.

The Structure of the Department of the Environment



The engineering section of the DoE is more involved in building works such as the supervision of local authority building such as sanitary infrastructures, roads, waste management schemes e.g. landfills. The DoE evaluate local authority reports concerning pollution incidents and their management plans for air, water and wastes. It advises on the priorities for investigation and on the issuing of advice/warning notices in relation to possible pollution sources and quality standards for licensed discharges.

The DoE is responsible for the allocation of funding to local authorities and can bring together a number of local authorities to provide better water supply facilities, treatment and waste water plants.

The DoE publishes a quarterly magazine, the Environment Bulletin, which outlines all activities and legislative changes relating to the environment; it is available free of charge.

1.2 Environmental Protection Agency (EPA)

The EPA was established in July 1993 under Section 19 of the Environmental Protection Act, 1992. With it began a new era for the management and protection of Ireland's environment. Part II of the Act provides for a Director General and four other directors. They are appointed by the Government from persons proposed by an independent selection committee. All five directors are appointed on a full time basis and operate as an executive board. The agency employs a management staff and team with extensive experience at senior level in Government agencies, professional consulting and in the private sector.

The EPA is divided into four main divisions:

Corporate Affairs

Licensing and Control

Environmental Monitoring and Laboratory Services

Environmental Management and Planning

With their headquarters located in Wexford, the EPA also has Inspectorate offices in Dublin, Cork, Kilkenny, Castlebar and Monaghan which provide a regional and strategic presence. The regional laboratories are involved in compiling hydrometric data and general environmental quality data. Sligo, Mayo, and Galway County Councils avail of the analytical services of the Castlebar laboratory and pay them an annual fee. Dublin, Cork, Kilkenny and Monaghan laboratories provide similar services for some of the local authorities in their areas. Most functions are carried out at a regional level, but major issues such as decisions relating to licence applications are dealt with in the Wexford headquarters.

The EPA is assisted by an advisory committee of 12 members, appointed by the Minister for the Environment following nominations from various organisations involved in environmental issues. The committee makes recommendations to the EPA and to the Minister on the Agency's functions.

The powers and functions of the EPA are being introduced into Irish law on a phased basis, ultimately they will involve the following:

1. Control the integrated pollution control (IPC) licensing (using BATNEEC; Appendix III) of major developments and enforcing compliance.
2. Authorise certain public sector activities and impose conditions on marine developments.
3. Monitor general environmental quality, the quantity and quality of water resources and specific problems.
4. Issue guidelines on environmental issues, codes of practice, environmental audits and environmentally friendly products and services.
5. Co-ordination of environmental research programmes, providing training and encouraging local authorities in environmental protection.

6. Give advice on policy matters, on the need for legislative change, on environmental quality standards, on emission standards and on environmental impact statements.
7. Supervise environmental monitoring by other authorities and guide the environmental activities of local authorities.
8. Provide consultation for developers seeking licences and consult with public authorities about their environmental function.
9. Publication of monitored results, provision of public access to environmental data bases and the publication of 'State of the Environment' reports and organise seminars and conferences.
10. Liaise with the European Environmental Agency and consult with similar international bodies about environmental issues..

Under Part IV of the EPA Act, 1992, the EPA are the sole authority responsible for the issuing and enforcing of IPC licensing. In May of 1994 the EPA began its licensing function under licensing regulations which will be expanded on a phased basis. This established a new institutional framework for the control of environmental pollution in Ireland. The concept of IPC has been growing in importance within the EU. Increasingly it has become recognised that no one part of the environment is separate from the other. Its functions are integrated as a whole. Yet pollution control was until recently usually based on the approach which considered air, water, and land separately. This fragmented approach has been the cause of many pollution problems experienced today.

The main environmental objective of IPC is to prevent or solve pollution problems rather than transferring them from one part of the environment to the other. With IPC there will only be one licence issued to cover all aspects of air, water, waste and noise. It has advantages for a licensable activity developer as only one licence applies. The IPC licensing function of the EPA

relates to both new and established activities. The phasing in of the licenses has been established through a list of activities in the first schedule of the EPA Act. All new activities listed require a licence whereas those already established will be phased in over a specified time period. It is only the larger developments that will initially require an IPC licence. Local authorities and other statutory bodies will take care of the smaller activities.

1.3 Local Authorities

Ireland's 88 local authorities are primarily responsible for the administration and enforcement of most Irish environmental legislation. In Ireland local authorities are made up of county councils, county boroughs, borough corporations, urban district councils and boards of town commissioners.

County councils exercise their jurisdiction over the part of the county unit which is not within the jurisdiction of other local authorities. County borough corporations are responsible for the cities of Dublin, Cork, Limerick, Waterford and Galway. Borough corporations, urban district councils and town commissioners have functions over a number of smaller towns respectively in order of decreasing size.

Local authority members are elected, in theory, every five years on a system of proportional representation. Elections are fought almost exclusively on a party political basis. All persons over 18, living within the local authority, are entitled to vote. The elected members of the local authority have overall responsibility for the activities of their particular local authority especially in relation to finances and developments with an environmental impact.

Rural local authorities have to be very versatile as they deal with a wide variety of enquiries from the general public, especially since the introduction of regulations on access to information on the environment. The workload might include the monitoring of a derelict building or overflowing septic tanks. In the cities the work load is much more departmentalised.

Local authorities and their daily schedule are as different as the counties themselves. Although they all work under the same legislation each local authority has different strengths and weaknesses depending on the types of industries, farming and population densities they have to deal with.

The functions carried out by local authorities are basically the same. They include planning, housing, road transportation and safety, fire services, civil defence, recreation and amenity. These services are largely separate from environmental services which are usually encompassed with the sanitary control services. These include water supply, sewage treatment, waste disposal and the drawing up of water quality and waste management plans. To date, 14 local authorities have drawn up water quality management plans, all have drawn up a waste management plan and all but three have a special waste management plan. The introduction of the Waste Bill means that local authorities have to draw up a new, more integrated waste plan. This will probably mean hiring a consultant as most local authorities would not have the expertise required for such a task.

The EPA will now deal with all local authority special waste management.

A large proportion of local authority time involve licence applications and reviews in relation to effluent discharges, air emissions and noise control. The principal items of legislation that local authorities currently work under are as follows:

Water Pollution Acts, 1977 & 1990 and the regulations arising thereof.

Air Pollution Act, 1987 and the regulations arising thereof.

Environmental Protection Agency Act 1992, Noise Regulations.

Public Health Acts, 1878 to 1964.

EC. (Waste) Regulations, 1979.

EC (Toxic and Dangerous Waste) Regulations, 1982.

Directive 75/442/EEC on Waste and its 1991 amending directive.

Directive 91/689/EEC on Hazardous Waste.

EC (Quality of Water intended for Human Consumption) Regulations 1988.

EC (Quality of Bathing Waters) Regulations 1992-4.

Litter Act, 1990.

This list is by no means complete but gives an idea of the range of legislation under which local authorities operate. To appreciate the pure quantity of legislation on the environment, EU Directives on the water pollution alone implemented in Ireland are listed in Appendix IV.

Since the 1970's, local authorities have encountered specialised problems in dealing with large industrial installations with sophisticated pollution control systems. The establishment of the EPA in 1992 brought the manpower and know-how to deal with these specialised industries. The EPA for the most part has proven to be a great asset to the local authority giving advice and dealing with all new integrated pollution control licences. This has freed up the local authorities to pay more attention to activities not under the control of the EPA. A large portion of the work that a local authority is obliged to carry out on a routine basis under the different legislative requirements is carried out by either health boards, in the case of drinking water, private companies for specialised analysis or central government laboratories such as the state laboratories in Abbotstown, Co. Dublin. A large financial outlay is required for these services.

Most local authorities are burdened just keeping up with monitoring water quality in their area as well as water and waste water treatment works. Few have the manpower to get involved in sophisticated environmental work. The local authorities also have responsibility for derelict sites and environmental campaigns such as education, recycling and litter control.

Agenda 21, the major document produced at the Earth Summit in Rio in 1992, is a blueprint for meeting the challenges of environment and development

into the next century. It recommended that local authorities should by 1996 develop a consensus on a Local Agenda 21 for their communities. The DoE recently published guidelines giving a background on the issues involved and suggestions for carrying out Agenda 21. Many of the requirements may already be in place in the more progressive local authorities in key areas such as planning, land use and environmental protection.

1.4 An Bord Pleanála

An Bord Pleanála, the planning and construction division of the DoE, supervises the development control functions of local authorities. It is responsible for Environmental Impact Assessment (EIA) Regulations, which are used as a control tool in the framework of their planning responsibilities. Their main role in environmental protection is in determining planning appeals (i.e. where a local authority decide to grant, grant subject to condition or refuse planning permission) by the developer, public or some other body with regard to the effects of a proposed development on the environment. This is provided for generally, by the Local Government (Planning & Development) Acts, 1963 to 1993 and, in particular, by these Acts as amended by the European Communities (Environmental Impact Assessment) Regulations, 1989 and 1994.

An Bord Pleanála also deal with the licence appeals under Section 8 of the Local Government (Water Pollution) Act, 1977 (as amended by section 6(1) of the 1990 Water Pollution Amendment Act) against the grant, revocation or refusal of a licence by a local authority for the discharge of trade or sewage effluent to waters. The Bord is also empowered under Section 20 (as amended by section 15(1) of the 1990 Water Pollution Amendment Act) to deal with appeals against sanitary authorities concerning discharges of trade and sewage effluent to the public sewer.

Under Section 34 of the Air Pollution Act, 1987, An Bord Pleanála deal with appeals concerning emissions to atmosphere from industrial plants in relation to the granting or refusal of a licence or the granting of a revised licence by a local authority.

All developments on land require planning permission since 1964, unless exempted. Planning law is fundamental to environmental control in Ireland, as environmental legislation is closely modelled on the planning code.

In recent years there has been a lot of controversial Government planning decisions being exempt from the normal planning laws, such as the establishment of interpretative centres. New legislation 'The State Authorities (Development and Management) Act, 1993' has been enacted, specifically governing developments by the state in order to protect certain elements of the environment, e.g. national monuments, wildlife etc. EU directives and the EPA Act, 1992, subject many local authorities to controls effecting their development which ensures that appropriate environmental protection measures are taken. EIA procedures have now to be undertaken for all proposed projects i.e. proposed sewage treatment plants, landfills, water supplies and any operation that requires a IPC licence. An Bord Pleanála employ six full-time Board members, eighteen professional planners and a total of forty four management /executive/clerical staff.

1.5 National Roads Authority

The National Roads Authority (NRA) was established on a statutory basis under the Roads Act, 1993. Its members are appointed by the Minister of the Environment. Its purpose is: "To secure the provision of a safe and efficient network of National roads through planning, supervision, improvement and maintenance".

Its function is to prepare medium term plans for the development of national roads. The procedure for making these plans is prescribed in the Act and is

modelled on the procedure by which local authorities make development plans.

Draft plans must be submitted to the Minister of the Environment who may approve them with or without modification or who may refuse to admit them.

Development consisting of the carrying out of any works at the direction or on behalf of the NRA is an exempted development for the purposes of the Local Government (Planning and Development) Act 1993, although it may be subject to EIA procedures under the Roads Act.

The 1993 Act, provides that local authorities must comply with specified directions of the NRA even though compliance may constitute a material contravention of their development plan or special amenity area order. The NRA employ 67 staff, of which 36 are administrative and 31 professional/technical.

1.6 ENFO Information on the Environment

Enfo, a public information service provided by the DoE was established in September 1990. It provides easy access to a wide range of information on the environment. The main aim of Enfo is to help protect and enhance the environment by promoting a wider understanding and fuller awareness of the world around us and to encourage individuals and communities in their efforts.

The main functions are:

- 1.** To collect and maintain up-to-date environmental information in a variety of media e.g. books, journals, reports, leaflets, videos, microfilm and computer databases.
- 2.** To operate an information centre open to the public from 10.00 to 17.00 hours every day (except Sundays and public holidays).
- 3.** To produce and distribute information leaflets on environmental topics.

4. To present lectures, exhibitions and other activities on environmental themes for visiting groups and the public.
- 5 To answer queries on environmental issues and to arrange for the localised distribution of environmental information and material on environmental awareness.

Enfo operates under the following legislation

1. The Freedom of Access to Environmental Information Directive, which allows total access for the public to environmental information.
- 2 The Environment Action Programme published by the DoE and other policy directives issues by the department.
- 3 The library has copies of up-to-date EU legislation available on CD-ROM. A range of new leaflets on environmental legislation has just recently been issued and are available on request.

Enfo is one of the world's largest environmental information centres and is constantly seeking to enhance the services it provides with a view to augmenting and improving its facilities. Given more resources additional information centres and exhibitions could possibly be provided throughout the country. Enfo aims to distribute its services nationwide. The query-answering and video lending service already serves all areas by post, telephone and fax, as appropriate. The information leaflets produced by Enfo (Appendix V) are available in many public offices throughout the country including local authority offices, public libraries and motor tax offices. Many public libraries with financial assistance from Enfo have installed computer facilities for use by the public to gain access to the Enfo database. Public libraries are also helping to provide an integrated service by stocking reference items which can be used by schoolchildren in conjunction with educational material produced by Enfo.

All the major local authorities have designated an officer to act as local Environmental Information Officer and Enfo provides a liaison and support

services for these officers. Exhibition material prepared by Enfo is made available for local exhibitions. It is intended to further expand and develop links with local agencies to ensure widespread availability of Enfo services.

Enfo employ 12 staff, a Director, Information Scientist and staff dealing with administration, environmental education, library, information services and reception. Enfo's operational budget (£395,000 for 1994) is entirely devoted to provision of the various information services. There are over 1,000 visitors and 400 requests by fax, telephone and letter to Enfo each week. Funding is provided totally by the DoE.

SECTION 2

Department of Transport, Energy & Communications

2.1 Department of Transport, Energy and Communications

The Department of Transport, Energy and Communications is responsible for ensuring that policy for the development of, in particular energy and transport, is sustainable as these sectors have a major impact on the environment. Irish energy policy is currently governed by three objectives. They are the

- 1 supply of a selection of fuels to consumers as efficiently as possible, at internationally competitive prices, taking account of supply security, socio-economic and environmental considerations.
2. consumption of this energy as efficiently as possible.
3. production of as much of national energy requirements from indigenous sources as is economically possible.

The major challenges for integrating the environment and sustainability concerns with energy policy and use, are to break the link between energy demand and economic growth with protecting the local, regional and global environment.

Transport policy in Ireland aims to improve the internal and access transport network in order to support the development of the economy, to meet mobility and social needs, to offset peripherality and to facilitate successful participation in the internal market of the EU. Demand for transport is growing in line with growth in the economy. If this pattern continues it may well have serious implications for environmental sustainability in the future.

Transport impacts on the environment in a number of ways such as air pollutants, noise emissions and a built up infrastructure which encroaches on agricultural land, habitats and interferes with and distracts from the landscape. Preventing these impacts or reducing them to a level consistent with sustainable transport, represents a considerable challenge to all concerned, both policy makers and those who provide and use public and private modes of transport.

There is an established administrative basis for regular contact between the Department of Transport, Energy and Communications and the Department of the Environment to ensure that energy and transport policies are integrated with environmental considerations. In practical terms, the primary objective is that a balanced approach is pursued and that any environmental measures which are adopted should not lead to the imposition of excessive transport costs on industry and other sectors with little or no environmental benefit.

The establishment of a **Green Network** of Government Departments has given added input to the integration of environmental considerations into key sectoral policies. This is a formal forum where representatives from 13 key Government Departments meet on a regular basis to consider current environment developments and how they might impinge on their spheres of responsibility.

The Department employ 380 staff, 15 in the Energy International and Conservation/Renewables Section. The budget from 1994 to 1999 is £36m; renewable energies and conservation represents 4.5% of the annual budget.

2.2 Electricity Supply Board (ESB)

The ESB is a statutory body which since its foundation in 1927 has a virtual monopoly for supplying electricity in Ireland. The Board reports to the Minister for Transport, Energy and Communications. It owns extensive fisheries in its own right and has power over the control of these. Section 42 of the Electricity Supply (Amendment) Act 1945, gives the ESB a measure of control over rivers and streams serving electricity generating stations. It also prohibits any person, without permission from the Board, from discharging or allowing into a river which is used by the board in connection with the generation of electricity, any chemical or other substance which may damage any part of the generating station or any works subsidiary to it or connected to it. Contravention of the provision is punishable by £50 fine plus £20 for

every day on which the offence continues. Prosecutions have taken place on a number of occasions.

The ESB spends considerable amounts of money on the preservation and development of amenity resources and fisheries under its control.

It employs an administrative officer in its head office and pollution investigation officers in the field. Its fisheries protection section report on cases of pollution which come to their notice. It has its own laboratories but where necessary engages the facilities of other state bodies such as Forbairt and An Teagasc. The ESB has regular consultation with local authorities and is represented on planning committees. It operates in close liaison with fisheries, especially the Department of the Marine.

The main achievement of the ESB in the environmental sector was the introduction in 1993 of a Corporate Environmental Policy which commits the ESB to high standards of environmental stewardship and responsible care. This began with the implementation of appropriate environmental management systems within the ESB business units. The ESB also run 'ETA' awards, the initial objective of which was to encourage industry to use electricity more efficiently in order to avoid constructing a new generating plant. Irish electricity consumption is increasing by 4% annually which is above the European average. Environmental concerns were a factor in the development of the awards but many other benefits became apparent through time.

Within the ESB, environmental responsibility flows through a line management structure as stipulated in the EPA Act, 1992. All staff have environmental responsibility, however approximately 85 have specific environmental duties related to policy formulation, environmental management, auditing and monitoring emission controls from power plants under the Air Pollution Act, 1987, (Combustion Plant) Regulations, 1992 and

the decommissioning of plants with asbestos. There are 20 people involved in environmental consultancy work.

The ESB is projected to spend £36m on environmental improvements in the next four years. It sponsors R&D on efficiency and pollutant emissions control on thermal generating plant (£0.5m p.a.), environmental research of general interest (£50,000 p.a.) and research on possible health effects of electro magnetic fields from transmission lines (£70,000 p.a.) all from the ESB's own resources.

2.3 Bord Na Mona

Bord na Mona is a statutory body established in 1946. Its brief, contained in the Turf Development Act of that year, charged the organisation with the responsibility of developing and managing those areas of Ireland's peatlands and other lands vested in it as a consequence, to produce and market peat and peat products. To date 88,000 hectares have been developed.

A wide range of peat-based products in the fuel, horticulture, and environmental areas have been produced for home and overseas markets.

The most recent legislation governing the activities of Bord na Mona is the Turf Development Act, 1990. This facilitates the broadening of its scope and activities allowing for the establishment and acquisition of companies, the establishment of sub boards, activities of Bord na Mona outside the State and engagement in commercial activities relative to its functions. Bord na Mona consists of a group centre and four divisions which are:

Peat Energy Division:

Production and supply of milled peat to five power stations and to two peat briquette factories of the solids fuel division.

Solids Fuel Division:

Production, marketing and sale of peat and non-peat solid fuels for domestic, industrial and institutional consumers.

Horticulture Division:

Production, marketing and sale of horticultural peat products for home gardeners and professional horticulturists worldwide.

Environmental Products Division:

Production, marketing and sale of environmentally related products and services as well as the management of the Peat Research Centre in Newbridge.

These Divisions operate on a commercial basis. A number of smaller scale regional enterprises have been established in consultancy, tourism, engineering and bogwood sculpturing. It operates in 13 locations throughout Ireland and through subsidiaries in the UK and France.

Bord na Mona policy is determined by a 12 member Board appointed by the Minister for Transport, Energy and Communications and includes four members elected from employees under the Workers Participation Act 1977. The division of most significance from an environmental protection point of view is the *Environmental Products Division*. It is a diverse company involved in the monitoring and abatement of environmental pollution. Within the environmental products division there is three separate spheres which include the following activities.

1. Environmental & Analytical Services

Chemical & analytical services for water & waste

Analytical services to industry and local authorities

Air pollution monitoring

Odour measurement

Microbiological services

Environmental impact assessment

Environmental audits

2. Air Pollution Technology: brandname: **BioPhore**

Site odour audits

On site pilot studies

Modular peat biofilter systems

Turnkey, peat biofilter installations

Monitoring and maintenance of existing biofilters

Media replacement services

Alternative abatement technology

3. Treatment of Liquid Effluents: brandname: **Puraflo**

(won Better Environment Awards for Industry 1988 & 1992)

Problems associated with percolation of septic tank effluent have been overcome by 'Puraflo'. It is a peat biofiltration system capable of efficient pollution removal from septic tank effluent. Maintenance of the product is so low that domestic users can maintain it for years without problems.

2.4 Geological Survey of Ireland (GSI)

The Geological Survey of Ireland (GSI) is the national earth science agency whose mandate is the provision of earth sciences information and advice as they relate to Ireland and the acquisition of data for this purpose.

The GSI functions as a division of the Department of Transport, Energy and Communications. A new line division, Exploration and Mining division was established in 1992 to formulate and implement minerals policy and regulate exploration and mining activities. It contains geological staff who previously worked in the GSI.

Fifteen percent of staff at GSI are involved in work directly benefiting the environment, such as, groundwater protection, mine tailings rehabilitation, radon occurrence, geological heritage conservation and aspects of marine

geology such as coastal zone management. The GSI groundwater programme produces reports for local authorities as a basis for groundwater protection schemes.

About one third of the GSI staff are involved in the development of geological databases, production of geological maps and reports which are produced for a variety of purposes but essential for many types of environmental work.

A division of the Department of Transport, Energy and Communications, it is funded 100% by the exchequer. The cost of GSI in 1993 (excluding general overhead elements such as office service costs and depreciation) was £1,748,000. This was allocated between the following five programmes bedrock, minerals, quaternary, marine and groundwater.

The GSI income from sales and services in 1993 totalled £110,000, which represents around 6% of the above costs. It came from EU receipts 78%, publications 1%, services 5% and database sales 16%. GSI employ approximately 70 staff.

2.5 Irish Civil Aviation Authority (IAA)

The Irish Aviation Authority (IAA) is a state owned company responsible to the Minister for Transport, Energy and Communications. It was established under the Irish Aviation Authority Act, 1993, which transferred the functions carried out by the Air Navigation Service Office of the Department to the IAA, particularly with regard to the provision of air navigation services in Irish airspace and the regulation of safety and operational standards.

The role of the IAA in environmental protection is in the implementation of certain annexes of the *Chicago Convention* which include Annex 16 on Environmental Protection from noise and Annex 18 on Safe Transport of Dangerous Goods by Air. The IAA has been in operation since December 1994.

2.6 The Irish Energy Centre (IEC)

The Irish Energy Centre (IEC) is a joint initiative between the Department of Transport, Energy and Communications and Forbairt (Section 5.1). It is an independent body set up at the Forbairt complex in Dublin. It operates under the Industrial Development Code of 1993. The purpose of the IEC is to provide a focus for the promotion of energy in all sectors of the economy. The centre administers some £22m of funding to industry and commerce through an Energy Audit Grant Scheme.

The work carried out by approved consultants is followed by an Energy Efficient Investment Support Scheme, which provides support for approved investments in energy efficiency in key energy technology areas such as variable speed drives. The management approach 'Monitoring and Targeting' is also actively promoted, as is technology, best practice and research.

Finances are from the Economic Industrial Operational Programme, 75% of which is EU funded, it is also grant aided by the Department of Transport, Energy and Communications.

IEC offices are located in Dublin, Sligo and Cork (will expand to five) and employs nineteen (thirty by November 1995), of which there will be 5% involved in administration, 20% support, 25% technical and 50% professional.

2.7 Radiological Institute of Ireland (RPII)

The Radiological Protection Institute of Ireland (RPII) was established in 1992 under the Radiological Protection Act, 1991. It replaces the Nuclear Energy Board. The RPII is a national organisation with regulatory, monitoring and advisory responsibilities pertaining to ionising radiation.

Its functions relate principally to:

1. The monitoring of radioactivity in the environment and of radiation doses received by occupation or otherwise.

2. Regulation of the uses of radiation doses in medicine, industry and elsewhere.
3. Assistance in developing national preparedness for response in a radiological emergency.
4. Providing information and advice to government, other organisations and the general public on matters relating to ionising radiation.

In the protection of the environment, the institute monitors radioactivity throughout Ireland, on land, sea and air. Particular attention is given to monitoring along the east coast where discharges into the Irish sea from the British Nuclear Fuel's reprocessing plant at Sellafield have resulted in enhanced levels of radioactivity in the marine environment. Samples are taken on a regular basis of seawater, seaweed, sediments, fish and shellfish and are measured for a range of radionuclides. Throughout the country there are a number of sampling stations where samples of vegetation, air, rainwater and drinking water are collected and tested for radioactivity. All foodstuffs sold abroad have to be certified that the radioactivity is within agreed specifications.

The institute has an intensive monitoring programme involving some 4000 food samples every year. They also monitor sheep meat and live animals in conjunction with the Department of Agriculture, Food and Forestry.

In order to improve the understanding of radioactivity in the environment, the institute engages in research projects many of which are multinational and are undertaken in conjunction with universities and scientific institutions abroad.

Over 90% of radiation received by the population occurs naturally, with over half coming from our homes and other buildings in the form of radon produced from the breakdown of uranium present in rocks and soil. Exposure

to radon over many years is known to significantly increase the risk of contracting lung cancer. The RPII aims to identify areas of particular risk and to advise the government and planning authorities. A radiation measurement service is also available to the public.

The RPII is involved in the regulation and licensing of sources of radiation in the workplace such as medical, dental, veterinary and industrial x-ray equipment, accelerators and radioactive materials used in medicine, research and industry. The institute carries out regular inspections to ensure licensees are complying with regulations and recommendations on radiological protection. It issues codes of practice drawn up in consultation with other relevant Government Departments and professional bodies, which offer practical advice.

The institute offers a dosimetry service which measures the radiation doses received by workers such as radiologists, radiographers, dentists, veterinary surgeons and research workers. A record is maintained of the radiation received by individuals. The RPII also has a calibration service for radiation instruments used to measure contamination in the environment and the workplace.

The RPII employ 33 permanent and 13 temporary staff. Funding is from a £1m grant aid and £700,000 in earnings from dosimetry, certification, research, consultancy and other services.

SECTION 3

Department of Agriculture, Food & Forestry

3.1 Department of Agriculture, Food and Forestry

The impact of agriculture on the environment is a growing concern of this Department. Although EU agricultural policies for environmentally sensitive areas have been in practice for some time, it has really only been in the last few years that it has made any real impact on the activities of the farmer. What became known as the ESAs (Environmentally Sensitive Areas Scheme) came into operation in February of 1992 for agricultural practices. This was quickly superseded by the introduction of such schemes as REPS (Rural Environment Protection Scheme) and the CFP Scheme (Investment Aid for the Control of Farm Pollution 1994-1999) to promote organic and other environmentally friendly farming methods. These schemes have made it economically beneficial for farming to be environmentally friendly through substantial grant aid for the schemes in question. The Department also operates a pesticide approval scheme and enforces legislation relating to fertilisers, pesticides, feeding stuffs and animal remedies. It deals with the development of afforestation which includes the management and development of state and private forests.

With regard to environmental protection in Ireland it is the inception of the REPS and CFP that are having the most impact on the management of farm waste and general farm practices. In particular the REPS scheme is hoped to be the way forward in protecting the environment.

The objectives of REPS is to establish farming practices with controlled production methods which reflect an increasing concern for conservation, protection of the landscape and wider environmental problems.

REPS also aims to protect wildlife habitats and endangered species of flora and fauna whilst producing quality food in an extensive and environmentally friendly manner. In order to achieve this a number of measures have to be undertaken.

Waste Management The liming and Fertilisation Plan sets limits on the quantities of organic and mineral fertilisers that may be applied per hectare of land. It sets out details of how farm wastes are to be collected, stored and utilised with minimal environmental risk.

Grassland Management Plan This is required to avoid surface damage to the soil and therefore possible erosion, root structure exposure and a loss of nutrients. Phosphorus in particular may be chemically bound in the soil and later released into some body of water leading to pollution.

Protect and maintain watercourses and wells This is designed in order to avoid nutrient enrichment of waterbodies from agriculture and thus improve the water quality and provide a healthy environment for fish and other wildlife. One proposal to achieve this is to strengthen channel banks and allow natural streamside vegetation to develop thus attracting a wide range of both flora and fauna.

Retaining wildlife habitats This is a measure designed to retain habitats developed naturally over tens of thousands of years which need to be protected from modern farm practices which may interfere with the flora and fauna and conservation generally.

Maintaining stonewalls and hedgerows This is for the purpose of stock control, wildlife and scenic appearance. A REPS participant will be required to maintain a minimum amount of stonewalls and hedgerow over a 5 year period.

Protection of waters from herbicides. pesticides. fertilisers This is implemented by restricting the use of these chemicals in order to protect water resources and habitats of flora and fauna.

Protection of features of historical and archaeological interest The Irish countryside contains a very important record of the country's history. Mechanical machinery have meant the clearance of many important sites. The OPW have produced "The Sites and Monuments Record (SMR) of

archaeological remains". This is a set of ordinance and survey maps on which all known monuments are marked. These are available in local authority planning sections, Teagasc offices and County libraries.

Improving the appearance of the farmyard This is required in order to create a greater awareness of the need to harmonise the visual impact of the farmyard and the farm with the surrounding countryside. Considerable quantities of waste materials are generated by modern farming practices and their use and disposal should be carefully planned so as to avoid or minimise the risk of causing environmental pollution.

Restrictions in growing tillage crops The objective of this measure is to minimise the impact of tillage production techniques on the environment and to intensify production,

Provision of training courses In order to inform farmers on the environmental benefits arising from and adhering to the various REPS measures and also provide clarification of the relevant requirements included in the agri-environment specifications. Training also provides the knowledge and skills necessary to implement REPS plans.

3.2 An Teagasc

This is the Agriculture and Food Development Authority. It is a national agency with responsibility for providing advisory, training, research and development services to Irish agriculture and the food industry. Of particular importance is the education and training of young farmers, food research, farm management, economics, marketing of agricultural products and rural development.

An Teagasc is governed by an eleven member board. The Chairman and five others are appointed by the Minister for Agriculture, Food and Forestry while others come from designated organisations.

An Teagasc activities is divided into six divisions. Two of these deal exclusively with food research, they are the National Food Centre at Dunsinea and the Dairy Products Research Centre at Moorepark. The other four in Kilkenny, Meath, Galway and Cork deal with advisory and training.

An Teagasc provides analytical services, independent analysis and specialist consultancy work on all aspects of agriculture and food production. It provides an expert advisory programme on all areas of farming and has 300 advisers located in 100 centres, backed up by researchers and specialists. Farmers have access to all aspects of up to date information on technical, management and marketing enterprises. Over 30,000 farmers pay for advice and some 100,000 attend demonstrations, open days, seminars and other events run by An Teagasc at local, regional and national level. Located nationwide, it employs approximately 1,900.

3.3 Coillte Teoranta

The forest service of the Department of Agriculture, Food and Forestry is the national forest authority with responsibility for overall forest policy, forest grants, research and felling licences. The Government set up a Forestry Operational Programme which sets out Government policy on the development of forestry which is grant aided by the EU.

Coillte Teoranta, the Irish Forestry Board is a State company established under the Forestry Act, 1988. Over 400,000 hectares of forest lands are owned by Coillte and an average of 11,000 hectares is planted annually. Coillte has an asset base worth £778 million. The company's priority is to ensure that the full commercial potential of that asset is realised by its shareholders, the Minister of Finance and the Minister for Agriculture, Food and Forestry, while maintaining a high level of new planting in line with government and EU policies.

Collite currently provides two million cubic metres of timber and production is increasing each year. Its long term aim is to establish a timber processing industry in Ireland. It works closely with the timber processing sector in the marketing of Irish timber.

Twenty percent of Irish forests are privately owned, mostly by farmers but there is some other private investments. Grants are available for planting, woodland improvement and reconstruction, planned recreational forests, forest roads, forest harvesting machinery, forest nurseries and forestry training. The main species planted for commercial forestry are conifers (97%), particularly Sitka spruce.

Forests can make an important contribution to environmental quality. They create a renewable raw material, act to control soil erosion, flooding and avalanches, help balance the earth's atmosphere, improve the landscape and support a variety of flora and fauna. Approval of forestry development in any area is dependent on all reasonable steps being taken to avoid adverse effects on the environment. All applications have to be examined as to their environmental compatibility, including impact on the landscape as well as areas of historical or cultural interest or of scientific or fisheries interest. Compliance to these guidelines is a condition of grant aid.

Because of the possible effects of large scale forestry on flora, fauna, water, the landscape and cultural heritage, planning permission with an EIS is required for an area greater than 200 hectares.

Urban forestry is a new concept in recent years, mostly for amenity, recreation and education, but it also provides a visual relief for built up areas, reducing noise, filtering air pollution and providing commercial wood on a small scale. Two such projects are currently underway in Galway and Limerick. Collite owns 11 forest parks and provides leisure facilities in over 180 locations. It employs 1,500 permanent staff supplemented by temporary and contract staff.

SECTION 4

Department of the Marine

4.1 Department of the Marine

The Department of the Marine promotes the development of sea and inland fisheries and co-ordinates policies in relation to this. The Minister has considerable responsibility with regard to environmental protection as he has the power to grant authorisation for developments on the foreshore, harbour developments, fish farming, discharges of deleterious matter to waters and dumping at sea.

The Minister is responsible for marine pollution by oil and other substances, shipping and other maritime activities and the implementation of international conventions relevant to marine pollution control and shipping.

The Department has statutory powers under the Local Government (Water Pollution) Act, 1977-1990, to enforce water pollution control. One of the main items of legislation that is used to control pollution at sea is the Dumping at Sea Act, 1981. This implements two international agreements concerning the disposal of wastes at sea, the Oslo Convention and the London Dumping Convention. The main provisions for pollution control of the Dumping at Sea Act, 1981 are as follows:

Section 2 it is an offence for any person or a corporate body to dump any substance or material at sea from any vessel, aircraft or marine structure within the territorial waters of the State unless such dumping is carried out under and in accordance with a permit issued by the Minister for the Marine.

Section 3 the Minister for the Marine may, after consultation with other government Ministers, grant or refuse a permit for dumping at sea. When deciding the Minister must take into account the provisions of Annex III of both the London and Oslo Conventions which lists a number of considerations which should be taken into account when authorising the dumping at sea. Payment of a fee is required to cover the costs of

investigation that may be required to furnish specified information regarding the proposed material for dumping for which there is no other suitable means of disposal.

An authorised officer may be appointed from a number of government departments as specified in the Act and who has powers of inspection and sampling.

There is no specific Government policy relating to oil pollution, the Department of the Marine does have a policy on the protection of the marine environment. Its objective is to protect the marine environment from the three main sources of pollution, namely, accidental discharges from ships, operational discharges from ships and licensed dumping operations. In 1991 a new division was established within the department known as the *Irish Marine Emergency Service (IMES)*. This is responsible for the operational aspects of all types of marine emergency including sea and coastal pollution, shipwreck and search and rescue. Associate groups involved with the IMES are the *Marine Emergency Advisory Group (MEAG)* made up of air corp, naval service, RNLI and marine surveyors office personnel. They assemble as a task force during major marine emergencies to advise the Minister and the IMES of the most appropriate response. Another associate group the *Marine Pollution Response Team (MPRT)*, comprising of members of the Department of the Marine, harbour authorities and local authorities can be utilised by the IMES as a team on location liaising with other groups to co-ordinate appropriate response efforts to prevent or minimise pollution. The Oil Pollution of the Sea Act, 1977 and the Sea Pollution Act, 1991 empower the Department of the Marine to take the necessary measures to prevent, mitigate or eliminate pollution or the threat of pollution from oil or other harmful substances on the Irish coastline. Other items of legislation under which the Department of the Marine operate include the EC(Quality of Salmonoid Waters)

Regulations, 1988 and the EC (Quality of Shellfish Waters) Regulations, 1994.

The Central Fisheries Board, Regional Fisheries Boards, Bord Iascaigh Mara and the Marine Institute all operate under the Department.

4.2 Central Fisheries Board

The Fisheries (Consolidation) Act, 1959 provided for the establishment of 17 Boards of Conservators in the fisheries districts established thereunder. The Fisheries Act, 1980, dissolved the Board of Conservators and replaced them with the Central Fisheries Board and seven Regional Fisheries Boards.

The Central Fisheries Board has primary responsibility for the overall co-ordination and direction of the activities of the seven Regional Fisheries Boards, in the areas of protection, conservation, management and development of inland fisheries and sea angling resources. The board also provides specialist services to the Regional Fishery Boards such as scientific, technical and financial.

The Minister for the Marine is advised by the Board as to the best means needed to be most effective. The Board is totally dependent on clean relatively unpolluted waters since its principal function is to protect, develop, manage and research the factors influencing fisheries in the lakes and rivers of the state.

Principal funding comes from State grant aid while in recent years some additional income has been obtained by commissioned projects.

The Board influences Government policy in the aquatic environment area and also encourages farmers and industry to prevent pollution of aquatic ecosystems.

It has statutory powers under the Fisheries Act, 1980 and Water Pollution Acts, 1977-1990 and has powers of prosecution for pollution offences.

The Board operates two fish farms at Roscrea and Mullingar where brown trout and rainbow trout are raised for stocking and river enhancement programmes. It also has three salmon rod fisheries, the Erriff and Moy Fisheries in Mayo and the Galway weir fishery. The Moy and Galway also have commercial fisheries attached while the others are used for breeding stock for rivers.

The Board has a five year term and comprises of thirteen members, seven of whom are the Chairmen of the Regional Fishery Boards with the remainder being nominated by the Minister for the Marine who also appoints the Chairman.

The availability of European Funding has enabled the fisheries to develop and extend their protection operations. The allocation of £17m under the Tourism Operational Programme for the development of tourist angling in the period 1994-1999 will result in a vast improvement in the quality and quantity of fisheries capable of attracting increasing numbers of overseas tourists which stood at 172,000 in 1992.

4.3 Regional Fisheries Boards

The seven regional boards have statutory responsibility with regard to the management, conservation, protection, development and improvement of the fisheries within their regions and offshore to the twelve mile limit for the protection of salmon.

Many of the Boards are predominately occupied with the protection of salmon stocks at sea and in freshwater from illegal fishing, which is often highly organised and potentially dangerous. i.e. the boats may come under attack from fishermen fishing without a licence at illegal times or with illegal nets. Although inadequately staffed, the Boards enforce the water pollution controls vigorously through thousands of source inspections carried out annually by staff. They may prosecute under the

1959 Act (Sections 171 & 172) and the Local Government (Water Pollution) Acts, 1977-1990.

Environmental impact statements for local authorities and copies of the planning application for developments which might give rise to water pollution problems must also be sent to the appropriate Fisheries Boards for their opinions. This plays a major role in the control of water quality as they have a say in the developments of piggery's, marina's, food and milk processing plants, sewage discharges, afforestation, peat working etc.

The Boards promote and develop angling for salmon, trout, coarse fish and sea fish. They allocate and issue licences for angling, sale of salmon, commercial fishing licenses for salmon, shellfish and freshwater species such as eels. Most of the Boards operate salmon and trout hatcheries for the benefit of their regional fishing.

Board members are elected from panels representing various fishing interests such as fishery owners, holders of commercial salmon licenses and sea anglers. Other members are appointed by the Minister of the Marine. Finance comes from the exchequer and it is administered through the Central Fisheries Board. Additional finance is derived from the Boards own resources such as fisheries rates, licence fees and fines.

4.4 Bord Iascaigh Mara (BIM)

Bord Iascaigh Mara, the Irish Sea Fisheries Board is the development agency for the Irish seafood industry. It is divided into five divisions Aquaculture & Planning, Fleet development, Market Development, Marine Services and Administration Services.

In relation to Environmental Protection, the Aquaculture & Planning Division of BIM is the most important, specifically in relation to the Environmental Impact Assessments that are carried out at the planning stage of a fish farm. It is usually the aesthetics of the project and

potential for pollution that usually causes most concern. The decision making process of acceptance or rejection for fish farms lies with the Minister of the Marine, whereas freshwater assessments are administered by the local authority in consultation with the Regional Fishery Boards.

4.5 Marine Institute

The Marine Institute was established under the Marine Institute Act, 1991, to carry out marine research and development and related services. It is a corporate body. Members are appointed by the Minister of the Marine

4.6 Harbour Authorities

The Harbour Acts of 1946-76 established the Harbour Authorities, who are responsible for the administration of harbour legislation in their areas. They are competent authorities under the Dumping at Sea Act, 1991. Fishery Harbours, not scheduled in the Acts, are the responsibility of the Minister of the Marine as is the harbour in Dun Laoghaire (Dun Laoghaire Harbour Act, 1990).

The Harbour Authorities are appointed by the Minister of the Marine and are representative of local authorities, harbour users, commercial and labour interests. They have powers under the Harbour Acts, 1946-47 and the Sea Pollution Act, 1991, to control pollution such as oil spillage's in harbour areas. Harbour Masters have certain enforcement powers under the Oil Pollution of the Sea (Civil Liability and Compensation) Act, 1988. In relation to the control of dangerous substances the Harbour Authorities also have responsibility under the Dangerous Substances Acts, 1972-78.

SECTION 5

Department of Enterprise and Employment

5.1 Department of Enterprise and Employment

This Department is concerned with the promotion of industrial development policies, science and technology. The Department's employment section is responsible for securing the implementation and enforcement of legislation relating to dangerous substances and preparations, the health and safety of workers and the transport of dangerous and hazardous materials.

The legislation controlling hazardous substances has expanded dramatically over the past twenty years. It was the landmark EU Dangerous Substances Directive of 1967 (67/548/EEC) which laid the basis for the meaningful classification of hazardous substances. It is the storage and handling of these chemicals that is of most importance. In response to a number of industrial accidents in the 1970's and 1980's a new Directive on Major Hazards of Certain Industrial Activities, commonly known as the 'Sevesco Directive' (85/501/EEC) was established in 1985. Through an amendment to the Irish regulation in 1989, it became incorporated into the Health and Safety at Work Act, 1989. This ensures that personnel at work liable to be effected by a major accident would be informed of the safety measures and the correct behaviour to adopt in the event of a major accident.

5.2 Forbairt/Forfas

The Industrial Development Act, 1993 established the state sponsored bodies Forbairt and Forfas. Forfas is the National Policy Advisory and Co-ordination Agency for Industrial Development. It is the body in which the state's legal powers for industrial promotion and technology development have been vested. It delegates power to Forbairt for the promotion of indigenous industry. Forfas has assumed responsibility for the property portfolio formerly administered by the Industrial Development Authority (IDA). The National Standards Authority (NSAI) and the National Accreditation Board are also divisions of Forfas. The main achievement of Forfas to date is the STIAC

report (Science, Technology and Innovation Council) *Making Knowledge Work for Us*. This outlines the first indigenous review of a whole complex of issues surrounding science, technology and innovation. It shows the importance of ensuring that the policies and programmes for science, technology and innovation have a clear unity of purpose in order to maximise economic growth and social development.

Forbairt incorporate Eolas, a state sponsored body established in 1987 under the Science and Technology Act which merged the former Institute of Industrial Research and Standards (IIRS) with the National Board for Science and Technology. The environmental services section of Forbairt and the former Eolas is divided into three main areas, water, waste and atmospherics including acoustics. Forbairt are probably the foremost institution involved in providing environmental consultancy and analysis for industry and the Government. Their services provide:

1. Advice for industry regarding compliance with the environmental requirements of local and national authorities. e.g. preparing environmental impact statements for local authorities and industry.
2. Advice to Government and local authorities on the acceptable norms for industrial practice in relation to effluents, emissions, noise and vibration, solid and hazardous waste.
3. Consultancy service to the IDA (Section 5.3) on environmental matters regarding foreign investors.
4. Scientific and technical expertise for the public service and EU working groups on the environment.
5. Consultancy to Governments and local authorities in relation to their environmental protection and control functions.
6. An approval authority for manufacturing standards such as the EC (Motor Vehicle Type Approval) Regulations, 1987-1994. Forbairt is empowered to issue type approval certificates to manufacturers of products used in

vehicle construction provided the products conform with EU requirements. This function is now handled by Forfas and is carried out by the National Standards Authority of Ireland (NSAI) which operates within Forfas.

The standards and codes of practice set by Forbairt, although not mandatory are often incorporated into the conditions for grant aid, planning permission and other authorisations for potentially polluting activities. In the past many planning and pollution control sections of local authorities lacked the staff and expertise to assess development proposals and set environmental standards. Forbairt fulfilled the role of providing the scientific and technical information and advice, which lead them to be the real environmental standard setter in Ireland. Their market share has gradually been reduced due to competition from other private environmental consultants, yet because of increasing environmental standards their overall work load has increased. They are the main consultants involved in most EIA and IPC applications. In the past the role of this agency as consultants for both regulatory authorities (e.g. local authorities) and regulated activities (e.g. industry) could be argued to be a conflict of interest.

Forbairt today, relies a lot on the private sector for its finances, although its clients come from both the public and private sector. Forbairt is an important and valuable resource particularly for environmental engineers, health and safety personnel and quality managers in Ireland today. It has a highly trained and experienced staff with vast experience in environmental management problems. Forbairt has played a large role in the protection of Ireland's environment (Details of the environmental services provided by Forbairt are outlined in Appendix V).

5.3 Industrial Development Authority

The Industrial Authority (IDA) was established under the Industrial Development Authority Act, 1950. Reporting to the Minister for Enterprise and Employment, it is a state sponsored body charged with the promotion of industrial development in Ireland. Under the Industrial Development Act of 1976, it was given a wide range of powers to give financial assistance to industry. The IDA is now a subsidiary of Forfas, but it continues to promote Ireland for industrial development overseas by foreign investors.

Most foreign industry coming into Ireland receive some sort of financial support from the IDA. The IDA takes environmental protection into account when it considers applications for grant aid. Recipients of this grant aid have to undergo an environmental audit by Forbairt to determine their likely impact on the environment. Environmental standards recommended by Forbairt are incorporated into the conditions of the grant aid and are also frequently adopted by local authorities. Non-compliance with any of these conditions may result in the grant being repayable.

In 1977 the IDA commissioned the IIRS (now Forbairt) to carry out a national survey of air and water pollution to establish whether the creation of new industrial jobs in Ireland is achieved at the cost of polluting our water and air. It concluded that IDA sponsored industries of the time were not causing pollution problems.

In the past co-ordination between all the various bodies involved in setting up industry were somewhat inadequate. The Local Government (Planning and Development) Regulations, 1994 now require planning authorities to serve copies of draft development plans and variations thereof, to Forfas which pass them to the IDA. Recent improvements in consultation procedures between Forfas and planning authorities are set to improve matters.

SECTION 6

Miscellaneous Government Departments

6.1 Office of Public Works

The Office of Public Works, commonly referred to as the OPW is part of the Department of Finance. It has specific statutory functions relating to national monuments, historic properties, State property, the protection of archaeological heritage, wildlife conservation including flora and fauna, national parks, canals, arterial drainage and land reclamation. In order to comply with these different statutory functions the OPW is divided into a number of service areas.

Engineering Services This section deals with the heavy engineering and construction work such as surveys, design, construction and maintenance of arterial drainage systems carried out under the Arterial Drainage Act, 1945. Over forty schemes have been completed since the enactment took place and it has led to the protection of over 660,000 acres of agricultural land which previously suffered from flooding and water logging.

They supply data on water levels to various state agencies, local authorities, academic institutions, consulting engineers and members of the public. The engineering services also include work for the Department of Justice on the construction of garda stations, prisons, court houses etc. and they also provide services to a number of National Monuments and Historic Properties with regard to restoration and maintenance work.

This section is also responsible for restoration and maintenance of the inland waterways e.g. lock gates and canal banks.

Architectural and Project Management Services This service deals largely with the design and refurbishment of Government property e.g. visitor centres, court rooms, government buildings and castles. This is a very extensive and ongoing task and a lot of admirable work has been done in the conservation of many historic properties, for example Rathfarnham Castle,

Donegal Castle, Clonmacnoise, Co. Offlay and Ross Castle, Co. Kerry. Being part of the Department of Finance, budget requirements for this service appear to be abundant costing an estimated £19 million in 1993.

National Monuments and Historic Properties Service This division deals with the conservation of monuments and properties owned by the state, such as restoration work on the Rock of Cashel which has been ongoing for the past number of years. It also issues licences for archaeological excavations for the OPW and private bodies.

Section 5 of the National Monuments (Amendment) Act, 1987 provides for the keeping of a register of historic monuments and preservation orders are issued under Section 8 of the Act. The addition of the archaeological complex of the Boyne Valley including Newgrange as a 'World Heritage Site' in December 1993 was a great honour for the OPW as it places it among other great sites such as the Pyramids of Egypt and Roman Temples. This division is currently preparing an architectural inventory of post 1700 AD heritage with some 300,000 items expected to be included. Ironically government grants are not available for preserving privately owned buildings of architectural or historical significance.

A proposed visitors centre at Mullaghmore in the Burren brought the OPW into the limelight in 1993. The already started project had to be suspended following a high court decision which held that the OPW had no power to erect a centre and that planning permission was necessary. In light of this decision, new legislation, the State Authorities (Development and Management) Act, 1993 was passed, specifically governing developments by the state in order to protect certain elements of the environment, e.g. national monuments and wildlife. The High Court's decision on the planning permission issue was appealed to the Supreme Court, which upheld the original decision. The OPW is now subject to the requirements of the

relevant Planning Acts. This was a very long and public battle for those who wanted to conserve the Burren against those who wanted to profit from it.

The OPW owns five national parks, Killarney (10,219 ha), Glenveagh (9,700 ha), Connemara (2,700 ha), Phoenix Park and the Blasket Island National Historic Park. The OPW has a programme for the designation of Special Protection Areas (SPAs) for wild birds under Article 4 of the European Directive 79/409/EEC '*The Birds Directive*', under which Ireland must protect the most important habitats of especially rare wild birds, vulnerable species and migratory species. The state is required to take appropriate measures to protect the SPAs and prevent pollution, deterioration of site or excessive disturbance. Local authorities are asked to take SPAs into account when examining development proposals. This section of the OPW is also responsible for '*Areas of Scientific Interest*' and has to designate sites as Natural Heritage Areas (NHA). This is a huge task and is still on going.

Property Branch This is responsible for the management and preservation of state property. This is a very diverse task as it includes all Government offices in all the cities and towns such as Garda stations, Libraries, Museums and Galleries as well as national historic treasures such as Dublin Castle, Leinster House and the Royal Hospital Kilmainham. There is approximately 6 million square feet of State owned or leased property.

Government Supplies Agency This is responsible for the central management of all Government procurement and is divided into a number of branches i.e. purchasing, printing and publications. The Government Publication Office in Molesworth Street, Dublin is the retail centre for items of Irish legislation and government reports and other publications. The expenditure of the OPW for the year ending 1993 was £116,406,000.

6.2 Department of Health

This Department has overall control of the services provided by eight health authorities. In addition it reviews existing services and initiates proposals for new services. The department is divided into a number of units and divisions dealing with every aspect of health care. They are:

Staff Units

Finance

Personnel & Management

Systems Unit

Planning Unit

General Division

Library

Information Unit

Strategy Policy Development Unit

Planning Unit

Executive Units

Hospital Planning Office

Voluntary Hospitals Superannuation Section

Medical Staff

Dental Staff

Services Division

Primary Health

General Medical Services

Public Health Division (EHOs)

Health Promotions Unit

Secondary Care

Continuing Care

Child Care Policy Unit

Mental Health Services &

Services for Elderly

Mental Handicap & Physical
Handicap

Advisory Bodies

National Council for the Elderly

National Drugs Advisory Board

Therapeutic Substances Advisory
Committee.

The Public Health Division incorporating the environmental health officers is the service division most directly involved in environmental protection, with their work incorporating public and environmental health problems, including

food hygiene, hospital waste incineration, air and water quality and noise pollution.

6.3 Environmental Health Officers (EHOs)

Environmental Health Officers (EHOs) are employed by the health boards to enforce legislation with regard to public health. Prior to the establishment of the health boards, health inspectors were employed by local authorities. Today, most EHOs are based within the health board system, although nearly all local authorities also have an EHO working for them on an agency basis from the health board. The functions of local authority EHOs are not directly related to that of their health board colleagues as they report to the local authority. Local authorities have to reimburse the health board for these services.

The work of all EHO's is legislation based, they are responsible for ensuring that proper standards are upheld regarding issues of public health under various acts such as the Public Health (Ireland) Act, 1878, Public Health Acts Amendment Acts, 1907 and the Local Government (Sanitary Services) Acts, 1878-1964. The role of EHOs varies considerably depending on who they work for. There roles are:

Health Board EHOs

To ensure proper food hygiene with regard to its microbiological, physical and chemical makeup, in food manufacturing, food outlets and restaurants.

Inspection of public housing and caravan sites e.t.c. to ensure they are habitable, not overcrowded and socially acceptable.

Pest Control.

Monitoring the selling of poisons.

Nursing Homes

Monitoring the control and disposal of hospital waste and emissions from hospital incinerators.

Monitoring ambient air quality in relation to sulphur dioxide in smoke in the cities of Dublin and Cork.

Local Authority EHOs

The work of local authority EHOs is most relevant to environmental protection. Under the Public Health (Ireland) Act, 1878 and the Local Government (Sanitary Services) Acts, 1878-1964 local authorities are obligated to undertake the following:

Provision of an adequate and wholesome supply of water.

Maintenance and improvement of sewers for the reception of sewage and the prevention of any health hazards arising thereof.

Treatment and purification of sewage.

Prevention and abatement of any statutory nuisance.

The role of local authority EHOs include the following:

Investigating and reporting of statutory nuisances to the local authority such as rodent and odour problems from landfill sites, overflowing septic tanks e.t.c.

Inspection of planning applications especially with regard to unsewered developments.

Monitoring of noise pollution.

Overseeing the sampling, quality and frequency of analysis of drinking water under the EC (Quality of Water Intended for Human Consumption) Regulations, 1988.

In the case of the cities of Dublin and Cork health board EHOs appear to be responsible for the licensing and monitoring of emissions to the atmosphere from industry while in the functional area of other local authorities this role is carried out by the local authority

6.4. Department of Arts, Culture and the Gaeltacht

The Department of Arts, Culture and the Gaeltacht was established in 1993 and is responsible for the formulation of National Policy relating to Arts and Culture. It is responsible for the following:

Arts Council.

Promotion of the cultural, social and economic welfare of the Gaeltacht.

Preservation and use of the Irish language.

National Museum, National Gallery of Ireland,

National Library, National Archives.

National Concert Hall, National Heritage Council,

Irish Museum of Modern Art.

The Department is also involved in the formulation of policy relating to the broadcasting and audiovisual industry, to Heritage, including Inland Waterways, National Parks and Wildlife as well as National Monuments and Historic Properties.

In relation to the protection of the environment, it is the National Heritage Council that is of most significance. It was established as a non-statutory body in 1988 to formulate policies and priorities with regard to heritage, specifically architecture, archaeology, flora and fauna, heritage gardens and certain inland waterways. Its members are appointed by An Taoiseach who also approves the distribution of national lottery funds to heritage projects. The council advises the Government on the legislation to establish a statutory Heritage Council and in this regard, will be transferred to the Minister for Arts, Culture and the Gaeltacht when the Heritage Council Bill 1994 is enacted.

6.5 Department of Tourism and Trade

This Department is responsible for the formulation of national policies connected with tourism and trade matters. The state sponsored bodies and executive offices under the auspices of the Department are charged with the

implementation of these policies. There are a number of divisions within the Department relating to its tourism and trade functions, they are, Tourism Divisions I & II, Export Credit, Personnel/Finance, EU Gatt, Bilateral Trade, Export Promotion and Planning/Competitiveness Unit. The Department also has an advisory committee, the Tourism Council, which acts as a national forum for consultation between the tourism industry, state tourism agencies, and other government departments. It acts in an advisory capacity to the Minister of Tourism and Trade and provides guidance in determining tourism policy to be implemented by state agencies.

One of the best known state agencies within this department is Bord Failte, established under the Tourist Traffic Act, 1955 to promote the development of tourism in Ireland. Its core mission is, through international marketing and promotion, to maximise foreign tourism revenue in Ireland, thereby contributing to job creation. To support this objective, Bord Failte also encourages and assists product development to meet tourism demand.

Bord Failte carries out its functions in partnership and co-operation with the tourism industry and is committed to encourage entrepreneurs in tourism to develop businesses that are profitable and enduring. Tourism has been identified by the Government as a key growth sector contributing to foreign earning and creation of employment. The Government aims to secure an extra £1 billion in foreign visitor revenue by the end of 1999, doubling the current turnover and creating 35,000 jobs. Bord Failte is a prescribed body under the Local Government (Planning and Development) Act, 1963. The Bord receive copies of planning applications and associated EIA's on proposed developments which may affect the tourist amenities of the area.

SECTION 7

Non Statutory Organisations/Special Interest Groups

7.1 An Taisce (The National Trust for Ireland)

This is a private, non-profit making organisation. Its main concern is the protection of the environment through the conservation and development of the Country's land, water and air, places of outstanding beauty or of historical or scientific interest. It is a prescribed body under the Local Government (Planning and Development) Acts, 1963-93. In this capacity it is entitled to copies of draft plans, amendments or variations to planning permissions and applications as well as to special notice of applications for certain types of development. It is entitled to a reduction in fees payable in connection with appeals, references and other matters to An Bord Pleanála in connection with planning and pollution control licenses. An Taisce receives a copy of any EIS submitted with planning applications and notice on decisions on all planning applications accompanied by an EIS. It is also entitled to notice of any application made to the Minister of the Environment by local authorities proposing to carry out developments for which an EIS is required.

An Taisce is one of the most active and effective environmental watchdogs in Ireland. It avails of the right of third parties to participate in decision making process under the planning, air pollution and water pollution legislation.

The head office of An Taisce is in Dublin with 31 regional associations throughout the country. Membership is open to any member of the public.

7.2 Earthwatch

Earthwatch, an Irish environmental organisation and member of Friends of the Earth International, was formed in 1986 in response to a growing demand for information and effective action on a wide range of environmental issues. It is now a widely recognised and respected environmental watchdog and a major contributor to growing public awareness of environmental problems.

Earthwatch's activities range from large environmental campaigns on specific environmental problems to more general environmental issues which include

atmospheric problems (e.g. greenhouse effect and ozone depletion), alternative energy, recycling, agriculture and land use with particular regard to pesticides. Earthwatch is also concerned with nuclear issues, waste disposal, food irradiation, mining and tropical rainforest. Marine issues focus on the environmental effects of raw sewage discharges and fish farming.

Earthwatch also provide support for environmental problems at a local level.

It presents information to key decision makers and the public through special reports, briefing documents, leaflets, brochures and extensive contact with the media. Earthwatch also publishes a quarterly magazine of the same name and offers a growing information service to the public and schools.

It has a nationwide network of local groups who work on environmental problems in the locality such as recycling, water pollution and increasing environmental awareness. Earthwatch is funded by membership subscriptions, donations, grants and sponsorship, fund-raising events, contributions from local groups and sale of merchandise.

The organisation is governed by a Council which includes representatives from the local networks and elected representatives from its membership. The Council meets twice a year and is responsible for the overall direction and policies of the organisation. A Board, composed of elected representatives of the Council and staff, oversees the implementation of Council policies and meets on a monthly basis. The Earthwatch Headquarters are located in Bantry, Co. Cork and they employ one full time staff member and twelve others from an enterprise employment scheme.

7.3 Greenpeace

Greenpeace, established in 1971, is an international organisation dedicated to the protection of the natural environment. Greenpeace campaign to protect the environment from nuclear and toxic pollution, to halt the slaughter of species such as whales and seals, to stop the testing and production of nuclear weapons and to curtail the arms race. Greenpeace also campaigns against the mining and reprocessing of nuclear fuel, the exploitation of the Antarctic continent and the destruction of marine resources through indiscriminate fishing methods.

Known mostly for its spectacular non violent actions to prevent or expose abuses of the environment, most recently attempting to prevent the French Government from nuclear weapons testing in the Pacific Ocean and prevent the dumping of the shell oil rig in the North sea.

In Ireland the main focus of Greenpeace is to close the British Nuclear Fuels' nuclear reprocessing plant at Sellafield. It believes it will become a nuclear waste bin of the world with serious consequences for all those living on both sides of the Irish sea. This campaign focuses on urging the Irish Government to use all the available international fora, in particular the United Nations, to further the call for a comprehensive Nuclear Test Ban Treaty and all nuclear disarmament issues. In Ireland this focused on the need for Ireland to implement legislation making Ireland a 'Nuclear Free Zone'.

Greenpeace resources are also devoted to research, public education and lobbying at national and international level.

Greenpeace, Ireland, campaign against dumping at sea of industrial waste, and contaminated sewage sludge. They also target users of chlorinated solvents to use alternatives and have campaigned against the building of a toxic waste incinerator which they perceive to be a hazard to public health and the environment.

In Ireland Greenpeace employ three full time staff and has 2,000 plus supporters. Funding for Greenpeace comes from donations as they will not accept state or industrial funding. Greenpeace feels that it plays a major role in protecting Ireland's environment as it has the biggest and probably the best informed (it's opinion) environmental campaigning organisation in the country. Its main objective is to see a complete change of policy, practice and attitude towards the protection of the environment, to a point where it would not have to exist.

7.4 Irish Business and Employers Confederation (IBEC)

This organisation was established as a representative of Irish business and employer's interests and was formerly called the Confederation of Irish Industry. From an environmental protection view point it has the responsibility of informing and helping Irish industry to comply with legislation. One of the ways this is achieved is through the Irish Business Bureau which represents IBEC and the Chambers of Commerce of Ireland. It publishes a newsletter with updates on EU environmental policy giving the reader a concise and comprehensive overview of what is happening in Europe which will have implications for industry in Ireland in the near future. IBEC has offices located in Dublin, Cork, Letterkenny, Galway, Waterford Limerick, and Brussels. It employs 140 personnel.

7.5 Irish Farmers Association (IFA)

The Irish Farmers Association (IFA) was set up to represent farming interests in the political arena. It is controlled by a chief executive, three directors and a deputy chief executive officer. It is funded by farmers and also funded by the EU for certain projects. Although while finding it difficult to keep up with all environmental legislation the association did win a prize for Environmental Awareness in 1994. From an environmental protection view point the

organisation feels that through its educational policy it promotes environmental issues on the farm. The IFA has 55 full time employees.

7.6 National Standards Authority of Ireland (NSAI)

The NSAI operates under the supervision of Forfas, the National Policy Advisory and Co-ordination Agency for Industrial Development.

1. It develops and publishes standards to meet the international demands for quality design performance and safety of products and services.
2. It provides a comprehensive product and management system certification service (Q mark) which is recognised worldwide.

Customer and public perception of an organisation's Environmental Management Policy is becoming a critical measure of business efficiency and successful marketing of products and services. Environmental legislation at European and National level is beginning to impact heavily on Irish business. The NSAI, through its Environmental Standards Committee, has established a forum for co-operation with industry and the community to develop and promote standards for environmental management, monitoring and control. Well established in the quality field they are now applying these same principles to the environment through I.S.310:1994, Environmental Management Systems (EMS) which provides a comprehensive guide to the principles and procedures for environmental management and review. It is applicable to any manufacturing or service organisation. It should be used as a management tool enabling the installation of a cost effective EMS which would satisfy regulatory and third party audit requirements. The principals of the EMS are based on the same guidelines as ISO 9000 for Quality Control in the set up, auditing and report management of the scheme.

7.7 Rehabilitation Institute (Rehab)

Founded in 1949, Rehab is an independent and voluntary organisation providing vocational education, training and allied services as well as developing small and middle market business ventures for people with disabilities and special needs. At present it has 2,500 people in integrated employment in 40 centres throughout Ireland. One of the most successful of these is the recycling campaign in Ireland employing 35 people, primarily recovering glass through a network of 200 bottle banks located throughout Ireland. This recycles approximately 20,000 tonnes of glass each year which is 21% of the total glass used. The recovered glass goes to the Irish Glass company which has the capacity to recycle twice this amount.

With its high profile in environmental projects it has recently joined forces with the OPW in a *Woodland Conservation Project* in the Phoenix Park. In order to get the public to contribute to the tree planting project, on receipt of a donation, they will receive a certificate to acknowledge their contribution to the restoration of Irish woodland and protection of wildlife in the park as well as providing opportunities for Ireland's disabled.

7.8 Tree Council of Ireland

Trees are an essential element of our natural habitat, giving us shelter, clean air and water as well as timber. The Tree Council of Ireland is a voluntary group and registered charity representing over 25 voluntary, professional and public service bodies concerned with trees. With 6% tree cover Ireland is the least wooded country in Europe.

Broadleaf trees are under threat by urban development and changes in farming practices, also the proportion of trees dying is greater than those planted. Most commercial forestry planting use coniferous species, therefore an effort is being made to correct the balance of broadleaf trees such as oak, ash and beech. for greater diversity of species (flora & fauna) living within.

The aims of the council are to promote the propagation, planting, conservation and management of trees in urban and rural areas and to broadcast knowledge about trees and their care.

The Council organises a National Tree Week each year. It receives wide media attention with tree planting events organised throughout the country with local authorities and voluntary bodies. The council holds seminars, competitions and sponsors projects with business and industry. It monitors tree problems and directs queries to the relevant member organisations.

7.9 Economic and Research Institute of Ireland

The Economic and Research Institute of Ireland (ERSI) are involved in environmental research. They investigate environmental issues, looking into incentive structures, costs and benefits. Within the ERSI there is an Environmental Policy Research Centre. Three people work in this area although not exclusively. There is also an Energy Policy Research Centre, with which there is extensive overlap, for example, on issues such as emissions from use of fuel.

50% of funding comes from state grants, the remainder raised from commissioned projects, the majority of which come from the Department of the Environment. Funding for energy projects generally come from state utilities and the EU.

The ERSI plays an important role in environmental protection. Its aim is to help society achieve environmental objectives without wasting money.

The institute considers the work undertaken by the Environmental Institute in UCD including courses on Environmental Economics increases awareness on the economic viability of environmental protection. Most people do not perceive themselves as polluters and therefore do not think that they should pay, hence they have no incentive to alter their behaviour. The ERSI feel

they have a role to play on how to go about changing people's ideas on their environmental role. They employ 36 people.

7.10 Irish Whale and Dolphin Group

The Irish Whale and Dolphin Group is dedicated to the study and conservation of cetaceans (whales, dolphins and porpoises) in Irish waters. It was established in 1981 as part of an International Whaling Commission (IWC). This was formed originally in 1946 to manage the rational and sustainable exploitation of whales under the International Convention for the Regulation of Whaling. The IWC was unsuccessful as the catch quotas were too high and many species were on the verge of extinction. In the 1970's the IWC switched to a more conservation oriented ethics. It was then that non-whaling countries such as Ireland began to join the organisation.

Today, Ireland is considered to be one of the more vociferous anti-whaling countries and in 1994 was declared a whale and dolphin sanctuary. Whale watching in Ireland is estimated to be worth over £1 million per year. A major exhibition was held in Enfo on whales from November 1994 to January 1995. A record is kept of all stranding's and sightings of the coast. The majority are from Cork (30%) and Kerry (17%). In 1993, 221 sightings were recorded and 132 in 1994. Most are made during the summer and autumn. All sightings are recorded on a database in the Department of Zoology in U.C.C.

7.11 Irish Wildbird Conservancy (IWC)

The IWC work closely with the OPW Wildlife service in the conservation of wildlife habitats under the EU Directive 79/409/EEC on the Conservation of Wildbirds. It established general protection for all wildbirds throughout the community. The IWC, whose Patron is Mary Robinson, the President of Ireland, is the lead organisation in Birdlife International, an international bird conservation body.

Modern intensive farming methods are changing natural habitats, with a subsequent loss of species. The corncrake, once common in Ireland, is just one such threatened species. The main areas of IWC activity is the fight against the disturbance of wildlife habitats by opposing developments and drainage schemes which destroys the wetlands essential for the survival of many species. The IWC employ wardens for the protection of their reserves with backup from the OPW. There are 23 branches throughout Ireland involved in a range of activities. They publish a quarterly newsletter "IWC News" sponsored by the Jefferson Smurfit Group, with articles contributed by members. They also have an annual publication "Irish Birds" which contains many interesting papers on research activity in Ireland. It is operated by eight officers and a council of fifteen.

In conjunction with ESSO, the IWC have established a 'Schools Wildlife Programme' whose aim is to bring awareness to children on the importance of protecting natural wildlife habitats. The new REPS scheme now in operation through the Department of Agriculture will also benefit the IWC as all farm practices under the scheme have to protect the environment.

7.12 Green Party

The Green Party is one of Irelands fastest growing political parties with councillors and town commissioners as well as members in the European Parliament and Dail Eireann. 1994 saw Dublin electing its first Green Lord Mayor. It believes that conventional politics have failed to deal with critical environmental and social problems and the Green Party claim to offer an alternative to deal with this crisis. From their manifesto their policy areas dealing with environmental protection are.

Green Economics

The worship of economic growth results in resource depletion, pollution and the destruction of traditional forms of rural life. They believe that the

emphasis of economic growth needs to be replaced with an emphasis on the growth in the quality of life by self-sufficiency and sustainable economic activity, conservation of resources, decentralisation and the encouragement of the repopulation of the countryside and the ending of forced emigration.

Green Neutrality & International Affairs

The Green party believe that Ireland should maintain a policy of neutrality coupled with active foreign policy, which should be driven by a sense of justice not to be overridden by economic interests.

Green Agriculture & Food

Agriculture has been replaced by agribusiness, intensification and centralisation, changing the traditional rural based farming which is an intricate part of our culture. The Greens believe that the common agricultural policy will get rid of smaller farmers being replaced by big industrial like farm units and that ecologically sound and socially fair agriculture is still possible. A viable agricultural policy must allow each region to have its own rural culture, suited to the needs and conditions of that area.

Green Energy

They believe the consumption of coal, oil and other fossil fuels must be drastically reduced for various reasons such as climate, ecological, health, economical, social and political. Energy conservation is an immediate priority, i.e. insulating buildings and using more energy efficient processes. This must be coupled with a switch over to renewable energies such as wind, biomass, active and passive solar, photovoltaic, hydro and wave power. In the long term a sustainable energy sector implies better matching of consumption to regional renewable energy supplies. To this end the Greens propose a revenue-neutral tax (i.e. with reductions in taxes on work) on all non-renewable primary energy sources: two thirds to be levied on energy content (discouraging energy consumption) and one third on carbon content (encouraging a shift to cleaner fuels). The Greens also want the pricing

structure for gas and electricity to be rationalised, mandatory energy certification for buildings and government aid for domestic energy conservation and alternative energy development.

Nuclear power is unacceptable, since the risk of further nuclear catastrophe, and the continuing leakage of low level radiation, endangers life on earth.

Energy taxes may favour renewable energy over nuclear power.

SECTION 8

Discussion

Discussion

The Department of the Environment has a statutory obligation to protect the environment. It is in a position to do this by the regulation of potentially polluting activities and the exploitation of natural resources.

Environmental quality in Ireland is good in comparison to other EU countries. This is mainly due to Ireland's geographical position, low level of industry and low population density. It does not mean that Ireland is any better at implementing environmental law than other countries. There is a growing risk of pollution from a number of sources, such as intensive agriculture and industry.

The EU Fifth Environment Action Programme "Towards Sustainability" outlines the strategy needed for environmental protection and sustainable development going into the twenty first century. The programme introduces the concept of shared responsibility involving public authorities, semi-state bodies, private enterprise and the general public. It identifies five key sectors, manufacturing, energy, transport, agriculture and tourism as being particularly important.

The transfer of information on the environment from the DoE to statutory and non-statutory bodies is one of the key issues that needs to be addressed. Most organisations are not even aware of any national policies for the environment and need to be informed of their specific responsibilities.

With the introduction of the Environmental Protection Agency Act, 1992, began the rationalisation of very complex local structures or patchwork of various bodies having evolved over a long period of time. The idea behind the EPA is to pool all of these resources into one, in order to cut down on administration costs and duplication of work.

The difficulty in changing names and reorganising government bodies is that the manpower within remains the same. Real change is very difficult if the

difference, it has to change the way it operates, from being yet another government agency, being more progressive and forward thinking, like a new company. In its relative infancy, it is difficult to determine the true effect this body will have on the environment. If it completes even half of its brief, it will go a long way to achieve the objectives laid down by the EU on the protection of the environment. EPA funding has proved difficult but it is projected to improve with the revenue received from IPC licensing activities.

Local authorities are the backbone of environmental protection in Ireland. It is here that decisions are made that ultimately determine the fate of the environment. The total contradiction to this is that, it is the one statutory area where the least environmental expertise exists. Few local authorities have dedicated environmental services sections, let alone an environmental officer with formal training. During the course of this study questionnaires were sent to the chief environmental officer of all local authorities in Ireland. Approximately 90% of the replies were completed by the chief engineer, associated with sanitary services sections. The few technical staff employed by local authorities are swamped in routine water analyses of rivers and water and sewage treatment works. There is little prospect for non engineering staff to acquire executive roles within local authorities. Few have any say in the decision making processes relating to environmental legislation implications e.g. issuing of licences and making of waste management plans etc. Any specialised environmental analyses is conducted on their behalf by other bodies such as Health Boards, Forbairt, EPA laboratories and private consultants. There is a rapid growth industry in private environmental consultancy with industry and local authorities having to pay excessive fees to these bodies. In order for the environment not to obtain a 'price tag' this trend would need to be changed.

Few local authority personnel have formal environmental training, and although this is being addressed at the higher educational level fundamental

training for all staff would be desirable. It is important that the people with environmental responsibilities have a good knowledge of what they are dealing with. Educational environmental courses are listed in Appendix VII.

Funding is one of the main problems in the development of environmental sections of local authorities, specifically in relation to the provision of trained staff and analytical equipment. The DoE need to look carefully at putting more resources at local authority level as the amount of legislation that they are required to implement far outweighs the resources available.

One option would be for the EPA to become more regionalised, incorporating the environmental services sections of local authorities with the more specialised environmental research of the EPA. It would cut down greatly on the consultancy fees of the local authority and give the EPA a better feel for what research requirements are of most relevance to the region such as eutrophication of freshwater, improvements in municipal waste water treatment, air pollution from vehicles etc. Such reorganisation may help to compile already available data on environmental quality in Ireland.

Another option would be to establish a Water Quality Control Authority which is provided for under section 25 of the Local Government (Water Pollution) Act, 1977. Such bodies would be responsible for water quality on a regional or river catchment basis rather than being confined to the functional area of a local authority. This would free the local authority from a large portion of its work, leaving it free to focus on other spheres of environmental protection such as waste management plans. The DoE have no plans to implement this section of the Act.

The rate at which local authority projects proceed is often open to criticism. Implementation of an environmental management system such as B.S.7550 or I.S.310 as is currently being introduced in the private sector should be considered by local authorities.

An Bord Pleanála is heavily involved in the protection of the environment, through the planning appeals process. The main problem with this is the length of time between the initial appeal against a planning or licence application and the final outcome of the board. It can take months to get a decision on an appeal. Much of this delay could be eliminated either by inputting all plans into a central live data station, where all those concerned could examine relevant information. This would operate similar to a live quality information system in private industry. It would keep the DoE and all local authorities up to date on planning applications. This could also be a watchdog to prevent substandard planning and licence conditions being issued by some local authorities.

Enfo, the information arm of the DoE, provides an excellent service for the Dublin region. The library is well equipped and there is always an interesting exhibition to entice passers by in. The concept of Enfo could be more successful if it could be regionalised. Students in the Dublin region have an unfair advantage to others when it comes to access of information on the environment. However, any information required is sent out free of charge. There is a lot of information sheets, briefing sheets and fact sheets available free in the library. Books cannot be borrowed but there is a free photocopying service available.

The Department of Energy, Transport and Communications incorporate two of the main areas identified in the EU Fifth Action Programme of being of particular importance, namely energy and transport. This Department incorporates two of the largest and longest running semi-state companies in Ireland, the ESB and Bord na Mona. One supplies the fuel while the other uses it to generate electricity. The longest standing row over these bodies is the lack of use of the waste heat generated from the power stations. Many reports have been written on the subject. It was only very recently that plans

were made to use the waste heat at Tarbert power station for heating green houses.

Both these companies claim to be interested in the environment, yet this rather large oversight has been debated for 20 years or so. The main problem is that because they are semi-state companies, they do not need to be looking for ideas to save energy and economise. This gives them an unfair advantage over their competitors and also makes them complacent when it comes to protecting the environment. Generation of electricity by alternative means is now being encouraged by the Department. For years it was difficult to get the ESB to accept electricity onto the national grid from alternative sources such as wind and water turbines.

The ESB owns extensive fisheries and have control of waters serving electricity generating stations. It has a fisheries protection section which reports on any cases of pollution. It has its own laboratories and uses the services of Forbairt and An Teagasc. This appears to be a duplication of duties between the local authority, regional fisheries boards and the ESB. Better communication links and pooling of resources into regional laboratories could possibly lead to a large reduction of work load and financing.

Bord na Mona have a number of companies trading within the group dealing with various aspects of the environment. They also operate an environmental analytical service. Private consultancy firms have complained to the Minister that Bord na Mona have an unfair advantage by receiving state funding over other companies in the same services sector. The destruction of bogs for use of peat could be considered environmental degradation. There are a number of preservation projects running e.g. the Dutch project in Clara bog, Co Offaly.

GSI, the national earth sciences agency have a large amount of information on groundwater that is used by local authorities and the EPA for groundwater

protection schemes. The GSI information could be put to better use if the communication links were better established with planning and agricultural authorities.

The agricultural sector in Ireland has the potential to cause the most environmental damage but it is the least controlled. A waste management plan similar to that used by local authorities would need to be applied. The farmer will have to realise that like any other intensive industry, they hold the responsibility for the waste they produce. There is a serious lack of facilities for dealing with animal wastes, most farmers depend on available land for slurry spreading. Ireland is slow to adopt new technologies in this field. Anaerobic digestors are widely used within the EU to treat animal waste with the added benefit of biogas which can be used as combined heat and power (CHP). In Denmark there are central biogas facilities. In the late 1980's a pilot anaerobic digester scheme, costing £250,000 was set up in Co. Cavan by Eolas for the treatment of pig slurry. Potentially in this region of 50,000 pigs the amount of biogas produced could make substantial energy savings in the running of farms. 'Take up' of this technology has not occurred mainly due to lack of grants and promotion by the Government. In general there are no facilities for the disposal of other forms of farm waste, such as spent sheep dip, pesticides, silage wrappings etc. The control of farmyard odours by improvements in farmyard management is another area that needs to be addressed. An Teagasc, together with local authorities and the EPA need to adopt a much more progressive attitude to these problems. It appears that the cost of providing pollution control systems on farms that are comparable to that of industry, would be enormous and enforcement of such controls could make the production of agricultural produce non profitable.

Coillte Teoranta is mainly a profit making government organisation, with plans to expand forestry in Ireland. This idea in itself is not a bad one but is the monocultural coniferous forests that they are planting that are causing the

problems. These forests are not natural to Ireland and therefore have a dramatic effect on wildlife, flora and fauna, leaving the ground sterile and causing acid 'run off' into waterways. It may be too high a price to pay for a quick return on investment. Ireland should learn from other countries that this type of exclusive forestry is not compatible with a healthy environment. It is the responsibility of both the Department of Agriculture, Food and Forestry and the DoE to ensure a correct balance is reached

The Department of the Marine is concerned with protecting the quality of inland and coastal waters and for promoting a healthily angling and inshore fishing industry. Again there appears to be a degree of overlap of work being carried out by a number of statutory bodies. A more integrated approach on the gathering and analysis of water for whatever reason needs to be addressed. The adoption of statistical process control on the probability of water contamination rather than intensive sampling and analysis may be another option. It has proven to be a success in industry, where only high risk materials are tested routinely and all others on a more random basis. The same principle could be adopted to water analysis where the frequency of sampling and analysis is dependent on the history of contamination i.e. the risk factor.

In many cases, state run organisations are not run as efficiently as their private counterparts as they are not sufficiently informed about the duties of other Government bodies to realise the level of duplication. The DoE and the Government in general are at fault here. They assign the duties of each statutory body and therefore must realise who is responsible for what.

The Department of Enterprise and Employment through its subordinates IDA and Forbairt deal largely with the private industrial sector in compliance with environmental legislation. However, there is no formal route for industry to be informed of their legislative requirements with regard to the environment. Members of bodies such as IBEC may learn of their environmental

responsibility through information bulletins. However, industry needs a lot of assistance in dealing with the implications of IPC licensing and disposal of hazardous waste. It is all very well in assuming that all industry is consciousness enough to comply with environmental law, thankfully most are. One option for ensuring compliance would be for the DoE to set up an independent environmental audit team, separate from Forbairt who could educate and monitor industry on a regular basis. The Health and Safety Authority (HSA) are responsible for having a safe environment for people to work in.

The IDA, responsible for bringing foreign investors into Ireland, could be perceived to be responsible for the increased risk of pollution. Their policy to attract big multinational chemical and electronic companies has been the cause of many environmental disasters, especially in the early days when the infrastructure to back them up was not available. The jobs at any cost policy no longer prevails. The encouragement of smaller, home grown industry would go a long way to addressing this problem.

The OPW has become a rather controversial figure in recent times especially in relation to interpretative centres. They were not subject to normal planning laws and had commenced building on ecological sensitive grounds. This caused an uproar which led to the law being changed to encompass the OPW into the planning laws. Public objections to local government plans has become an everyday occurrence, be it a halting site, sewage treatment works, landfill site e.t.c. This indicates a definite change from the complacent Irish of old. As a result of this change in attitude, local authorities are under constant scrutiny. This can only lead to an improvement in the services provided.

The Department of Health has the potential to play a much greater role in the protection of the environment. The health boards have environmental health officers with a vast amount of expertise that is not being utilised due to legal

wrangling over who is responsible for what. This issue really needs to be resolved between the local authorities and the health boards. The DoE and the Department of Health need to come up with a strategy that will allow the EHOs have a greater input into the local authorities. It would solve a lot of the resource problems experienced by the local authorities and also make the environmental controls of local authorities much more stringent as human health is now a central concern.

Bord Failte are mainly concerned with the aesthetics of the environment e.g. waste disposal, litter control, traffic management, pollution of waterways and tree felling. They consider public awareness and education one of the key factors in any programme of improvement, however they plan to double the tourism trade in the next few years, adopting the IDA policy of old, jobs at any cost. Ireland does not have the infrastructure to deal with large numbers of tourists, our Island is relatively free of pollution only because of our small population, if this were to change, even for three months of the year the environmental consequences could spell disaster.

The main problem with statutory bodies in Ireland today is that they will only comply with the basic requirements of environmental law, few are progressive enough to look ahead and plan for change. A lot of the old institutes need to be revamped to make them realise that the Irish economy is completely dependent on them for the safeguard of the environment, our greatest natural resource.

The NGOs undoubtedly play a large role in the protection of the Irish environment. They keep a watchful eye on government activities and are quick to point out any problems. Organisations such as An Taisce, Earthwatch and Greenpeace keep the general public informed on environmental issues. Unfortunately their role is primarily reactive i.e. to complain when the system does break down.

There are two key elements missing in this main protection network i.e. the legislative force to make their presence felt and manpower on the ground to ensure that issued licenses are in fact monitored. At present the 'polluter pays principle' is not effective as even when the terms of a licence are breached the ability to get a conviction is very difficult.

How the EPA develops in the next few years will be of interest. If it stays detached from the local authority, the loopholes will still be there. If however they become more integrated and the expertise in the EPA is brought into a local level and its resources with it, the standard of environmental protection should improve.

Finally, the DoE does do a good job. It sends out all the required information to all the relevant authorities, but its means of monitoring their activities i.e. through reporting on a regular basis is lacking. In real terms the legislative framework for environmental protection in Ireland is gradually falling into place but the expertise needed to implement and enforce these laws properly needs to be reviewed in order to make the system more effective.

SECTION 9

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APPENDIX I

CONTACT ADDRESS FOR THOSE LISTED IN MAIN TEXT

Section No.	Organisation	Address	Telephone	Telefax
1.1	DoE	Custom House Dublin 1	01-6793377	01-6789527
1.2	EPA (Headquarters)	Arcavan Co. Wexford	053-47120	01-5347119
1.3	Local Authorities	Nationwide (see Telephone Directory)		
1.4	An Bord Pleanala	Floor 3, Blocks 6&7 Irish Life Centre Lr Abbey St Dublin 1	01-6728011	
1.5	NRA	St Martins House Waterloo Road D2	01-6602511	01-6680009
1.6	ENFO	17 St Andrew Street Dublin 2	01-6793144	01-6795204
2.1	Dept of Transport, Communications and Energy	44 Kildare Street Dublin 2	01-6707444	
2.2	ESB	Lr. Fitzwilliam St. Dublin 2	01-6765831	01-616263
2.3	Bord na Mona	Environmental Division, Newbridge Co. Kildare	045-34000/ 045-31201	045-31647
2.4	GSI	Beggars Bush Haddington Road Dublin 4	01-6715233	01-6681782
2.5	Irish Civil Aviation Authority	Scoth House Hawkins St Dublin 2	01-6718655	
2.6	The Irish Energy Centre	Glasnevin Dublin 9	01-8370101	01-8372848
2.7	Radiological Protection Institute of Ireland	3 Clonskeagh Square Clonskeagh Road Dublin 14	01-2697766	01-2697437
3.1	Dept of Agriculture, Food & Forestry	Agriculture House Kildare Street Dublin 2	01-607200	01-6616263
3.2	An Teagasc	19 Sandymount Ave Dublin 4	01-6688188	
3.3	Coillte Teoranta	Leeson Lane Dublin 2	01-6615666	

4.1	Dept of the Marine	Micheal Dvitt House Castlebar Co. Mayo	094-24744	
4.2	Central Fisheries Board	Balnagowen Mobhi Boreen Glasnevin, Dublin 9	01-8379206/7/8	01-8360060
4.3	Regional Fisheries Boards	see Tel. Directory		
4.4	BIM	P.O. Box No.12 Crofton Road Dun Laoghaire Co. Dublin	01-2841544	01-2841123
4.5	Marine Institute	80 Harcourt St Dublin 2	01-4780333	
4.6	Harbour Authorities	Nationwide (see Telephone Directory)		
5.1	Dept of Enterprise & Employment	Kildare Street Dublin 2	01-6614444	
5.2	Forbairt	Glasnevin Dublin 9 also Wilton Park House Wilton Place Dublin 2	01-8370101 01-6602244	01-8379620 01-6605019
	Forfas	as above	01-6688444	01-6605107
5.3	IDA	Wilton Park House Wilton Place Dublin 2	01-6686633	01-6603703
6.1	OPW	51 St Stephens Grn. Dublin 2	01-6613111	01-6610747
6.2	Dept of Health	Hawkins St Dublin 2	01-6714711	01-6711947
6.3	EHOs	Dublin City Civic Offices, Woodquay Dublin 8 (see also Tel. Directory for local authorities)	01-8727666	
6.4	Dept of Arts, Culture & Gaeltacht	43 Mespil Road Dublin 4	01-6670788	
6.5	Dept of Tourism & Trade	Kildare St Dublin 2	01-6621444	01-792934
7.1	An Taisce	Tailors Hall Back Lane Dublin 8	01-4541786	01-45332556
7.2	Earthwatch	Harbour View Bantry Co.Cork	027-50968	01-02750545

7.3	Green Party	Comhaontas Glas 5A, Upper Fownes St. Dublin 2	01-6771947	
7.4	Greenpeace	44 Upr. Mount Street Dublin 2	01-6619836	01-6605258
7.5	IBEC	Baggot Street House 84 Lower Baggot St Dublin 2	01-6601011	01-6601717
7.6	IFA	Irish Farm Centre Bluebell, Dublin 12	01-4551036	01-4551043
7.7	NSAI	Forbairt Glasnevin Dublin9	01-8370101	01-8369821
7.8	Rehab	Roslyn Park Strand Road Dublin 4	01-2698422	
7.9	Tree Council of Ireland	2nd Floor Royal Hospital Dublin 8	01-6790699	
7.10	ERSI	4 Burlington Road Dublin 4	01-6760155	
7.11	Irish Whale & Dolphin Group	An Clochan, Tobergregan, Garristown, Co. Dublin	01-8354370	01-8354370
7.12	IWC	Ruttledge House 8 Longford Place Monkstown, Dublin	01-2804322	

APPENDIX II

LIST OF NON GOVERNMENT ORGANISATIONS IN IRELAND

ORGANISATION	ADDRESS	PHONE	FAX
AFri (Action for Ireland)	The Cottage, 63 Harold's Cross, Dublin 6	01-4966880	01-4966388
ACRA (National Body for Residents Association)	General Secretary, 71 Shanganagh Avenue, Shankill, Co Dublin	01-28200779	
Agricultural Science Association	Irish Farm Centre, Bluebell, Dublin 12	01-501166	
AFAR (Alliance for Animal Rights)	4/5a Eustace Street, Dublin 2	01-6774059	
An Taisce	Tailors Hall, Back Lane, Dublin 8.	01-4541786	01-4533255
Badgerwatch Ireland	Drummond House, Martins Row, Chapelizod, Dublin 12	01-6268479	
Ballinagran/Coolbeg Action Group	c/o Tom Cooney, Kilcandra, Glenealy, Co. Wicklow	0404-44641	
Botanical Society of the British Isles	c/o Dr Ralph Forbes, Dept of Extra Mural Studies, Queens Uni. Belfast, NI		
Born Free Foundation	An Clochan, Tobergregan, Garristown, Co. Dublin	01-8354370	01-8354370
Care for the Wild	as above	"	"
Conservation Education Trust	The Conservation Centre, 132a East Wall Road, Dublin 3	01-366821	01-366821
Conservation Volunteers (Ireland)	The Mews, 40 Kingram Place, Dublin 2	01-6681844	
Crann	Fiveally, Birr, Co. Offlay	078-36020	
Dublin CND	7 Crestfield Avenue, Whitehall Dublin 9	01-8374899	01-8374899
Dublin Food Co-op Society	Carmichael House, North Brunswick Street, Dublin 2	01-8721191	01-8735737
Earthwatch Friends of the Earth Ireland	Harbour View, Bantry, Co. Cork	027-50968 027-51283	027-50545
ECO Environmental Conservation Organisation	39 Fleet Street, Dublin 2	01-6799673	

EcoYouth Environmental Conservation Organisation	10 Cope Street, Dublin 2	01-6799673	
Energy Action	20 Lower Dominick Street, Dublin 1	01-8723737	
Environmental Health Officers Association	Raymond Mc Loughlin, Markieviez House, Markieviez Road, Sligo	071-60222	
Environmental Policy Committee	IBEC, Confederation House, Kildare Street, Dublin 2	01-6779801	
Geographical Society of Ireland	c/o Department of Geography, Trinity College, Dublin 2	01-7021143	
Greenpeace	44 Upper Mount Street, Dublin 2	01-6619836 01-6610814	
Inland Waterways Association of Ireland	c/o Stone cottage, Claremount Road, Killiney, Co. Dublin	01-852258	
Institute of Engineers of Ireland	22 Clyde Road, Ballsbridge, Dublin 4	01-6684341	
Institute of Fisheries Management	Dr Edward Fahy, Fisheries Research Centre Abbotstown, Castleknock, D 15	01-8210111	
Irish Coastal Environment Group	c/o E.S.U, Trinity College, Dublin 2	01-2802501	01-2802191
Irish Farmers Association	Irish Farm Centre, Bluebell Dublin 12	01-4551036	
Irish Organic Farmers and Growers Association	56 Blessington Street Dublin 7	01-8307996	01-8300925
Irish Federation of Sea Anglers	Honorary Secretary, 67 Windsor Drive, Monkstown, Co. Dublin	01-2806873	
Irish Peatland Conservation Council	Capel Chambers, 119 Capel Street, Dublin 1	01-8722397	
Irish Planning Institute	40 Fitzwilliam Place Dublin 2	01-6762310	
Irish Whale and Dolphin group	An Clochan. Tobergregan, Gassistown, Co. Dublin	01-8354370	01-8354370
IWC Irish Wildbird Conservancy	Ruttledge House, 8 Longford Place. Monkstown Co. Dublin	01-2804322	01-2844407
IWF Irish Wildlife Federation	132a East Wall Road, Dublin 1	01-8368621	01-8366821

Irish Wind Energy Association	52 Croydon Green, Marino, Dublin 3	01-8339310	
Irish Woman's Environmental Network	Carmichael House, Brunswick Street, Dublin 7	01-8732660	
Macra na Feirme	Irish Farm Centre, Bluebell, Dublin 12	01-4551036	
Maritime Institute of Ireland	Haigh Terrace, Dun Laoghaire, Co. Dublin	01-2800969	
Network for Ecology, Energy and Economics	119 Delwood Lawn, Castleknock, Dublin 15	01-8202582	
Salmon Research Agency of Ireland Inc	Farren Laboratory, Newport, Co. Mayo	098-71107	
Sonairte National Ecology Centre	The Ninch, Laytown, Co. Meath	041-27572	
Teagasc Agriculture and Food Development Authority	19 Sandymount Avenue, Dublin 4	01-6688188	
Tree Council of Ireland	2nd Floor Royal Hospital Dublin 8	01-6790699	

Appendix III

BATNEEC - Guidance Notes from the EPA

In granting the integrated pollution control licence (IPC) to an activity the EPA must be satisfied that the best available technology not entailing excessive cost (BATNEEC) will be used to prevent or eliminate or, where that is not practicable, to limit, abate or reduce an emission from the activity.

The technology in question should be **Best** at preventing pollution and **Available** in the sense that it is procurable by the operator of the activity concerned. **Technology** itself includes techniques and the use of techniques, such as training and maintenance. **NEEC** sets out the balance between environmental benefit and financial cost.

Guidance notes:

The EPA publish a series of BATNEEC notes designed to provide guidance to those who apply for IPC licences. The objective of the BATNEEC notes is to identify the types of technologies that will be used by the EPA to define BATNEEC for a scheduled activity. The BATNEEC identified is then used as a base for the setting of emission limit values (ELVs). In the identification of BATNEEC emphasis is placed on pollution prevention techniques, including cleaner technologies and waste minimisation, rather than end-of-pipe treatment.

The EPA is currently in the process of drafting a guidance note for each sector of activity listed in the First Schedule to the EPA Act 1992. Each note goes through a five stage process as follows.

1. first draft prepared by consultant;
2. review by the internal EPA working group;

3. comments of the relevant industry sector sought;
4. updated notes circulated to NGO's, Government Departments and interested parties;
5. all comments are considered and a final draft is prepared by the EPA for publication.

At present there are 41 notes at the various stages of preparation. The chemical and waste sector notes should be published shortly. The remaining notes will be published on a phased basis over the next eighteen months.

Interpretation of BATNEEC:

Technologies identified in the BATNEEC notes are considered to be state-of-the art technologies for the purpose of setting emission limit values. These technologies are representative of a range of currently employed technologies appropriate to particular circumstances. The entire range would not necessarily be appropriate in any individual case. The specific choices depend on a wide range of circumstances but the crucial factor is that the selected regime achieves BATNEEC.

In applying BATNEEC, Environmental Quality Objectives (EQOs) once set must be respected. Measures, such as in plant changes, raw material substitution, process recycling and storage practices, may also be employed to prevent or reduce emissions. As well as providing for the installation of equipment, and the operation of procedures for the reduction of possible emissions, BATNEEC will also necessitate the adoption of an on-going programme of environmental management and control, which will focus on the continuing improvements aimed at prevention, elimination and progressive reduction of emissions.

The use of BATNEEC is construed in the EPA Act to mean the provision and proper maintenance, use, operation and supervision of facilities which are the

most suitable for the purposes. In determining BATNEEC for an activity, regard shall be had to:

1. the current state of technical knowledge;
2. the requirements of environmental protection;
3. the application of measures for those purposes, which do not entail excessive costs, having regard to the risk of significant environmental pollution which in the opinion of the EPA exist.

For existing facilities, additional regard shall be had to:

4. the nature, extent and effect of the emission concerned;
5. the nature and age of the existing facility connected with the activity and the period during which the facilities are likely to be used or to continue in operation; and
6. the costs, which would be incurred in improving or replacing these existing facilities, in relation to the economic situation of activities of the class concerned.

The BATNEEC guidelines are not the sole basis on which licensed emission limit values are set, since information from other sources will also be considered; such information includes site-specific environmental and technical data, plant financial data and other sources of information.

APPENDIX IV

	Directive	Implementing Measures
1	Directive 73/404/EEC on the approximation of the laws of the Member States relating to detergents. O.J. L347, 17-12-1973; as amended by directive 82/242/EEC, O.J. L109, 22-4-1982, and directive 86/94/EEC, O.J. L86, 25-3-1986	European Communities (Detergents) Regulations, 1984-1988
2	Directive 73/405/EEC on testing the biodegradability of anionic surfactants, O.J. L347, 17-12-1973; as amended by directive 82/243/EEC O.J. L109, 22-4-1982	European Communities (Detergents) Regulations 1984-1988.
3	Directive 75/440/EEC concerning the quality required of surface water intended for the abstraction of drinking water in the Member States. O.J. L194, 25-7-1975. Amended O.J. L353, 17-12-1990.	European Communities (Quality of Surface Water Intended for the Abstraction of Drinking Waters) Regulations 1989. <u>Handbook on Implementation</u> (1990) ERU Circular L17/89 of 16 November 1989
4	Directive 79/869/EEC concerning the methods of measurement and frequencies of sampling and analysis of surface water intended for the abstraction of drinking water in the Member States. O.J. L771, 29-10-1979. Amended O.J. L353 17-12-1990.	See 3 Above
5	Directive 76/160/EEC concerning the quality of bathing water. O.J. L31, 5-2-1976. Amended O.J. L353, 17-12-1990	European Communities (Quality of Bathing Waters) Regulations, 1992-4. Circulars WP 2/92, 25 June 1992.
6	Directive 76/464/EEC on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community. O.J. L129, 18-5-1976	Local Government (Water Pollution) Acts 1977-90; Circular ENV 8/77 of 15-4-1977; Memorandum No. 1 of the Water Quality Guidelines. <u>Code of Practice: Pesticide Formulation Plants</u> , September 1984. Local Government (Water Pollution) Regulations 1990; The Local Government (Water Pollution Acts 1977-90) (Control of Aldrin, Dieldrin, Endrin, Isodrin, HCB, HCBD and CHCL3 Discharges) Regulations 1994. See 18 below.
7	Directive 78/659/EEC on the quality of freshwater in need of protection or improvement in order to support fish life. O.J. L222, 14-8-1978.	European Communities (Quality of Salmonoid Waters) Regulations, 1988
8	Directive 79/115/EEC on deep sea pilots. O.J. L33, 8-2-1979	Marine Notice No. 13/82

	Directive	Implementing Measures
9	Directive 79/116/EEC on tanker requirements, O.J. L33, 8-2-1979; as amended by directive 79/1034/EEC, O.J. L315, 11-12-1979. Repealed by Directive 97/7/EEC- see 23 below.	European Communities (Entry Requirements for Tankers) Regulations, 1981.
10	Directive 79/116/EEC on the quality required of shellfish waters. O.J L281, 10-11-1979.	Local Government (Water Pollution) Acts 1977-90. Fisheries Acts 1979-90. Quality of Shellfish Waters Regulations 1994.
11	Directive 80/778/EEC on natural mineral waters, O.J L229/1, 30-8-1980	Directive 80/778/EEC on natural mineral waters, O.J L229/1, 30-8-1980
12	Directive 80/778/EEC relating to the quality of water intended for human consumption. O.J. L229, 30-8-1980. Amended O.J. L353, 17-12-1990.	Public Health (Ireland) Act 1878, S 65 Local Government (Sanitary Services) Act 1948, S.27. European Communities (Quality of Water intended for Human Consumption) Regulations, 1988. <u>Handbook on Implementation</u> (1989) ERU Circular L13/88 od 18 July 1988 Local Government (Water Pollution) Acts, 1977-90.
13	Directive 80/68/EEC on the protection of groundwater against pollution caused by certain dangerous substances. O.J. L20, 26-1-1980. Amended O.J. L353, 17-12-90.	European Communities (Waste) Regulations, 1979, European Communities (Toxic and Dangerous Waste) Regulations, 1982. Local Government (Water Pollution Regulations 1978-92.
14	Directive 83/513/EEC on the limit values and quality objectives for cadmium discharges. O.J. L291, 24-10-1983. Amended O.J. L353, 17-12-1990.	Local Government (Water Pollution) Acts 1977-90. Local Government (Water Pollution) Act, 1977 (Control of Cadmium Discharges) Regulations, 1985, Circular 10/85 of 6 September 1985.
15	Directive 84/49/EEC on limit values and quality objectives for discharges of hexachlorocyclohexane, O.J. L274, 17-10-1984. Amended O.J. L353, 17-12-90.	Local Government (Water Pollution) Act, 1977 (Control of Hexachlorocyclohexane and Mercury Discharges) Regulations, 1986. Circular ENV 4/86 of 19 March 1986.
16	Directive 84/156/EEC on the limit values and quality objectives for mercury discharges by sectors other than chloralkali electrolysis industry. O.J. L74, 17-3-1084.	Local Government (Water Pollution) Acts 1977 Control of Hexachloro-cyclohexane and Mercury Discharges) Regulations 1991. Circular L8/91, 12 July 1991.
17	Directive 86/278/EEC on the use of sewage sludge in agriculture O.J. L186/6, 4-7-86.	European Communities (Use of Sewage Sludge in Agriculture) Regulations 1986-91 Circular I8/91, 12 July 1991.

	Directive	Implementing Measures
18	Directive 86/280/EEC on the limit values and quality objectives for discharges of certain dangerous substances included on List I of the Annex to Directive 76/464/EEC. O.J L181, 4-7-1986. Amended O.J L158, 25-6-86, O.J. L219, 14-8-1990.	Local Government (Water Pollution) Acts 1977-90 Code of Practice: <u>Pesticide Formulation Plants</u> , September 1984. Circular ENV 22/87 of 31 December 1987. The Local Government (Water Pollution Acts 1977-90)(Control of Aldrin, Deltrin, Endrin, Isodrin, HCB, HCBD, and CHCL3 Discharges) Regulations 1993. The Local Government (Water Pollution Acts 1977-90)(Control of Carbon Tetrachloride, DTT and Pentachlorophenol Discharges) Regulations 1994. See 6 above.
19	Directive 87/217/EEC on the prevention and reduction of environmental pollution by asbestos. O.J.L85, 28-3-1987.	European Communities (Control of Water pollution by Asbestos) Regulations, 1990, Circular AQ 1/90 of 19 February 1990.
20	Directive 90/415/EEC for EDC TRI, PER and TCD O.J.L219, 14-8-1990.	Local Government (Water Pollution Acts 1977-90)(Control of EDC, TRI, PER, and TCD) Regulations 1994.
21	Directive 91/271/EEC on municipal waste water treatment plants. O.J. L135, 30-5-1991	Not yet implemented. Circular L7/91, 10 July 1991.
22	Directive 91/676/EEC on the protection of water from pollution by nitrate from agricultural sources O.J. L375, 31-12-1991	Local Government (Water Pollution) Act 1990, S21, Implementing measures necessary by December 1993.
23	Directive 97/7/EEC on the minimum requirements for vessels bound for leaving EC ports carrying dangerous or polluting goods O.J.L247/19, 5 October 1993.	To be implemented by 13 September 1993

APPENDIX V

ENFO Information Sheets

	<u>Briefing Sheets</u>	<u>Fact Sheets</u>	<u>Action Sheets</u>
1	Planning And You	Waste Disposal	Recycling in Ireland
2	Salmon Survival	Population	Recycling - Paper
3	Groundwater	Fish Kills	Recycling - Glass
4	History Around You	River Quality	Recycling - Metals
5	The Bogs	Control of Dogs	Recycling - Oil
6	Irish Raised Bogs	Irish Peatlands	Recycling - Plastics
7	Radioactivity	Wetlands in Ireland	Painting Buildings
8	Farming and Wildlife	Addresses Non-Governmental	Planting for Colour
9	Turloughs	Addresses-State	Trees on Development Sites
10	Hedgerows	Biological Diversity 1	Basic Trees Survey
11	Water Pollution	Biological Diversity 2	Trees Planting
12	Measurement of Water Quality	Environmental Legislation	Managing Small Woods
13	Air Pollution	Air Quality Data	Hedge Management
14	Acid Rain and the Aquatic Environment	Videos on the Environment	Old Shopfronts
15	Radon	Trees	Building in Towns and Villages
16	Medieval Dublin	The Greenhouse Effect	Household Composting
17	Dublin Castles	Environmental Competitions	What on Earth Can I do?
18	Georgian Dublin	Forestry and the Environment	Making a Garden Pond

APPENDIX V Cont...

ENFO
Information
Sheets

	<u>Briefing Sheets</u>	<u>Fact Sheets</u>	<u>Action Sheets</u>
19	Victorian Dublin		Making a Wildlife Garden
20	Modern Dublin		Recycling Inlets - Additional Addresses
21	Dublin's Water		Ground Rules for the Green Consumer
22	Water Supply		Wake Up and What You Can Do for the Environment
23	Global Warming		Keep it Clean
24	Acid Rain		
25	The Ozone Layer		
26	Tropical Rainforests		
27	Sea Level Changes and Ireland		
28	Sewage Treatment		
29	Asbestos in Your Home		

APPENDIX VI
FORBAIRT
ENVIRONMENTAL SERVICES

The environmental services section of Forbairt provides industry, government and commercial bodies with a wide range of consultancy and laboratory services covering such areas as Environmental Impact, Effluent, Water, Air, Noise and Vibration, Waste Disposal, Occupational Safety and Health, Auditing and Integrated Licensing.

Environmental Impact

EU legislation requires the preparation of environmental impact statements for major projects. Forbairt has a multi-disciplinary team capable of undertaking such studies. These cover aspects such as Baseline Studies, Effluent Discharges, Air Emissions, Waste Treatment and Disposal, Noise, Flora & Fauna, Environmental Management.

Integrated Licensing for EPA

The EPA will issue Integrated Licences to major activities which will require companies to apply BATNEEC, adopt a clean technology approach to emission control and install an appropriate Environmental Management System. Forbairt can help companies to apply and prepare for a licence.

Occupational Hygiene and Safety

Safety Audits
Solvent Vapour, Dust and Gas Monitoring
Gas Free Certificates
Asbestos Identification and Clearance Testing
Office Conditions/ Sick Building Syndrome

Waste Disposal

Waste Categorisation
Methods of Disposal
Assistance with Disposal Permits
Leachate Testing

Water Pollution

Control Technology -
Selection/Evaluation
Technology-Selection Analysis of
Effluents and Sludge's
Toxicity Testing Dye Tracing
Biological Surveys
Treatment Plant
Selection/Evaluation
Effluent Surveys
Discharge Licence Applications
Pilot Plant for Effluent Treatment
Treatment Plant Troubleshooting

Process Water

Treatment Plant Specification
Problem Solving
Analysis and Bench Scale Trials

Noise and Vibration

Environmental Noise Surveys
Control Technology-
Selection/Evaluation
Building Acoustics
Vibration Monitoring

Training

Forbairt runs 1 and 2 day workshops at regular intervals on the following topics:
Effluent Treatment
Environmental Impact Assessments
Health and safety at Work
Integrated Licensing

Staff

40 staff, many with up to 20 years experience in all aspects of the environment. Professionals and technicians comprising chemists, chemical engineers, mechanical and electrical engineers, biologists and occupational hygienists.

Facilities

Specialist environmental laboratories for air and water pollution sampling and analysis in Dublin and Shannon. Acoustic consultancy based in Dublin and Cork offices. Extensive support from other Forbairt laboratory and Consultancy groups.

Appendix VII

List of full-time courses in Environmental Science in Ireland.

Full-Time Courses	Course Title	Duration
UL	BSc in Environmental Science	4 years
UCC	BSc in Earth Science	4 years
DIT(Cathal Bruagha St)	BSc in Environmental Health	4 years
TCD	BSc in Science (including Environmental Sc.) MSc in Environmental Science.	4 years 1-2 years
RTC, Sligo	BSc in Environmental Science and Technology BSc in Environmental Chemistry Diploma in Pollution Assessment & Control	4 years 4 years 3 years
UCG	BSc in Environmental Science BSc in Earth Sciences	4 years 4 years

Appendix VII continued.....

List of part-time courses in Environmental Science in Ireland.

Part -Time	Course Title	Duration
TCD	Postgraduate Diploma in Environmental Engineering.	1 year, Friday night and Saturday mornings.
RTC, Sligo	Postgraduate Diploma in Environmental Protection leading to MSc in Environmental Protection.	2 years (Modular) with weekend workshops. 1 year.
RTC, Cork.	National Diploma in Science (Chemical Technology) with Environmental Chemistry option.	1 year Mon. and Tues. evenings.

¹UL = UNIVERSITY OF LIMERICK
 UCC = UNIVERSITY COLLEGE CORK
 DIT = DUBLIN INSTITUTE OF TECHNOLOGY
 RTC = REGIONAL TECHNICAL COLLEGE
 DIT = DUBLIN INSTITUTE OF TECHNOLOGY
 UCG= UNIVERSITY COLLEGE GALWAY
 TCD = TRINITY COLLEGE DUBLIN