THE

ECO-MANAGEMENT AND AUDIT SCHEME

FOR IRISH LOCAL AUTHORITIES

A PRELIMINARY STUDY

Presented in part fulfilment for the

Degree of Master in Science in Environmental Protection

by

Kieran Lynch

Supervised by

Mr. Noel Connaughton

Submitted to the National Council for Education Awards

June 1996

THE ECO-MANAGEMENT AND AUDIT SCHEME FOR IRISH LOCAL AUTHORITIES. A PRELIMINARY STUDY.

KIERAN LYNCH

ABSTRACT

As we approach the 21st century the management of environmental affairs is undergoing change. Global concepts such as Sustainability and Agenda 21 are the cornerstones of a new focus on the environment. In the fifth action programme entitled "Towards Sustainability", the EU signalled a change to its traditional "command and control" approach on environmental matters. This has broadened the range of environmental protection mechanisms to include management systems and the concept of self regulation.

Irish local authorities have been recently undergoing changes in the management of its environmental activities. The EPA has assumed the mantle of overall environmental watchdog and local authorities have to reorganise their policies in the light of this. A range of new environmental legislation has begun to include local authority affairs forcing them to release environmental information to the public and be more accountable for their actions. The Local Agenda 21 process places an onus on local authorities to "put their own house in order" with regards to sustainability. Each local authority has to formulate a plan detailing how it will incorporate sustainable principles into its work practices. The implementation of an environmental management system is examined to assess its benefits in managing this period of change within Irish local authorities.

An ever increasing range of environmental management systems are available. Examples include the UK standard (BS7750), Irish standard (IS 310), EU standard (EMAS) and the soon to be published global standard ISO 14001. EMAS was chosen as the model for assessing management systems application within Irish local authorities due to its international nature. The development of the management systems approach and the experience gained by local authorities in two other countries (UK and Norway) are assessed.

The primary factors to be considered before embarking on the process are examined and potential problems highlighted to reduce difficulties during implementation.

Three approaches for local authorities are outlined. Firstly, full implementation of the EMAS process. Secondly, use of the EMAS framework to manage a particular environmental effect and thirdly, short term measures to lay the foundations for the scheme.

It is evident that full implementation of EMAS within Irish local authorities will be a demanding but ultimately worthwhile process. The benefits of the scheme far outweigh the drawbacks and if the process is planned properly and has strong management commitment it will succeed.

ACKNOWLEDGEMENTS

I would firstly like to thank my tutor Noel Connaughton for his help during the course of this work.

I would also like to thank Maura McNulty and Shirley Vaughan for their very valuable assistance.

I am indebted to my brother Damien for his assistance in getting all my UK references and contacts.

I would also like to thank all the people who gave assistance whenever required. They include Dr. Pat Hayes (NSAI), Tom Dempsey and John Hussey (NAB), Nuala O'Carroll and Marie Connolly (SFADCO), Richard Bonner (PIE), Donal Enright and Geraldine Tallon (Department of the Environment), Geoff Wright (Geoff Wright and Associates) and many others.

Thanks also to the staff of Ennis UDC and Clare County Council especially Josephine Cotter Coughlan and Ciaran Lynch.

Special thanks also to Ennis UDC for the financial assistance in making this possible.

Also to all my wonderful classmates for three years of friendship and support. Telecom profits will surely plummet now that this course is over !

And finally to my wife Una for all her help and understanding over the last three years. Thank you.

DEDICATION

To my loving wife Una, for all her love and support over the past three years. To all my family who have always been a wonderful support.

TABLE OF CONTENTS

THE ECO-MANAGEMENT AND AUDIT SCHEME FOR IRISH LOCAL AUTHORITIES. A PRELIMINARY STUDY.

KIERAN LYNCH

ABSTRACT

As we approach the 21st century the management of environmental affairs is undergoing change. Global concepts such as Sustainability and Agenda 21 are the cornerstones of a new focus on the environment. In the fifth action programme entitled "Towards Sustainability", the EU signalled a change to its traditional "command and control" approach on environmental matters. This has broadened the range of environmental protection mechanisms to include management systems and the concept of self regulation.

Irish local authorities have been recently undergoing changes in the management of its environmental activities. The EPA has assumed the mantle of overall environmental watchdog and local authorities have to reorganise their policies in the light of this. A range of new environmental legislation has begun to include local authority affairs forcing them to release environmental information to the public and be more accountable for their actions. The Local Agenda 21 process places an onus on local authorities to "put their own house in order" with regards to sustainability. Each local authority has to formulate a plan detailing how it will incorporate sustainable principles into its work practices. The implementation of an environmental management system is examined to assess its benefits in managing this period of change within Irish local authorities.

An ever increasing range of environmental management systems are available. Examples include the UK standard (BS7750), Irish standard (IS 310), EU standard (EMAS) and the soon to be published global standard ISO 14001. EMAS was chosen as the model for assessing management systems application within Irish local authorities due to its international nature. The development of the management systems approach and the experience gained by local authorities in two other countries (UK and Norway) are assessed.

The primary factors to be considered before embarking on the process are examined and potential problems highlighted to reduce difficulties during implementation.

Three approaches for local authorities are outlined. Firstly, full implementation of the EMAS process. Secondly, use of the EMAS framework to manage a particular environmental effect and thirdly, short term measures to lay the foundations for the scheme.

It is evident that full implementation of EMAS within Irish local authorities will be a demanding but ultimately worthwhile process. The benefits of the scheme far outweigh the drawbacks and if the process is planned properly and has strong management commitment it will succeed.

CHAPTER 1

INTRODUCTION

1.1 A NEW APPROACH TO ENVIRONMENTAL MANAGEMENT

Historically, environmental management has been carried out with regard to specific issues, with each medium managed independently. Legislation (mainly driven by the European Union (EU)) reflected this with over 200 legal instruments (regulations, directives, etc.) mainly concerned with a single environmental issue or medium. Despite the many directives, regulations and national actions in this area, Hillary, 1993 states that "environmental quality is still deteriorating throughout the EU."

The EU is now adopting a new strategy which will change the traditional 'command and control' approach which has dominated policy for 25 years. It has been documented by the Environmental Protection Agency (EPA), 1996 that "it is now recognised that not only does each environmental medium merit attention in its own right, but also that the interactions between it and the other media must be taken into account." Tallon, 1995 states that "however effective at securing basic environmental quality, 'command and control' policies do not necessarily change basic behaviour and regulation has not always delivered results at the least cost." The focus has now moved from 'end of pipe' technologies to a more integrated approach to managing the environment.

Since the 1980's the concept of self-regulation has gained momentum. This idea originated in industry with the introduction of quality standards and has been adapted to cover issues within the environmental area. Morphet *et al.* 1994 has defined this as "the starting point is the preposition that managing environmental performance is no different in principle from managing quality or financial performance." Initially the British Standards Institute published BS7750 as their environmental management standard, several other countries including Ireland have published national standards. The European standard Eco-Management and Audit Scheme (EMAS) is now in place and a global standard ISO 14001 will soon be issued. Regulations will always play a leading role in environmental protection, however the voluntary standard will gain increasing acceptance as the publics knowledge on environmental matters continues to grow.

Sustainability is the current focus of attention in the environmental area. Unlike previous initiatives which concentrated on one issue, for example, global warming, sustainability incorporates a wide range of measures to implement environmental policy. The vehicle for implementing sustainability at a local level is entitled Local Agenda 21. This obliges local authorities to formulate plans for sustainable development within their areas. One method identified by the government to assist in Local Agenda 21 is formulation of environmental management systems (Department

of the Environment (1), 1995). This will be the driving force behind the introduction of environmental management systems in Irish local authorities.

Irelands green image was estimated to be worth 2.2% of Gross Domestic Product (GDP) in 1987 (Scott, 1995). Ensuring we maintain and enhanse this image is an important task. Local authorities have traditionally been the guardians of the environment within their functional areas. However, local authorities can also cause environmental damage when carrying out such functions as waste treatment and waste disposal. This dual role of "gamekeeper and poacher" coupled with the fact that local authorities were almost unregulated (except by the regional fisheries boards) had led to some complacency and a lack of resource input in the environmental area.

In recent years environmental legislation has begun to incorporate local authority developments. Faced with these legal standards and the release of environmental information to the general public upon request, local authorities now have to reassess their environmental management strategy. The EPA has become the regulator for local authorities on environmental issues. In this age of "openness and transparency" local authorities must implement a comprehensive environmental management strategy to demonstrate their resolve to the general public. A largely self-regulatory process such as EMAS would be a significant sign of their committment.

Local authorities are currently faced with many new challenges such as the Local Agenda 21 process and the task of altering their environmental policy to cater for recent legal changes. The application of an environmental management system such as EMAS to its operations would be an efficent method of achieving these goals. The trend towards a greener culture in local authorities must be actively encouraged.

1.1.1 AIMS AND OBJECTIVES

(1) To outline the EMAS process and assess its suitability for incorporation into Irish local authorities.

(2) To assess the benefits of EMAS accreditation to local authorities.

(3) To discuss the major obstacles in the path of EMAS accreditation for local authorities.

(4) To outline the role of EMAS in the move towards sustainability and the Local Agenda 21 programme.

(5) To assess areas to be considered during the planning phase of the process.

(6) To outline short and long term targets for local authorities in the area of environmental management systems.

1.2 STRUCTURE AND FUNCTIONS OF IRISH LOCAL AUTHORITIES

There are 118 elected local authorities within the Republic of Ireland. They consist of 29 county councils, 5 county borough corporations, 5 borough corporations, 49 urban district councils and 30 boards of town commissioners. Elections to each body are held every five years.

Large variations in the size of the major local authorities exist depending on the populations within their functional area. For example County Leitrim has a population of 25,297 within 613 square miles whereas Dublin Corporation has 478,389 persons within 40 square miles (IPA, 1996).

Local authorities provide a wide range of services to its inhabitants. Authorities are bound under legislation to provide many of these services, while other functions have been delegated to them over the years. A local authority considering EMAS introduction must consider the environmental effects of all its operations. The principal services provided by Irish local authorities are:

(1) Water Supply and Sewerage

Local authorities provide and supervise sanitary infrastructure such as water treatment and distribution, sewage treatment and drainage schemes.

(2) Road Transportation and Safety

County councils, county borough and borough corporations are road authorities for their areas. As such, they have responsibility for construction, improvement and maintenance of roads and bridges. Local authorities have other important functions such as making traffic bye-laws, public lighting, collection of motor tax and licensing of drivers.

(3) Housing and Building

Duties include assessing the adequacy of housing, the enforcement of building standards, the provision of housing for those unable to house themselves, granting assistance in the form of loans and providing or reconstructing houses.

(4) Environmental Protection

Duties include street cleaning and the collection and disposal of refuse. Most local authorities also monitor water supplies, bathing waters, rivers, lakes and industrial premises licenced under the Water Pollution Act (1977). County councils and borough corporations are involved in implemention of the litter act, transfrontier shipment of waste directive and the compilation of emergency plans.

(5) Development Incentives and Controls

Duties include administration of county development boards, control of physical planning and preparation of development plans.

(6) Recreation and Amenities

This includes provision of swimming pools, parks, open spaces and community centres. Library services are also provided by county councils and county borough councils.

(7) Agriculture, Education, Health and Welfare

This includes contributions to county committees on agriculture, Vocational Education Committees (VEC's), regional health boards and joint drainage boards. County Councils administer grants to some third level students.

(8) Miscellaneous Services

This includes provision of lists of voters and jurors, provision of dog wardens and pounds, maintainance of graveyards, rate collection and provision of courthouses. County councils are also the fire authority for their area.

A development which took place on 1/1/1994 was the establishment of eight regional authorities throughout the country. These comprise of elected representatives from neighbouring local authorities usually on a 3 or 4 county basis. Their function is to "promote the co-ordination of the provision of public services at a regional level" (IPA, 1996). This includes items such as regional water supplies, municipal waste and water quality management plans.

1.3 SUSTAINABLE DEVELOPMENT

Sustainable development or sustainability is now established as a cornerstone objective in environmental matters. A standard definition of sustainable development is given as:

"development which meets the needs of the present without compromising the ability of future generations to meet their own needs."

The aim of sustainable development is to improve quality of life while conserving the natural resources upon which development ultimately depends. Since 1950 the worlds population has doubled, world economic production has increased six-fold and 80% of the worlds natural resources are consumed by 16% of the population (Tallon, 1995). If this rate of development is allowed to continue unchecked there may soon be no natural resources left to conserve. Sustainability is not achieved by prohibiting development, but by ensuring that decisions are taken with proper regard to their environmental impact. The concept of sustainable development seeks both an ecological and economically viable way forward, which will operate within the carrying capacity of the environment.

The concept of sustainability has emerged to the fore in recent times for two main reasons. Firstly, the United Nations Conference on Environment and Development (UNCED)

(held in Rio de Janerio in 1992) has created a wide solidarity within the international community on the need for sustainable development. Secondly, this has been complemented at EU level by the 5th Action Programme on the Environment "TOWARDS SUSTAINABILITY". This action programme differs considerably from the preceeding four in its general approach and structure. It has moved the community environmental policy away from a reliance on regulatory/control systems towards the achievement of sustainable development by ensuring the integration of environmental considerations into other areas, focusing in particular on industry, agriculture, energy, transport and tourism. The 5th action programme aims at promoting sustainability through implementation of a broad range of instruments including legislation, market related measures, financial support mechanisms, education, information and training.

Sustainability is currently being integrated into environmental legislation, government policy and national development programmes. In Ireland, the government in its policy agreement: A Government of Renewal (December 1994), is committed to the preparation of a national sustainable development strategy. This is currently being prepared along with a set of sustainability indicators and is due for publication in mid 1996. Other initatives such as the establishment of the EPA and ENFO - the environmental information service, are now leading to better environmental

management and protection, and increased public awareness of environmental issues. A joint Oireachtas Committee on sustainable development has also been set up.

At local authority level, sustainability is being incorporated into policies such as development plans, the Local Agenda 21 process (section 1.4) adds further momentum to this. In many cases all that is required by local authorities is to promote their present operations as sustainable, for example, urban renewal projects and recycling schemes. Local authorities may also choose local indicators of sustainability to monitor progress in their area.

The next step is to make sustainability relevant to the general public in their everyday lives. "Sustainable development cannot be imposed; it can only be brought about by co-operation and partnership between all social and economic groups and interests" (Department of the Environment (1), 1995).

"Sustainability is here to stay and will permeate every aspect of local authority activity. The challenge is now to define more clearly what sustainability means at all levels: local, regional and national" (Morphet *et al.*, 1994). Working for a sustainable future will require widespread support and must be viewed as a long term strategy comprising many different activities and projects.

1.4 AGENDA 21

At UNCED, Ireland was one of over 150 nations which endorsed Agenda 21, a major blueprint for how the worlds nations can work individually and collectively towards sustainable development for the 21st century.

This 800 page document is a set of non-mandatory guidelines which examines the mechanisms of establishing sustainable development on a global scale. Efforts were made to concentrate on four key themes, which are as follows:

(a) Social and economic dimensions
(b) Conservation and management of resources
(c) Strengthening the role of major groups
(d) Means of implementation

One major area of section of Agenda 21 (Chapter 28) focused on local authority involvement. Agenda 21, placed responsibility for formulating local sustainable development plans onto local authorities. These plans were to be called Local Agenda 21 plans. As well as the specific Local Agenda 21 plans, local authorities have to adopt the sustainability concept into all other areas of work, e.g. development plans. "Local Agenda 21 will be the driving force behind local policies, plans or programmes which will place sustainable development firmly on the agenda for the long-term" (Department of the Environment (2), 1995).

1.4.1 LOCAL AUTHORITIES AND LOCAL AGENDA 21

Local government, because of its position in society, has a major role in promoting and working towards sustainable development. It is the political and administrative structure most closely related to local development. "Because so many of the problems and solutions being addressed by Agenda 21 have their roots in local activities, the participation and co-operation of local authorities will be a determining factor in fulfilling its objectives" (Department of the Environment (1), 1995). In formulating its objectives under Local Agenda 21, it is vital that as well as full staff participation in the scheme, the elected representatives are fully briefed and in favour of implementing it. The elected representatives as well as the county/city manager have the final say on policy within the authority and will be the signatures to the scheme when fully formulated.

In light of the various layers of local government in Ireland, it was decided the "pivotal role should be taken by the county and county borough level, where there is a major concentration of functions, responsibilities and capabilities which will be central to implementing sustainable development." (Department of the Environment (1), 1995). There is provision for the other authorities, for example, urban district councils and town commissioners to add their own particular focus and local dimension,

within an overall county structure.

The department of the environment issued guidelines to local authorities on Local Agenda 21 (Department of the Environment (1), 1995). To implement Local Agenda 21 successfully a local authority will have two distinct focuses, one within the authority itself and the other to the community it serves.

To be credible in promoting Local Agenda 21, local authorities should first ensure that their own house is in order. A local authority can make an "internal" contribution to Local Agenda 21 by:

(1) Examination of present policies and practices and assessing how environmentally sustainable they are, for example development plans, transport policy and housing policy.

(2) Actively promoting an environmental ethos in all sections of the authority. Examples could include:

(i) Adopting an environmental charter.

(ii) Adopting a voluntary environmental management system.

(iii) Pursueing green housekeeping measures.

(iv) More staff training and information on the environment.

(v) Ensuring environmental matters are considered in budget estimates.

Local Agenda 21 also has an 'external' element which can help local authorities further develop existing partnerships and allow new alliances to be forged. Contributions in this area could include public consultations, better access to information and publishing targets/achievements in the area of sustainability.

Local Agenda 21 signals a major change in local authority policy. Each local authority has to draw up a Local Agenda 21 plan for its functional area. Environmental management systems are the most potent "internal" mechanism for promoting the process and are a fundamental piece of the Local Agenda 21 jigsaw. The Local Agenda 21 framework will be the driving force for the introduction of environmental management systems such as EMAS within Irish local authorities. Local Agenda 21 plans have to be in place before the review of EU structural funds in 1997.

1.4.2. REGIONAL AUTHORITIES AND LOCAL AGENDA 21

Regional authorities will also have an important role in the Local Agenda 21 process. Their statutory role as liaison between local authorities and other public bodies is pivotal to several areas within the process. A catchment approach is already seen as the way forward in certain areas of environmental protection, for example, deterioration in lake quality. Measures to implement sustainability requiring regional assistance will be handled by this authority.

1.5 ENVIRONMENTAL LEGISLATION FOR IRISH LOCAL AUTHORITIES

Historically, most legislation relating to environmental/planning issues exempted local authority developments. Acts such as the Water Pollution Act (1977), Air Pollution Act (1987) and the Planning Act (1963) principally excluded local authorities since they were also the sole guardians of much of this legislation. In recent years, legislation has begun to incorporate local authority activities, forcing them to be transparent and accountable. Local authorities are now bound by several important pieces of legislation which have placed environmental issues firmly on the agenda. To illustrate this change for local authorities, several of the most important pieces of legislation are outlined below. This list will undoubtedly continue to increase.

1.5.1. ACCESS TO INFORMATION ON THE ENVIRONMENT REGULATIONS. 1993 (S.I. No. 133 OF 1993).

In response to increasing demands for environmental information, the government issued regulations under section 110 of the EPA Act to transpose Council Directive 90/313/EEC into Irish law. These regulations are entitled the Access to Information on the Environment Regulations, 1993 and they

came into force on 20th May 1993. These regulations complement existing information sources such as ENFO and give access to the public to specific environmental information upon request. For the purposes of these regulations information is defined as:

"any available information in written, visual, aural or database form on the state of water, air, soil, fauna, flora, land and natural sites and on actions (including those which give rise to nuisances such as noise) or measures adversely affecting, or likely to so affect, these and on actions or measures designed to protect these, including administrative measures and environmental management programmes."

During its first year in operation (20/5/93 to 19/5/94) 168 requests for information were received, of which 3 were refused (Department of the Environment (3), 1995). The trend in this area will no doubt continue to rise. In recognition of this, many local authorities have now formulated a policy on the issuing of information on the environment.

EMAS accreditation would compel local authorities to publish environmental information on a regular basis in the form of an environmental statement. As the demand for information under these regulations increases, authorities may find they are being forced to release information. It may prove beneficial for local authorities to examine environmental issues thoroughly and make efforts to rectify the situation rather than waiting for poor environmental

performance to be exposed under these regulations.

1.5.2. ENVIRONMENTAL PROTECTION AGENCY ACT, 1992 (URBAN WASTEWATER TREATMENT) REGULATIONS. 1994.

These regulations gave effect to Council Directive 91/271/EEC on urban wastewater treatment. It sets out a time frame for local authorities to put in place adequate wastewater collecting systems and treatment plants. The provision of secondary treatment is the general goal but in certain sensitive waters (listed in the third schedule of the regulations) tertiary treatment is required. Limits are also set for effluent concentrations of Biochemical Oxygen Demand (25 mg/l), Chemical Oxygen Demand (125 mg/l) and Total Suspended Solids (35 mg/l). In sensitive waters limits on Total Phosphorus (1 - 2 mg/l) and Total Nitrogen (10 - 15 mg/l) are also listed.

The fifth schedule of the regulations sets out a sampling regime to be applied to all plants. A minimum sampling frequency is established and all results will have to be reported to the EPA. The results and performance of each waste water treatment plant will be published in an annual report by the EPA.

1.5.3. WASTE MANAGEMENT ACT (1996)

The Waste Management Act (1996) signals a new approach for local authorities, particularly in the area of solid waste disposal. The EPA will have responsibility for hazardous waste disposal, while local authorities will remain in charge of the day to day running of municipal waste collection and disposal. Among the measures in the Act are:

(1) The EPA are to develop criteria and procedures for selection, management, operation and termination of landfill sites by local authorities.
(2) Local authorities have to draw up waste management plans and review them at least every 5 years.
(3) Waste management plans must give particular attention to waste prevention and recovery issues.
(4) Local authorities will be encouraged to undertake a range of measues to support waste recovery initiatives within their functional area.

The most radical area of interest to local authorities is the licencing of landfill sites, which were previously exempt and therefore unregulated. It is envisaged that the landfill licence will be similar to the Integrated Pollution Control (IPC) licences presently issued to industry by the EPA. Local authorities will have to make considerable

investments in the areas of lining and leachate collection to fulfil licence criteria. These licences will be available to the public, as will annual reports on the performance of each licenced landfill site.

1.5.4. LOCAL GOVERNMENT (PLANNING AND DEVELOPMENT) REGULATIONS, 1990 (S.I. No. 25 of 1990)

Under these regulations, local authorities have to conduct Environmental Impact Assessments (EIA's) with regard to selected projects which they intend to carry out. This includes wastewater treatment plants (over 10,000 population equivalent), landfill sites (accepting over 25,000 tonnes/year) and roadways (greater than 500 metres long in urban areas). While the scale of projects requiring EIA's is high at present, it is likely that EIA's will be required on smaller developments in the near future. These documents have to be made available to the public.

1.5.5. OTHER RELEVANT LEGISLATION

Section 171 of the Fisheries Consolidation Act (1959), allows local authorities to be prosecuted for polluting a watercourse. Prior to the Urban Wastewater Directive the seven regional fisheries boards were the only external bodies with power to monitor local authority discharges. This power remains with the fisheries boards despite the commencement of EPA operations.

Local Authorities, in common with all waste producers, are also bound by the following regulations:

Council Directive 75/439/EEC on the disposal of waste oils.
Council Directive 78/319/EEC on toxic and dangerous waste.
Council Directive 86/279/EEC on transfrontier shipment of hazardous waste.

Many other directives/regulations in the area of environmental quality are administered by local authorities in their functional area. These include:

European Community (Use of sewage sludge in agriculture) Regulations. 1991 (S.I. No. 183 of 1991).

Council Directive 75/440/EEC on quality of surface water intended for the abstraction of drinking water.

Council Directive 80/778/EEC on the quality of water intended for human consumption.

Council Directive 78/659/EEC on the quality of fresh waters needing protection in order to support fish life.

Council Directive 79/923/EEC on the quality required for shellfish waters.

Council Directive 76/160/EEC concerning the quality of bathing water.

Council Directive 80/68/EEC on the protection of groundwater against pollution caused by certain dangerous substances.

Council Directive 91/676/EEC on the protection of waters against pollution caused by nitrates from agricultural sources.

The above list is an example of legislation currently relevant to local authorities. It is not possible in this thesis to list all the legislation presently applicable or which may become pertinent to local authorities in the future. A more comprehensive listing may be obtained in the Environmental Research Unit handbook - EC Environmental Legislation. A handbook for Irish local authorities (1992).

CHAPTER 2

ENVIRONMENTAL MANAGEMENT SYSTEMS

2.1 INTRODUCTION

Environmental management systems are broadly based on the quality group of standards, now commonly used throughout the industrial and service sectors. The earliest quality management system originated in the USA in 1963, entitled "Military Specification Quality Programme Requirements (1963)" (Charlton and Howell, 1992). This has been the foundation for all subsequent quality standards.

Following the success of quality standards, environmental workers began to see the benefits of the "systems" type approach. The British Standards Institute was first to formulate a standard for environmental management entitled BS7750:1994. A number of national systems were developed and consequently the European standard, EC Eco-Management and Audit Scheme (EMAS) has been published (Council Regulation No. 1836/93).

2.2 EMAS - A Short Overview

On June 29th 1993 the European Council adopted a proposal from the European Commission which allowed companies in the industrial sector to participate voluntarily in a community Eco-Management and Audit Scheme (EMAS). The scheme became open to companies from April 1995.

The overall objective of the scheme is to promote continuous environmental performance improvement in industrial activities. This is achieved by commiting sites to constantly review and monitor their environmental performance and to provide relevant information to the public. The scheme does not replace existing EU or national legislation and technical standards nor does it in any way remove a companies responsibility to fulfil all its legal obligations under such legislation or standards.

Involvement in the scheme is site based and presently available to companies operating specific industrial activities within the EU. The process is policy led and a company registered under the scheme must adopt an environmental policy which commits it to complying with all relevant environmental legislation and to achieve continuous environmental improvement.

At the site in question, an initial review of all the environmental effects of the companies activities is undertaken. The results of this review are used to compile an environmental programme and environmental management

system for the site. Periodic site environmental audits are required to assess the system at maximum intervals of 3 years. Improvements and further objectives as well as a new environmental programme are put in place on the strength of the audit findings.

After completing an initial review of the site and after each subsequent audit cycle, a public environmental statement must be produced. The regulation states that this statement "shall be designed for the public and written in a concise, comprehensible form. Technical material may be appended."

Each year, the lists of registered sites from the member states will be forwarded to the commission and a complete list published in the Official Journal of the European Union. A graphic symbol linked to statements of participation can be used by companies to publicise and promote their involvement in the scheme. It may not be used in product advertising nor on products or their packaging. The graphic symbol may not be used on its own.

2.3 THE STRUCTURE OF EMAS

EMAS does not prescribe any particular environmental policies or performance standards. It is a management framework consisting of the following steps:

(1) A POLICY stating the organisation's overall environmental aims and commitment to "continuous" improvement (beyond compliance with minimum legislative requirements) of environmental performance. The policy should clearly demonstrate the environmental priorities to its staff and the general public.

(2) A REVIEW of the environmental impacts of the activities on the site being considered. This must be a comprehensive review covering all areas of activity. The "significant" effects requiring management will be selected from the review. A list of all relevant legislation is also required at this stage.

(3) Formulation of OBJECTIVES AND TARGETS based on the environmental review. Each effect being dealt with should have a target and objective assigned to it. These objectives must reflect the council policy statement and contain specific goals for each section being accredited.

(4) A comprehensive environmental MANAGEMENT PROGRAMME which defines responsibilities, procedures and tools for implementing the targets and objectives outlined above. The management programme details the day to day running of the scheme and will include items such as designation of authority, monitoring requirements and documentation on operating procedures.

(5) Periodic AUDITS to assess whether the programme is being followed, whether the management system is adequate and highlighting any changes required (maximum 3 year intervals).

(6) A STATEMENT of environmental performance. This will be assessed by an independent external verifier and the results must be published. This will enable the general public to understand the environmental effects and how they are being managed.

(7) Impartial, external VERIFICATION of the quality and completeness of the process, leading to formal VALIDATION of the public statement. This will permit the use of a special "statement" and "graphic" to publicise participation in the scheme. Validation is required at the end of each audit cycle.

These stages can be represented in diagrammatic form as follows:

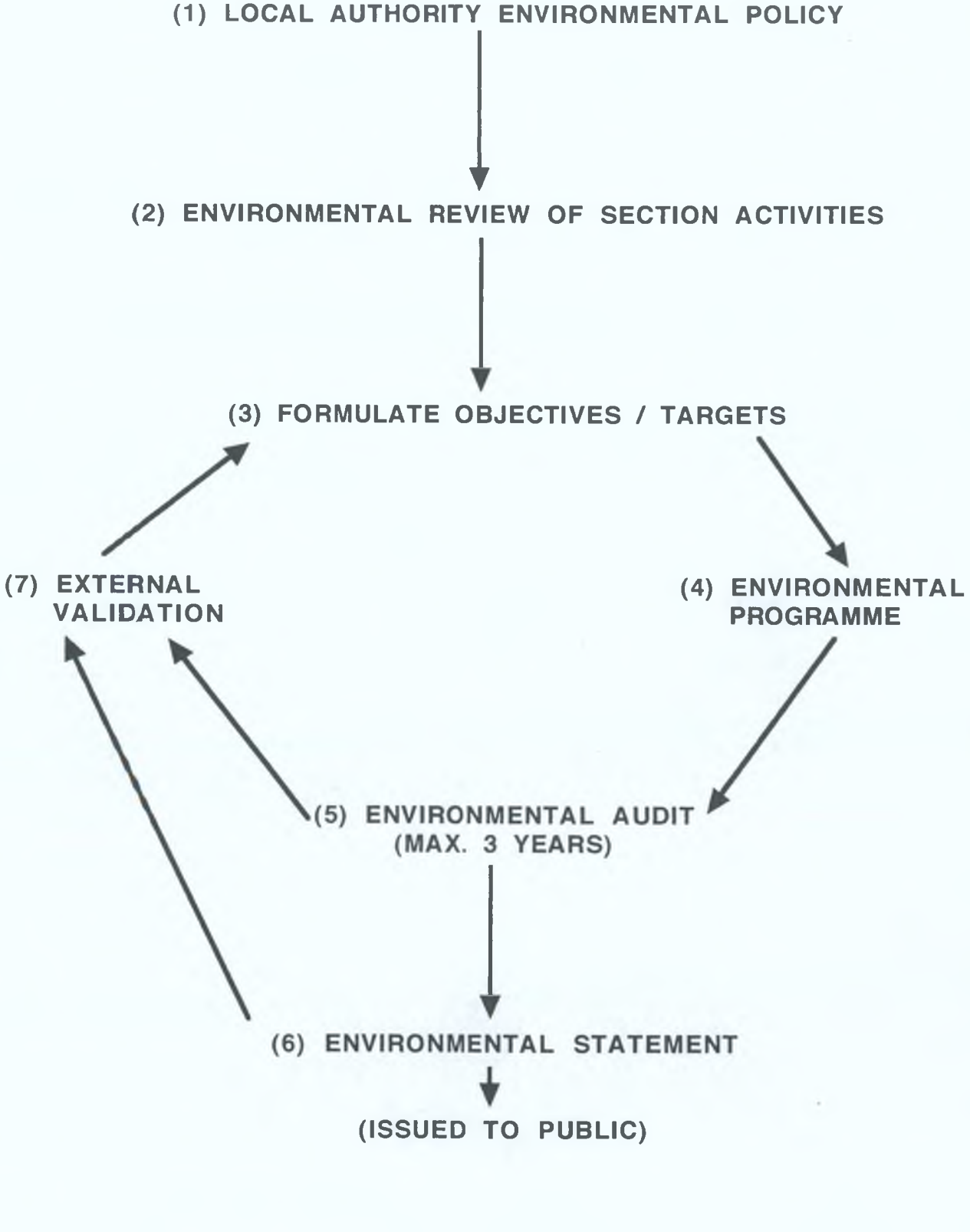

FIGURE 1: DIAGRAMATIC LAYOUT OF EMAS FOR LOCAL AUTHORITIES

2.4 RELATIONSHIP WITH OTHER MANAGEMENT SYSTEMS

EMAS is an application of the "management systems" approach. It has a close relationship to the ISO 9000 and BS 5750 group of quality standards. The major aim of quality systems ensures that the "product conforms to specified requirements". In other words, the customer specifies the quality level. In the case of environmental management systems, there is no direct customer, therefore the models focus on compliance with "system" specifications, legisation and a commitment to continuous improvement.

National environmental management systems standards have been developed in many countries including Ireland (IS 310), Britain (BS 7750) and Spain (UNE 77-801(2)-94). National standards can be used as a stepping stone to EMAS accreditation provided that the national standards fulfill certain criteria (outlined in Article 12 of the regulations). The national standards listed above have been accepted as fulfilling the requirements of EMAS.

While this thesis concentrates on implementation of EMAS, it must be emphasised that national standards such as IS 310 could also be applied to local authorities. The principles running through all these standards are similar in nature and it will rest with each local authority to choose the system that best suits its needs. Organisations certified under these national standards will be able to register

under EMAS with minimum difficulty, if they wish.

BS7750 differs from both EMAS and IS 310 in one important area, namely the publication and validation of an environmental statement. Under BS7750, only the environmental policy must be published. An organisation certified under BS7750 and wishing to register under EMAS would therefore have to publish and have validated a satisfactory environmental statement in order to gain registration.

The forthcoming publication of the ISO 14000 series of standards (the environmental equivalent of ISO 9000) will give organisations an even wider choice of standards and a worldwide standard at which to aim.

2.5 EMAS ADAPTION FOR LOCAL AUTHORITIES

EMAS was designed primarily for application within industry. Article 14 of the EMAS regulation allows member states "on an experimental basis" to apply EMAS "to sectors outside industry".

So called pilot schemes are under way in several member countries, for example, France, where a scheme to cover the rail network is under way and in the UK where a scheme for local authorities is currently running. When EMAS is reviewed in 1998, these pilot projects will form the basis

of modifications (if any) to the scheme.

The UK local authority scheme is modelled on the industrial version. Firstly, an adapted regulation very closely related to the original one, was produced. Seven local authorities were selected to participate in the pilot scheme and a review group established to monitor their progress. A special helpline was set up by the UK Local Government Management Board to assist the local authorities with any problems they encountered.

There are three principal differences between EMAS used in the industrial situation and the adapted version for UK local authorities:

(1) "The industrial scheme applies to a company's "sites" - its factories, depots, etc. For local authorities, a more convenient and appropriate unit of management is the department, division or service function" (UK Department of the Environment, 1993).

(2) "The industrial scheme allows a single site within a company to seek registration. The only requirement at the level of the whole company is a satisfactory environmental policy. The local authority scheme similarily allows an individual "section" to register, however a local authority must set out a policy at the highest level including a commitment to register the whole authority. This also

includes a set of management responsibilities, structures and procedures for the environment at corporate level. In addition, the scheme requires that registration of individual departments or divisions is only temporary. The whole authority must commit itself eventually to seeking corporate registration" (UK Department of the Environment, 1993).

(3) "The industrial scheme was principally designed to control the effects on the environment of the firm's production activities - its polluting emissions, production of solid wastes, use of energy and so on. Like all productive organisations, local authorities have similar "direct effects" on the environment, but unlike industrial companies they also have environmental impacts through the way they deliver their services" (UK Department of the Environment, 1995).

Further details on the implementation of the UK pilot scheme and the experience gained by their local authorities can be found in section 3.2.

2.6 BENEFITS OF ENVIRONMENTAL MANAGEMENT SYSTEMS

EMAS used in industry is a voluntary scheme. If the scheme is amended to include local authorities "it is expected that it will remain voluntary" (Hillary, 1994). Participation in the scheme would, however, bring many benefits to the local authorities taking part.

(1) Continuous Demonstrable Improvements in Environmental Performance. Following the processes and establishing the management systems set out in the scheme should help local authorities to reduce the environmental damage they cause and to enhance their environmental activities.

(2) Financial Savings. By helping authorities to identify and reduce waste and to increase efficency in their use of resources, the scheme can help to cut costs. There are also hidden savings, for example, identifying potential liabilities and improving work practices.

(3) Securing Funding. Increasingly, funding bodies such as the European Union require environmental appraisals of proposed projects. In the future, they may wish to see evidence of internal environmental management from applicants such as local authorities for funding under projects such as LIFE or INTERREG.

(4) Improved Environmental Strategies. The scheme can assist and improve the quality of environmental strategies or Local Agenda 21 action programmes for sustainable development. If local authorities are to be seen as competent leaders of Local Agenda 21 they must be able to demonstrate that they are "putting their own house in order". Implementing the scheme should improve relations with a wide range of interested parties including employees, regulators, environmental lobby groups and the general public, and should provide a sound framework for sustainable development.

(5) Improved Quality of Service. In many fields, environmental quality is an important, but sometimes neglected aspect of overall quality of service. The scheme will help authorities to ensure that effects on the environment are treated as part of quality of service, for example, ensuring solid waste is disposed of in the most environmentally friendly manner.

(6) Better Management Control. Good environmental management is part of good management generally and enables the organisation to address environmental issues in a systematic manner. Using the scheme can help improve management techniques and can build on existing management systems. EMAS ensures a local authority will have clear policy, objectives and targets audited at least every 3 years.

(7) Improved Public Relations. Participation ensures a high public profile and maintains the authority's credibility towards environmental improvement. Participation in EMAS and the proactive approach it requires should considerably boost public relations. EMAS also simplifies communication channels with the general public and gives local authorities a format for highlighting their many positive contributions to the environment.

(8) Independent External Validation. The possibility of external validation of environmental performance, and the use of a "statement of participation" and "graphic" on letterheads, publicity material, etc. This will also help public credibility in the local authority.

(9) Legal Compliance. Secures compliance with existing statutory responsibilities and may anticipate forthcoming legislative requirements. With the range of new environmental legislation governing local authority developments, EMAS provides a clear framework for management.

(10) Environmental Auditing Framework. The scheme provides a framework for environmental auditing within the local authority. This places the emphasis on problem prevention rather than detection after it has occured.

(11) Improved Environmental Awareness. EMAS will give greater environmental understanding and awareness throughout the authority. It enables the organisation to address environmental issues in a systematic manner, enabling priorities to be determined and identifying management responsibilities.

(12) Useful Marketing Tool. EMAS could be used as a marketing tool to attract industry or tourists to the area. The graphic and statement of participation could possibly be used on advertisements and publicity material for the region (if allowed by the EU).

(13) Improved Relations with Regulators. Local authorities are now regulated in many environmental areas by the EPA. All industrial IPC licences issued by the EPA have a condition requiring adoption of an environmental management system and "it is seen as an integral part of the process" (EPA, 1996). Local authorities can be viewed as proactive if they take steps towards self regulation.

2.7 DRAWBACKS TO ENVIRONMENTAL MANAGEMENT SYSTEMS

(1) Management Commitment. The basic performance requirement for environmental management systems is that all relevant legislation is adhered to. Once this has been achieved, the rate of "continuous improvement" depends on the financial and human resources an organisation is willing to expend.

(2) Unpopular with Staff. In the pilot scheme carried out within UK local authorities, some staff involved found that the EMAS process "increased bureaucracy and was complex" (UK Local Government Management Board (2), 1995).

(3) High Staff Resources. Full implementation of EMAS would require significant staff resources. With depleted staffing levels in many local authorities, incentives may be required to gain the full co-operation of already overworked staff.

(4) Costs. The cost of EMAS implementation can be high. The capital cost of basic legislative compliance alone, may be excessive in some local authorities.

(5) Publication of statements. Local authorities may find the publication of environmental information a difficult measure. Management may feel disclosure would place the council under increased pressure from environmental groups.

CHAPTER 3

THE DEVELOPMENT OF LOCAL AUTHORITY ENVIRONMENTAL MANAGEMENT SYSTEMS

While the EMAS framework is relatively new, local authorities have been managing their effects on the environment to varying degrees for some time. Irish local authorities have the benefit of learning from the experience of other countries, who have several years experience of implementing environmental management systems. Two examples from other countries have been examined to show how the EMAS framework has evolved.

3.1 THE NORWEGIAN EXPERIENCE

As with many environmental matters, the Scandanavian countries have taken a lead in tackling the issue of environmental management within their local authorities. In 1988, the Norwegian association of local authorities and the Ministry of Environment launched the project "ENVIRONMENT IN THE MUNICIPALITIES", involving 90 of the 439 Norwegian local authorities. The main objective was to establish environmental protection as an important topic for local authorities. In 1990, the government white paper on municipal environmental protection introduced state funds for employing one environmental adviser in every local authority (Miljoverndepartrmentet, 1991). At present, 415 out of the 439 Norwegian authorities have their own advisers, combined with various types of environmental management systems (Aall, 1995). Many local authorities have

also completed their first environmental planning cycle. This entails establishing environmental objectives, producing a local environment status report and an action plan. Some problems arose in the area of environmental auditing as the Norwegian government has so far been reluctant to accept certification by non-government institutions (such as BS 7750 accredited verifiers) while opting for control through system audits executed by state institutions.

"There is reason to believe however, that the next few years will see the emergence of a system for mandatory external eco-auditing of local authorities" (Aall, 1995). "The Norwegian ministry for the environment conducted a project on external eco-auditing in the municipality of Tonsberg" (Aall, 1994). A project also commenced in 1993 involving both officials and researchers in 9 local authorities, testing 9 different models of eco-auditing. A report containing their conclusions is due for publication later in 1996.

It is clear the Norwegian government sees environmental management systems as a central element of environmental control amongst its local authorities.

3.2 THE UK EXPERIENCE

There are 541 principal and 12,000 smaller local authorities in the UK. Local government in the UK is now developing its own policies and programme responses to many of the issues raised in Local Agenda 21. The UK local authority associations have formed a coordinating group to provide a focus for action. As part of this initiative, local government has produced its own "declaration on sustainable development".

There is an increasing recognition by UK local authorities that environmental considerations need to be built into the services and functions it provides as well as the management of its own buildings and vehicles. To aid this development, the UK government introduced a voluntary EMAS for local authorities based on the version used in industry. It offers local authorities not only the prospect of greater efficency but also presents the public with the opportunity to get independently verified statements of progress being made by its local authority in meeting environmental targets.

The scheme was formally introduced in April 1995. Seven local authorities took part in the pilot scheme, seventeen other councils took part in a reference group to examine and comment on the draft guidance. "The seven authorities involved varied in size and type and were at different stages in the development of their environmental programme"

(Wright, 1995). The UK government produced a guide for local authorities entitled "A guide to the Eco-Management and Audit Scheme for UK local government." Many UK local authorities had been conducting "state of the environment audits" or establishing "green charters" throughout the previous years, however, this work had no structure. The adapted EMAS scheme gave such a framework to the local authorities. The London Borough of Sutton and Hereford City Council were the first two local authorities to become accredited under the scheme in March 1996. A furthur 150 UK local authorities are pursueing EMAS accreditation.

One important development in the UK industrial sector has been the reluctance of small and medium sized enterprizes to undertake EMAS. As an incentive to increase participation, grants have been put in place for small and medium sized industries (under 250 employees and turnover less than 16 million pounds per annum). These grants - called Small Company Environmental and Energy Management Assistance Scheme (SCEEMAS) - provide between 40 and 50 percent of the cost of employing experts to advise the company on EMAS registration. In the Irish context, a similar system of grants from central government to local authorities may be the required incentive to get them involved in the scheme.

The privatised UK water companies (which control water and sewage treatment) have expressed great interest in EMAS. Northumbrian water located in North East England has implemented BS 7750 in one of its five regions covering

Newcastle, Gosforth, Blyth, Morpeth and Alnwick. This includes 4 major sewage works, 3 major sea outfalls, 1 landfill site and 2 water treatment plants. One objective of Northumbrian Water is to gain EMAS accreditation over its entire operations (Northumbrian Water Group, 1995).

3.3 THE IRISH EXPERIENCE

3.3.1. PARTNERS IN EMAS (PIE) PROJECT

To date Irish local authorities have little experience implementing environmental management systems. The only work of significance is being done by Wicklow County Council, which is involved in the European Union PIE project with Fife Regional Council (Scotland), Ross and Cromarty District Council (Scotland) and Arhus Amt Council (Denmark). "This PIE project aims to raise awareness amongst European local authorities of the benefits of developing environmental management systems" (PIE, 1995). The project is being co-ordinated by a management team based in Fife regional council, which has five years experience of EMAS implementation. The culmination of the project will be the production of practical guidelines which will be presented at a closing conference in early 1997.

Under the PIE system, the partaking local authorities look at different aspects of EMAS implementation. Wicklow

County Council are investigating the following areas:

(1) The environmental effects of the machinery yard.
(2) The direct and indirect environmental effects of laboratory operations.
(3) Drawing up an environmental charter.
(4) Giving industries in County Wicklow comprehensive information on EMAS, with a view to having all industries registered in the future.

In Wicklow County Council the task was designated to the Senior Executive Engineer in the Environment section. Progress has been slow due to the heavy workload involved in gathering information on the above areas. However Wicklow County Council remains committed to the scheme. The experience gained will prove very helpful to Irish local authorities interested in implementing EMAS.

3.3.2. QUALITY SYSTEMS ADAPTION IN SHANNON FREE AIRPORT DEVELOPMENT COMPANY (SFADCO)

As previously indicated environmental management systems evolved from quality systems, and the two approaches have many similarities (Section 2.4). To date, SFADCO have achieved accredition to ISO 9000 and the 'Q' mark. Although SFADCO are mainly seen as a regional industrial development authority, their remit goes much furthur. As well as

promoting industrial activity they are responsible for:

(a) Public housing in the Shannon town area.
(b) Roadways in the Shannon town area (excluding national primary route N 19).
(c) Sewers and operation of the municipal and industrial waste treatment plant for the town of Shannon.

SFADCO, as may be seen from its functions, has many similarities to a local authority. Furthermore SFADCO operates several offices spread across the "mid-west" area, which are also quality accredited.

SFADCO has four external quality audits per year and has twelve fully trained internal auditors, who ensure standards are maintained. The main motivating factor for SFADCO in acquiring this status was that most of the companies they were trying to entice to the region had some quality standards, and to be seen as professional, they felt it necessary to aquire these standards. This is not their main objective as they are on a path of continuous improvement and aim to attain "World Class Management" in the near future. The SFADCO experience could be an important model for Irish local authorities.

Other semi-state bodies presently installing quality systems are Foras Aiseanna Soathair (the training and employment authority) and the Industrial Development Authority.

CHAPTER 4

FUNDAMENTAL CONSIDERATIONS FOR LOCAL AUTHORITIES

4.1 MANAGEMENT COMMITMENT

Ultimate responsibility for developing and implementing EMAS will rest with the council members and the county/borough manager, therefore it is vital that both are totally committed to the adoption of the scheme. Annex 1 (A)(2) of the EMAS regulation states that environmental policy must be approved "at the highest management level". Without such approval, coupled with a concerted enthusiasm for the project, the scheme will become another "flavour of the month" and is destined to fail.

EMAS will require a long term commitment from management. "It is estimated that if a district authority was starting from scratch and had employed a full time green officer ... registration for the entire authority would require a minimum of 3 years" (UK Local Government Management Board (1), 1995). "The success of an environmental management system depends ultimately on the commitment of top management to providing adequate resources, and to creating an organisation and culture in which people can work effectively to promote and achieve good environmental performance" (Hunt and Johnson, 1995).

4.2 STAFFING ARRANGEMENTS

Staffing arrangements for the scheme will require early attention, several different approaches are possible. One suggested format would be to select initially a "steering" group. This group would consist of one senior member of management, one senior officer from each section being accredited and a selected co-ordinator (probably skilled in the environmental area). This "steering" group would be responsible for the orderly implementation of the scheme throughout the various sections. Experience in the UK has shown that "the appointment of an overall co-ordinator has proved beneficial" (UK Local Government Management Board, 1995). Care must be taken however, to ensure it does not just become a one person project. The steering group could form working groups within each section to tackle specific areas. The project co-ordinator will assist the working groups but should not devise the management system. Responsibility for designing specific areas of the management system should be delegated to the staff of that section. The steering group has a responsibility for opening clear communication channels between senior management and staff, and for ensuring morale in the scheme remains high. Careful consideration regarding style and language of all communications will be required especially regarding non-technical personnel.

4.3 RESOURCES

The issue of resources will have to be addressed at an early stage. Resources are required in two major areas. Firstly, in devising the management system. Staff will require training and consultants may have to be employed in the initial stages to kickstart the scheme. Secondly, resources will be required during the implementation of the scheme. This will require staff time, but more importantly, if a "continuous" improvement is to be demonstrated, capital investments may be required.

To enable management to commit to the scheme, an estimate of resources may be required. The capital investments will not be fully known until the initial review is conducted. Other costs such as external environmental auditing may be easier to quantify at an early stage. Figures from the UK for industrial auditing indicate "fifty percent of audits cost between five and ten thousand pounds" (Hillary, 1994). The amount of resources required will also depend on the existing management systems in place. It should be bourne in mind that EMAS is not an overnight cure for environmental problems, but a system for focusing and prioritising areas needing attention.

The phrase "economically viable" is used in the EMAS regulation with regard to improvement in environmental performance. This type of Best Available Technology Not Entailing Excessive Cost (BATNEEC) approach may give the

less committed an escape clause. In the UK the SCEEMAS (section 3.2) has been set up to help small and medium sized industries. A system of grant aid by Irish central government to local authorities would provide the resources necessary to get EMAS initially started. "Those authorities furthest advanced in the UK in the environmental field have realised that finance is the key to any success" (Morphet *et al.*, 1994).

4.4 STAFF COMMITMENT

Staff commitment and enthusiasm is vital for success. EMAS cannot simply be dressed up as yet another management exercise, it must be actively promoted to all staff. EMAS depends on the "bottom up" approach and staff "ownership" of the scheme must be highlighted. If the scheme is presented as part of the Local Agenda 21 process, it will enhance its chances of success. Communications should be a two-way process and staff should be given an incentive to contribute to the process. Overall responsibility for ensuring staff participation in the scheme rests with the steering committee. A system of rewards for staff participating in the scheme should be considered, for example, financial savings made in a section could be used within that section to improve work conditions.

4.5 STAFF TRAINING

"As the environmental agenda emerges, it is clear that people will need new skills" (Morphet *et al.*, 1994). Annex 1 (b)(2) of EMAS details training requirements to include:

"importance of compliance with the environmental policy and objectives, potential effects of their work on the environment, environmental benefits of improved performance, potential consequences of departure from agreed procedures, etc".

Too often, employees do not fully appreciate the fact that their job has an impact on the environment. If the scheme is to succeed, the workforce must be involved at an early stage and made to feel they can make an important contribution to the overall outcome.

Training could entail a comprehensive briefing to all staff, followed by specific training for the steering committee. The majority of staff could then be fully trained by the council's co-ordinator and section supervisors. The steering group have a major role to play in communicating progress to everyone involved in the implementation of the scheme and the presence of a staff co-ordinator in each section may prove advantageous.

Seventy five percent of Irish local authorities subscribe to the Conservation and Amenity Advisory Service (CAAS) and they provide consultancy on various topics including environmental management systems. CAAS deal specifically

with local authorities and are aware of their special needs. These consultants could be used by subscribing local authorities as the first step in the process. Staff training must be carefully planned and executed in order to ensure a high level of staff participation.

4.6 TRAINING ELECTED MEMBERS

Although most training will be aimed at employees, it is important that elected representatives are fully familar with the scheme. They will be the body giving final approval to the environmental statement and will need to be fully aquainted with EMAS. Their training could entail a presentation during or after a meeting of the authority by the co-ordinator of the scheme. Regular updates for elected representatives should be built into the on-going process.

4.7 ROLE OF REGIONAL AUTHORITIES

Ireland's regional authorities are playing an increasing role in environmental matters. Issues such as eutrophication, air pollution and waste disposal may be handled in future through the medium of regional authorities. Local authorities embarking on EMAS should

inform their regional authorities and seek assistance in areas of mutual interest. The regional authority could be a useful forum for promoting the scheme to other local authorities.

4.8 ROLE OF CENTRAL GOVERNMENT

The role of central government is imperative to the success of EMAS. Agreements such as UNCED, the EU fifth action programme and EU directives/regulations are all international in nature. The support of central government, in the form of resources and backup, is essential to ensure that the initiative succeeds. Government policy regarding Local Agenda 21 indicates that implementing an environmental management system is one of the targets. The Irish government could make a case for funding for the implementation of EMAS in Irish local authorities to the EU, because of their scale and diversity of their functions. Irish local authorities could be treated as small to medium sized industries for this purpose (Article 13 of EMAS).

CHAPTER 5

SCOPING POLICY CONSIDERATIONS FOR LOCAL AUTHORITIES

Once manpower and resources, together with a commitment to the scheme, is established, several important policy decisions will be required.

5.1 SIGNIFICANCE

In the course of an environmental review, a large number of possible environmental effects within each local authority activity will be revealed. Some effects, however, will be relatively small and it would obviously not be realistic to attach formal management procedures to them. Article 1 (section 2) of the EMAS regulation states that "effort and attention should concentrate on the effects that really matter - the most SIGNIFICANT environmental effects".

To assist local authorities in their choice, Annex 1 (B)(3) of the EMAS regulation lists effects that must be included, where appropriate. These environmental effects must be considered in relation to:

(a) Normal operating conditions.
(b) Abnormal operating conditions.
(c) Incidents, accidents and emergency situations.
(d) Past activities, current activities and planned activities.

Other factors, unique to each local authority will influence the significance of an effect. These include:

(a) Location of the Authority, e.g. urban/rural, coastal/inland.
(b) Local environmental concerns, e.g. industrial emmissions, habitat protection, provision of landfills.
(c) Existing council policy, e.g. tourism promotion, attraction of industry.

As well as objective judgements, there will be a degree of subjectivity attached to the determination of significance, depending on the priority environmental issues are given within each local authority. Hillary, 1994 defined Significance as:

"Legislation + Standards + Stakeholders views + Scientific evidence + Regulator's demands + Public attitudes".

Methods for managing and prioritising significance criteria are available (Hillary, 1994). Deciding on significance will have a large bearing on the resources required by the local authority later on in the scheme.

5.2 CONTINUOUS IMPROVEMENT

EMAS does not lay down specific performance standards, except to say that any relevant regulatory standard must be complied with. It does however require, under article 3(a), that "reasonable continuous improvement of environmental performance" be achieved. The phrase "continuous improvement" is interpreted to mean firstly, that "no environmental standards should decline over time and secondly, that the overall targets set in the programme should show an advance on previous environmental performance" (UK Department of the Environment, 1993). It is not expected that the target for every environmental effect will be achieved, but taken together, an overall view should show an improvement in performance.

Local authorities should make every effort to include all significant areas in its improvements. The focus should not remain on a few high profile effects but be spread across as many effects as possible. If local authorities make a genuine effort to tackle the effects and fail, the audit should detail the reasons for failure. The revised programme should then reflect new provisions for the reduction of the effect.

5.3 DIRECT EFFECTS AND SERVICE EFFECTS

In common with all organisations that produce goods and services, local authorities create environmental effects which arise from their day to day activities. Wastes are produced, energy and water consumed, resources and fuel utilised. These effects are categorised as "direct" effects as they occur as a direct result of local authority activity. These are the effects that the industrial version of the EMAS was aimed at.

Local authorities however, also effect the environment while carrying out the services it provides. Indeed these "service" effects can be potentially more important. Examples of service effects include:

(1) High energy consumption in local authority housing due to poor specifications, for example, single glazing and poor insulation.
(2) High rate of leakage from the water distribution system.
(3) Poor participation in recycling initiatives due to lack of sites, poor site selection or lack of advertising.

Service effects can be more difficult to identify and the working groups within each section will be best placed to catalogue them comprehensively. Service effects should also include issues the council are not tackling at present due

to lack of resources and other services carried out by contractors. Service effects may not be easy to quantify in certain areas and realistic estimates will be acceptable. If information required for the review cannot be found or quantified, this is a factor which can be noted and included in the report. Steps can be taken to gather this information at a later date.

Local authorities must consider both direct and service effects when implementing its environmental programme. Service effects may prove more difficult to manage and improve, and some local authorities may choose to concentrate initially on the direct effects to give a clear focus for the scheme. If this approach is taken, a commitment to tackle the service effects within a given period of time must be shown.

CHAPTER 6

APPROPRIATE TARGETS FOR IRISH LOCAL AUTHORITIES

6.1 INTRODUCTION

On assessing the benefits and shortfalls in conjunction with the workings of the scheme, local authorities can establish reasonable targets for improving their environmental performance. It should be bourne in mind that EMAS does not necessarily represent new concepts, merely that environmental matters are managed in a standard and consistent way. The pace and style of EMAS implementation will vary within each local authority. As we have stated the mode of application will depend on factors such as management style and commitment, local environmental problems, local authority determination to tackle tough environmental issues and the level of staff participation in the scheme. Three options for EMAS implementation are outlined below.

6.2 FULL IMPLEMENTATION OF EMAS

For local authorities planning full EMAS implementation, there are two general approaches possible. Firstly, a section by section approach, which was used by several UK local authorities. A number of sections should be chosen throughout the council incorporating all activities and functions (one section can be used as an initial trial, if

required) and implementation completed on a phased basis.

The second approach is to adopt an issue by issue approach. This would entail selecting an environmental issue, for example, energy usage and implementing a management programme for this across the entire council.

Whichever way forward is selected, strict time scales should be enforced to give the scheme momentum. Frequent reviews with all staff must also be a feature of the programme. In order to overcome the more sceptical employees and elected representatives, another approach of prioritising the quicker payback issues could lead to increased support for the scheme. This approach will not however, engender enthusiasm for the scheme amongst employees in other sections and is therefore not recommended.

It is clear that EMAS has compliance with legal standards as its basic requirement followed by a continuous improvement in environmental performance. Local authorities must therefore assess the relevant legislation (set out in section 1.6). Some local authorities may find that a lot of work will have to be done just to comply with legal requirements, it should be bourne in mind, however, that local authorities will be bound by this legislation whether it implements EMAS or not. It may prove better to assess the environmental effects and attempt to manage them in an orderly fashion, than to simply practice crisis management later.

Although many major environmental effects will be covered by legislation and will therefore have a basic limit attached in EMAS, many other effects will not. Most sections will contain environmental effects that have no legal standards or limits attached to them. To ensure that all council employees are involved, these effects should be assessed and steps taken to reduce them. Staff in areas with low environmental damage potential should feel included in the scheme and that their contribution can make a difference. It is clear that local authorities must not equate the significance of an effect with legal compliance.

6.3 USING THE SCHEME AS A MANAGEMENT TOOL

It is hoped that local authorities taking part in the process will continue until formally validated. However, EMAS has a lot of benefits to offer even without completing the full process. EMAS can be used as a valuable management tool and allows a local authority to choose the areas of particular relevance to its operations. For example, an area such as waste water treatment could be tackled independently using EMAS as a framework.

This type of approach does not prevent a local authority from eventually seeking validation as long as the areas already covered are regularly updated and audited.

6.4 LAYING THE FOUNDATION FOR EMAS

Full implementation and accreditation of EMAS could be viewed as a medium to long term objective by Irish local authorities. Experience in the UK has shown that local authorities undertook a phased approach to management of environmental matters over a number of years. As part of this strategy, several low cost/low resource options could be implemented in the short term to lay the groundwork for full EMAS adoption. These include:

(1) A state of the environment audit within their functional area. Much of this information is presently available and simply requires collation. This could be used to launch the scheme and begin the transfer of information to the public.

(2) A survey of council staff to assess their environmental knowledge and to discover their views on present council policy in relation to the environment.

(3) Begin a programme of environmental education and training among the staff of the council. This could include short lectures by environmental staff, distribution of environmental leaflets to staff, etc.

(4) Invitation to the public to submit their views on local environmental matters. Information on public opinions will be required in the Local Agenda 21 process, and this consultation could form part of the "external" partnership

element of Local Agenda 21.

(5) Publish a booklet detailing the environmental activities of the council, for example urban renewal schemes, air pollution monitoring, water pollution control, etc.

(6) Promote environmental management systems to industries within their area. Industries could be asked to adopt a management system or to show "continuous" improvement in environmental performance. Local authorities could make adoption of an environmental management system a condition on all new water and air pollution licences that they issue in the future.

(7) Draw up an environmental charter or policy. This does not need to be too detailed and can be used as the foundation for a more comprehensive policy later in the process.

(8) Carry out a preliminary review of environmental effects of a section of the council. This will prove both a useful training exercise for staff and a learning experience for the co-ordinator of the scheme.

A more comprehensive list of possible local authority actions (under the sustainability and Local Agenda 21 guidelines) is available from the Department of the Environment (1) and (2), 1995.

6.5 PITFALLS TO EMAS IMPLEMENTATION

Although there are many good reasons for progressing with local authority EMAS, there will also be obstacles to it's implementation. New environmental initiatives can be viewed with scepticism, primarily due to the history of other "programmes". Often a sense of management initiative fatigue can exist, compounded by a "blindness" to the need for change. The main barriers to successful implementation of local authority EMAS are:

(1) Lack of management and sectional commitment.
(2) Perception of a costly process, both in terms of staff and financial resources.
(3) Lack of environmental vision and planning.
(4) Perception of yet another bureaucratic management initiative which will add little value to the authority or for its customers.
(5) Lack of monitoring and demonstration to managers that previous management activities had resulted in tangible benefits.
(6) Lack of widespread staff and member involvement.

Many local authority professionals and elected representatives will only act if required by law and will cry lack of resources without considering the advantages.

The steering group must ensure that none of these factors allows the process to fail.

The EMAS framework provides a series of opportunities for local authorities to manage their environmental affairs more efficently. Many local authorities are already utilising pieces of the management systems approach in an unstructured way, EMAS gives a clear framework and consistent approach to this work. Each local authority can find a worthwhile target within the EMAS process and mould it to suit its particular needs.

CHAPTER 7

CONCLUSIONS

(1) The EMAS process can be adapted to suit the needs of local authorities. The flexibility of EMAS ensures all local authorities, regardless of size, can find a worthwhile target within the process. Implementation will require long term management commitment and full staff participation in order to succeed. EMAS is a willing vehicle for change within local authorities.

(2) The benefits for local authorities in persueing EMAS far outweigh any potential drawbacks. The UK experience shows that the process was very beneficial for all the local authorities involved despite initial problems in some areas.

(3) At present Local Agenda 21 is a powerful agent for change in Irish local authorities. An environmental management system is a concise and ordered way forward for a local authority to achieve the sustainable goals of Local Agenda 21. EMAS can be used as the "internal" mechanism for completion of the Local Agenda 21 process. Fulfilling the "external" requirements will complete the task for local authorities.

(4) If the government objective of sustainability is to succeed, local authorities must be brought on board. The single most comprehensive step towards achieving sustainability within a local authority would be full adoption of EMAS.

(5) The successful implementation by SFADCO of quality systems illustrates that complex organisations such as development agencies can utilise the "systems" approach to managing their affairs.

(6) The experience of Wicklow County Council in EMAS implementation should be fully analysed. The PIE project, when completed, will further clarify procedures for implementing EMAS within Irish local authorities.

(7) Schemes such as EMAS and the Rural Environment Protection Scheme (REPS), which have an element of self-regulation, are clearly seen by the EU as the way forward in managing environmental matters. Local authorities should embrace this approach and adapt it to suit its special needs.

(8) The single most important factor in successful EMAS implementation within Irish local authorities is long term management commitment. Without this clear undertaking from senior management and elected representatives the scheme will not achieve all its objectives.

BIBLIOGRAPHY

Aall, C. (1995). Municipal eco-auditing in Norway. *Eco-Management and Auditing*, Vol 2.

Aall, C. (1994). Eco-management in the municipality of Tonsberg. *VF-rapport 7/94*, Vestlandsforsb, Sogndal.

Charlton, C. and Howell, B. (1992). Life cycle assessment: a tool for solving environmental problems? *European Environment*.

Department of the Environment (1). (1995). Local Authorities and Sustainable Development - guidelines on Local Agenda 21. Dublin.

Department of the Environment (2). (1995). Moving Towards Sustainability. Dublin.

Department of the Environment (3). (1995). Access to Information on the Environment - A Review. Dublin.

Environmental Protection Agency (1996). State of the Environment. EPA Dublin.

Environmental Research Unit. (1992). EC Environmental Legislation - A handbook for Irish local authorities. Dublin.

Hillary, R. (1994). The Eco-Management and Audit Scheme - a practical guide. Stanley Thornes.

Institute of Public Administration. (1996). Administration Yearbook and Diary. IPA Dublin.

Jacobs, M. (1992). Environmental management and auditing-future within local authorities. *Environmental Health*, October 1992.

Miljoverndepartementet. (1991). Government white paper on municipal environmental protection, Oslo.

Morphet, J., Hams, T., Jacobs, M., Levett, R., Lusser, H. and Taylor, D. (1994). Greening your local authority. Longman.

Northumbrian Water Group. (1995). Second environmental performance report 1994/1995.

Tallon, G. (1995). Local Agenda 21. Preceeding of paper given at Assistant County Managers conference, Killarney - March 1995.

UK Department of the Environment. (1993). A guide to the Eco-Management and Audit Scheme for UK local goverment. HMSO

UK Local Government Management Board. (1995). EMAS case study No.1 Bassetlaw District Council - piloting experience of EMAS.

UK Local Government Management Board. (1995). EMAS case study No.2 Fife Regional Council - EMAS pilot project.

UK Local Government Management Board. (1995). EMAS case study No.3 - The "Sutton" model.

Wilson, P. (1995). EC Eco-Management and Audit Scheme - what is EMAS? Paper to the National Accreditation Board.

Wright, G. (1995). Improving the environmental performance of local government. *Eco-management and auditing*