



## **SEA STATEMENT**

relating to the

### **Strategic Environmental Assessment**

of the

### **National Hazardous Waste Management Plan 2008 – 2012**

**NATIONAL WASTE PREVENTION PROGRAMME**

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# 1 SUMMARY OF KEY FACTS

<b>Name of Responsible Authority:</b>	Environmental Protection Agency (EPA)
<b>Title of Plan:</b>	National Hazardous Waste Management Plan 2008 – 2012
<b>Purpose of Plan:</b>	<p>The purpose of the Plan is to describe the type, quantity and origin of hazardous waste, its movement within, into and out of the country and facilities available for the collection, recovery and disposal of the waste. It must specify objectives and, where appropriate, identify targets in relation to the prevention and minimisation of the production of hazardous waste, the minimisation of the harmful nature of such waste and the recovery or disposal of such waste. The primary objectives of the Plan are to:</p> <ul style="list-style-type: none"><li>• bring about a reduction in the generation of hazardous waste; and,</li><li>• ensure that all hazardous waste is properly managed in line with legislative obligations and best environmental practice.</li></ul>
<b>What prompted the Plan:</b>	Section 26 of the Waste Management Acts, 1996 to 2007 requires the Environmental Protection Agency to prepare and review a National Hazardous Waste Management Plan to deal with prevention, recovery, collection and disposal of hazardous waste.
<b>Subject:</b>	Hazardous waste
<b>Period covered:</b>	2008 – 2012
<b>Frequency of updates:</b>	Once every five years
<b>Area of Plan:</b>	The National Hazardous Waste Management Plan 2008 – 2012 is a national plan for the Republic of Ireland.
<b>Summary of nature/content of Plan:</b>	The Plan contains a strategy for managing Ireland's hazardous waste under four key headings – prevention and minimisation, recovery, collection and movement and disposal. The plan looks at ways to increase Ireland's self sufficiency with regard to hazardous waste and proposes strategies to control the generation of hazardous waste in addition to strategies to reduce unauthorised disposal and treatment.
<b>Date adopted:</b>	15 September 2008
<b>Address, email, telephone number:</b>	<p>Environmental Protection Agency, PO Box 3000, Johnstown Castle Estate, Co. Wexford.</p> <p>Tel: +353 53 9160600 Fax: +353 53 9160655</p> <p>E-mail: <a href="mailto:wasteinfo@epa.ie">wasteinfo@epa.ie</a> Website: <a href="http://www.epa.ie">www.epa.ie</a></p>

## 2 INTRODUCTION

This document is the Strategic Environmental Assessment (SEA) Statement for the National Hazardous Waste Management Plan 2008 – 2012, as required under Article 9(1) of the SEA Directive. This document identifies how the SEA process was taken into account by, and influenced, the Plan-making process.

The Plan is the responsibility of the Environmental Protection Agency (EPA).

This SEA Statement has been prepared in accordance with Schedule 2, Section 16 (2) of the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (S.I. 435 of 2004). The adopted Plan, the SEA Environmental Report and the SEA Statement are available for download on the EPA website ([www.epa.ie/whatwedo/resource/hazardous/](http://www.epa.ie/whatwedo/resource/hazardous/)). The Plan, as adopted, along with the Environmental Report and SEA Statement may also be inspected free of charge (or a copy obtained for a reasonable charge) at the EPA Headquarters and Regional Inspectorates.

EPA Headquarters, Wexford.	Tel: 053-9160600; Lo Call: 1890 335599
EPA Regional Inspectorate, Dublin	Tel: 01-268 0100
EPA Regional Inspectorate, Cork	Tel: 021-4875540
EPA Regional Inspectorate, Castlebar	Tel: 094-9048400
EPA Regional Inspectorate, Kilkenny	Tel: 056-7796700
EPA Regional Inspectorate, Monaghan	Tel: 047-77600

The structure of the SEA Statement is as follows:

1. Introduction
2. Summary of the SEA process
3. Consultation
4. How environmental considerations have been taken into account in the adopted Plan
5. Monitoring

### 2.1 SUMMARY OF SEA PROCESS

The National Hazardous Waste Management Plan 2008 – 2012 has been subject to a process of Strategic Environmental Assessment (SEA), as required under the European Communities

(Environmental Assessment of Certain Plans and Programmes) Regulations, 2004 (S.I. No. 435 of 2004). This has included the following key steps:

### **2.1.1 Scoping and Statutory Consultation**

Scoping was carried out to establish the level of detail appropriate for the Environmental Report. The Scoping exercise included consultation with the three statutory consultees as follows:

- Environmental Protection Agency (EPA)
- Department of Communications, Marine and Natural Resources (DCMNR) now the Department of Communications, Energy and Natural Resources (DCENR) and;
- Department of the Environment, Heritage and Local Government.

### **2.1.2 Environmental Assessment and Preparation of Environmental Report**

The preparation of an Environmental Report on the likely significant effects on the environment of the Proposed Plan included consideration of:

- baseline data relating to the current state of the environment;
- links between the Plan and other relevant strategies, policies, plans, programmes and environmental protection objectives;
- key environmental problems affecting the Plan area;
- the Plan's likely significant effects on the environment (positive and negative);
- measures envisaged for the prevention, reduction and mitigation of any significant adverse effects;
- an outline of the reasons for selecting the alternatives chosen; and
- monitoring measures to ensue that any unforeseen environmental effects will be identified allowing for appropriate remedial action to be taken.

### **2.1.3 Statutory Consultation on Proposed Plan and Environmental Report**

Public consultation, including transboundary consultation, was carried out on the Proposed Plan and Environmental Report. This is described in detail in Section 3 below.

#### **2.1.4 SEA Statement**

This SEA Statement has been prepared to describe how the Environmental Report and submissions received during consultation influenced the preparation and final adoption of the Plan. This is further described in Section 2.2 below.

### **2.2 PURPOSE OF SEA STATEMENT**

The main purpose of the SEA Statement is to provide information on the decision-making process and to document how environmental considerations, the views of statutory consultees and other submissions received during consultation and the recommendations of the Environmental Report have been taken into account in the adopted Plan and the arrangements put in place for monitoring. It illustrates how decisions were taken, making the process more transparent. The SEA Statement is available to the public, along with the Environmental Report and the adopted Plan.

The SEA Statement includes the following information:

- Summary of how environmental considerations have been integrated into the Plan;
- Summary of how submissions received during consultation have been taken into account in the Plan;
- Reasons for choosing the recommended strategy, in the light of other reasonable alternatives considered;
- Measures that are to be undertaken to monitor the significant environmental effects of implementing the Plan.

### **2.3 ADOPTION OF THE PLAN**

The National Hazardous Waste Management Plan 2008-2012 was adopted by the Environmental Protection Agency on 15 September 2008.

### **3 CONSULTATION**

#### **3.1 INTRODUCTION**

In February 2006, an initial consultation phase took place on the review of the National Hazardous Waste Management Plan and the Strategic Environmental Assessment. Notices were published in the Irish Times, Irish Examiner and Irish Independent on 28 February 2006, inviting written submissions. The initial consultation period ran until 3 April 2006.

#### **3.2 FIRST PHASE – INITIAL CONSULTATION (2006)**

The following is a brief overview of the issues raised in the 33 submissions made during the initial consultation period in 2006. The content of all submissions was taken into account in the preparation of this Proposed Plan. Submissions were made by:

1. An Garda Síochána
2. Animal and Plan Health Association
3. Atlas
4. AVR Safeway
5. Bord na Móna
6. Carrigaline Area for a Safe Environment
7. Clare County Council
8. Cobh Action for Clean Air
9. Cork Environmental Forum
10. Cork Harbour Alliance for a Safe Environment
11. Department of Communications, Marine and Natural Resources
12. Dun Laoghaire Rathdown County Council
13. East Cork Green Party
14. Forfás (including Enterprise Ireland and IDA Ireland)
15. Health Service Executive
16. Irish Doctors' Environmental Association
17. Irish Planning Institute
18. Irish Waste Management Association
19. Kinsale Environment Watch
20. Limerick City Council
21. Longford County Council
22. Marcia D'Alton, on behalf of five Members of Passage West Town Council

23. Monkstown, Glenbrook and Passage Branch of CHASE (Cork Harbour Alliance for a Safe Environment)
24. Mrs. Natasha Harty
25. N Eacha
26. North Tipperary County Council
27. Peter H North
28. Ringaskiddy and District Residents Association Ltd.
29. South Tipperary County Council
30. The Committee of East Cork for Safe Environment
31. Tralee and Fenit Harbour Commissioners
32. Veterinary Environmental Management
33. WEEE Ireland

### **3.2.1 Summary of Submissions Received**

The following text highlights the principal issues addressed in the submissions.

- Prevention
- Collection and movement of hazardous waste
- Recovery and treatment
- Disposal
- All-island options
- Additional issues

#### **3.2.1.1 Prevention**

Considerable emphasis was placed on prevention, in particular from the public and environmental NGOs. There is broad consensus that prevention needs to be the top priority of the Plan. However the First Plan was criticised for not living up to expectations in terms of the actual implementation of prevention initiatives. In response, it is fair to say that it took a number of years to establish the National Waste Prevention Committee and the Core Prevention Team within the EPA. There are also practical barriers to developing prevention: including the need to develop expertise and improve awareness.

The fact that smaller industrial enterprises do not come under IPC/IPPC licensing was raised several times. It was felt by some that as there are no licensing controls for these small businesses, they are not dealing with hazardous waste in an appropriate manner or looking towards the prevention of

hazardous waste. There can also be problems with the correct classification of waste in small industries, which can again lead to its incorrect management.

Industries, in particular the pharmaceutical companies, pointed out that there are constraints on what can be achieved in relation to prevention. For example:

- the use of anything other than virgin materials in pharmaceuticals is not encouraged, meaning the potential for recycling of waste solvents or active ingredients is seen as limited;
- where new products (e.g. drugs) are being developed, there is an unavoidable generation of waste until the process is fully approved and in production, at which point prevention/efficiency drives can be made;
- in some industries, prevention cannot be achieved in Ireland alone, since production processes are designed abroad, or the products are manufactured abroad. Pharmaceutical companies are concerned about the downstream liabilities they might suffer if waste they generate is not effectively destroyed.

There was positive feedback from this sector suggesting gains in prevention are being made. Within some licensed industries, the EPA is requesting 'efficiency audits of raw material usage' and setting continual improvement targets under the IPPC licence. This is providing some gains in waste prevention. Other trends reported were a reduction in the use of halogens (e.g. chlorine, bromine) and the gradual switch to water-based as opposed to solvent-based paints and cleaning agents.

It was suggested that prevention efforts should be fully implemented *before* any treatment or disposal elements are implemented, i.e. the Plan should be implemented in sequence. In response, while it is recognised that prevention must be a priority of the Plan, it is not practical or wise to delay all other elements of the Plan until prevention is implemented. Preventing waste takes many years to achieve and, in the interim, systems to collect, treat and dispose of hazardous waste must be developed and improved.

Hazardous waste collection companies report a reduction in hazardous waste arisings within the pharmaceutical sector, pointing to a change from chemical manufacturing to biotechnological manufacturing. It is reported that greater care is being paid to waste prevention (and the use of less hazardous substances) at the design stage for new products. An increased emphasis on 'total waste management' was noted, whereby industries now require prevention solutions and recycling options from the waste collection company, as opposed to just safe disposal. The waste collectors identify the main drivers as being corporate policies (including the 'Responsible Care' initiative of Pharmaceutical Ireland), and waste costs.

It was suggested that the First Plan was unrealistic in setting absolute targets for waste prevention. It was stated that this ignores the economic reality of increasing waste generation in a growing economy that is actively seeking inward investment and new employers.

Some specific proposals and suggestions that emerged included:

- Industry encouraged the EPA to build incentives into the IPPC system - for example, companies that achieve reduction in waste and improved environmental efficiency could benefit from reduced fees, or increased allocations under other schemes.
- A national agency should be established to train staff in smaller industries and businesses on the correct way to classify hazardous waste. This agency should be funded centrally and provide a free advice and training service to smaller businesses.
- Further research into alternative non-hazardous household products and promotion of their use should be encouraged by the EPA.
- Grants should be made available to fund initiatives or research leading to a reduction in the use of toxic or hazardous substances in products.
- A toxic use reduction agency should be formed, equipped with the best expertise available in the minimisation of the use of toxic materials. It should be made mandatory that every new production procedure using toxic material must be approved by this agency to ensure the best practicable environmental option is used.
- Preferential tax treatment for re-use and recovery systems for hazardous waste would encourage private enterprise and enable novel solutions to be applied.

It was acknowledged that several initiatives have been successful at increasing the awareness of waste issues at a basic level (e.g. Race Against Waste), but more needs to be done with regard to hazardous waste, particularly for SMEs, the public and the farming sector. Awareness should be raised on how to identify hazardous waste, provide information about where to safely recover and dispose of hazardous waste and raise awareness about using safer household cleaning products.

Overall, there was strong support for keeping prevention of hazardous waste at the core of the revised Plan. Integration of the Plan into Regional Waste Management Plans and the National Development Plan (NDP) is also seen as a way of ensuring better implementation and delivery.

### **3.2.1.2 Transport/ Collection**

Adequate collection infrastructure is needed for household hazardous waste. Submissions outlined the problem of access to recycling centres for small enterprises and farmers. Some recycling centres accept commercial waste and others don't. It was stated that businesses would be prepared to pay to be able to use these facilities.

It was suggested that perhaps a mobile collection service is the most practical way of raising awareness and encouraging people to bring their waste to recycling centres. On the other hand it was also outlined that Chemcars are expensive and it is hard to justify their expense if hazardous waste only accounts for 1% of the household waste stream. It was also stated that the current Chemcar system is haphazard as households don't know when it will arrive.

The pharmachem sector would like to see more innovation by waste companies in terms of the collection services offered and the pursuit of novel recovery solutions. There is a perception that waste companies are happy to stay with established recovery and disposal options.

The current C1 and TFS forms - the mechanisms used to regulate hazardous waste movement within Ireland (C1) and internationally (TFS) - were identified as a barrier to effective collection and transport of hazardous waste. Detailed submissions were made by waste companies outlining recommended reforms and dealing with the cost, complexity and administration of the system. There was also a suggestion that there is inaccurate use of C1 and TFS forms.

A concern was also expressed by waste-producing industries with regard to the 'gap period' between waste leaving their facility and reaching its final destination and how liable the producer might be if an incident occurs in that time. A desire to see more audits/spot checks carried out on all waste movement in Ireland (as in other European countries) was also voiced.

Some specific proposals that emerged include:

- It was suggested that national guidelines be developed for hazardous waste acceptance at recycling centres.
- A desire to see more audits/spot checks carried out on all waste movement in Ireland (as in other European countries) was voiced.
- A review of the current regulatory systems (including C1, TFS and Waste Collection Permit systems) was requested, and required changes were set out.

### **3.2.1.3 Recovery**

With regard to waste recovery, the reliance on export to other countries was emphasized by many submissions as a strategic weakness for Ireland: greater capability to recover and reprocess materials in Ireland was recommended.

It was pointed out that Ireland must currently export the majority of its hazardous waste due to infrastructure deficits in Ireland. This puts the country at the mercy of European markets. There is concern in some sectors that if the borders were to close to Irish waste, there would be a severe lack of options for recovery and disposal of hazardous waste.

Waste producers and management companies want to improve the infrastructure available in Ireland for many hazardous waste streams. They contend that solvent blending (for use as fuel) should be considered, and that co-incineration options should also be examined. The waste industry gave a guarded welcome to the proposals by Indaver Ireland to develop a hazardous waste incineration plant in Ireland. The possibility to treat waste here is seen as beneficial, but competitors do not wish to see a monopoly situation arise.

Some specific suggestions emerged from the waste industry as regards improving self-sufficiency:

- The commitment to establish and operate infrastructure within Ireland should be strengthened. Whilst complete self-sufficiency in Ireland may be unlikely given the limited size of the market, further measures should be introduced to encourage progress towards such an ideal, and to reduce the strategic risk to industry.
- Grant assistance should be available to assist in justifying the development of required infrastructure that is not currently present. Where the capital cost of a technology exceeds the economics of operating in a limited market size such as Ireland, financial assistance could bridge the gap making additional technologies viable in Ireland.
- Certain waste streams are available within the market at volumes that may only justify a single processing facility. In such cases, the plant will only be commercially viable when it has a guaranteed supply of the entire waste stream arising. A national contract would facilitate this, and long term contracts will offer stability over a set period of time so as to justify the risk taken by industry in capital investment. This would not be anti-competitive as the contract would be tendered for competitively.
- There is a lack of knowledge within Irish industry of the existing hazardous waste infrastructure available to them within Ireland. This is partly because of the misconception that because we don't have an incinerator, no hazardous waste can be processed in Ireland. Existing treatment or recovery facilities in Ireland (such as metal recovery, solvent bulking and blending, waste oil recovery, physico-chemical, electro-chemical and biological treatment for various hazardous wastes) should be promoted through the Plan and under IPPC licensing.

It was suggested that Ireland is too small to have major hazardous waste treatment facilities and we should continue to co-operate with other countries who have the economy of scale to enable state-of-the-art treatment approaches.

Environmental groups are concerned about the health impacts of incineration, and see it as counterproductive to waste prevention policies. They also feel that alternatives such as solvent recovery and non-incineration recovery options need to be pursued further. They feel that Ireland is not necessarily big enough to require dedicated hazardous waste facilities for certain waste streams.

It was also recommended that it become mandatory under IPC/IPPC licensing to eliminate or reduce as much as possible the cross-contamination of toxic waste material so segregated materials can be recovered more effectively and the need to incinerate is reduced.

It was claimed that incineration is an expensive technology in economic and health terms. A number of issues were raised in relation to health issues and incineration and these include:

- It was stated that there should be a freeze (moratorium) on the incineration of all toxic and hazardous waste until all the possible alternatives have been explored, and until a baseline study of human health is conducted and systems for comprehensive monitoring of human health are in place.

- Health impacts should be included in the assessment of alternatives
- Particulate matter has a much greater health effects than previously understood.

A number of submissions included copies of a document entitled *The Health Effects of Waste Incinerators - 4<sup>th</sup> Report of the British Society for Ecological Medicine*. This is a recent report that examines issues such as the emissions from incineration, monitoring requirements, health impacts due to emissions, 'safe levels' of pollutants, low dose toxicity and other issues. It was suggested that once the health impacts from incineration emissions are considered, it becomes a very poor solution.

#### **3.2.1.4 Disposal**

Industry bodies criticised the lack of delivery of waste disposal infrastructure (including hazardous landfill disposal cells), as recommended in the First Plan, which they see as a failure by the public authorities.

There seems to be recognition in most quarters that some form of hazardous disposal facility is needed in Ireland. There appears to be some misgiving among environmental NGOs about any co-treatment facilities where non-hazardous and hazardous materials are treated side by side, whereas the industry sector is favourable towards the development of co-treatment arrangements if these are safe and cost effective. It was suggested that best practice models for disposal from other countries – e.g. Nova Scotia – be considered.

It was suggested by the private waste industry that once the proposed waste to energy facilities are in operation in Ireland, that a landfill operator would be likely to develop a hazardous waste disposal cell. The main barrier at present would be the negative public perception and high costs (and delays) for what is not a very large waste stream. Incentives could encourage proposals from the private sector.

#### **3.2.1.5 All-island options**

Waste management companies generally feel that restrictions from entering the Northern Irish market are unhelpful to Industry when it is logistically easier to collect from parts of the North than it is to collect in Cork or Donegal for example. Opening up the North to trade and removing the need for TFS would be beneficial.

This contrasts with the view of some NGOs, who feel that should Irish facilities be allowed to treat waste from the north, and then we may end up treating hazardous waste from all over the UK.

#### **3.2.1.6 Additional Issues**

Submissions outlined that even though household hazardous waste only accounts for 1% of hazardous waste, there needs a more organised and regulated service which will make it possible for

all members of the public to dispose of hazardous waste in a safe manner. This should extend to disposal of medical items for people who administer medication at home.

Farm waste is important to the plan as farms produce a lot of hazardous waste that includes packaging for herbicides, pesticides, fungicides, and including fertilizer bags, contaminated plastic waste and veterinary waste. It is difficult for farmers to deal with hazardous waste in the same way as other commercial businesses. The quantities produced are relatively small and the distances involved are high, making commercial hazardous waste services too expensive.

Hazardous waste from the marine and coastal environments was referred to. There is concern over how small fishing vessels dispose of their hazardous waste – e.g. how can harbour masters identify and quantify hazardous waste? It was also suggested that contaminated dredge soil should preferably be treated and disposed of within the State rather than exported.

Waste management companies complained that lack of enforcement of legislation among smaller commercial activities is undermining many of the larger operators. The regulatory authorities “tend to go after” the soft targets such as the licensed facilities and focus on minor compliance issues. Resources should instead be directed at the illegal collectors, the small producers, and in general to the unreported hazardous waste. Examples cited include waste oil being burned in garages, photolabs discharging to sewer, end-of-life vehicles not being de-polluted properly and so on.

### **3.2.2 Transboundary Consultation**

The SEA Directive requires transboundary consultation to be carried out where the Plan is likely to have significant environmental effects on other Member States. Although there is no requirement to carry out transboundary consultations at the initial stage, such an approach is considered best practice and was carried out prior to the preparation of the Proposed Plan. Countries receiving hazardous waste from Ireland were notified that preparation of the Plan, including a strategic environmental assessment was underway and submissions were invited. The following organisations were invited to participate in transboundary consultations:

- Ministry for Housing, Spatial Planning and the Environment, The Netherlands;
- Royal Ministry of the Environment, Norway;
- Ministry of the Environment, Norway;
- Norwegian Pollution Control Authority, Norway;
- Walloon Authority, Direction générale des Ressources naturelles et de l'Environnement, Belgium;
- Danish Forest and Nature Agency, Ministry of the Environment, Denmark;
- The Countryside Agency, England;
- Department for Environment, Food and Rural Affairs, England, Scotland and Wales;

- Countryside Council for Wales, Wales;
- Scottish Natural Heritage, Scotland;
- Historic Scotland, Scotland;
- Scottish Environmental Protection Agency (SEPA), Scotland;
- Scottish Executive, Scotland.

Responses were received from the Walloon Authority of Belgium; Swedish Environmental Protection Agency; Ministry for Housing, Spatial Planning and the Environment (Netherlands); the Scottish Executive; Scottish Natural Heritage; Historic Scotland; Scottish Environmental Protection Agency; Countryside Council for Wales; the Countryside Agency; Department for Environment, Food and Rural Affairs; Norwegian Ministry of the Environment; and, Norwegian Pollution Control Authority. No specific objections in relation to the import of waste from Ireland were raised, once carried out in accordance with existing Regulations. However, a number of concerns were raised in relation to environmental protection at a more local level in those countries receiving hazardous waste from Ireland and therefore not within the scope of this strategic environmental assessment.

### **3.3 SECOND PHASE – FORMAL CONSULTATION (2007/8)**

Statutory consultation on the Proposed Plan and the Environmental Report took place, from 7 November 2007 to 31 January 2008, in accordance with Section 26 of the Waste Management Acts 1996-2007 and Article 6 of the SEA Directive. Notices were published in the Irish Times, Irish Examiner and Irish Independent on 7 November 2007 and 12 November 2007 in relation to the Proposed Plan and the Environmental Report respectively, inviting written submissions.

An Information Session was held on 15 November 2007 in Portlaoise to provide an opportunity for the public and interested parties to seek clarification on the contents of the Proposed Plan and the Environmental Report.

The following is a brief overview of the issues raised in the 60 submissions made in response to the Proposed National Hazardous Waste Management Plan. The content of all submissions was taken into account in the finalisation of this Plan. Submissions were made by:

1. Adelaide and Meath Hospital, Dublin, incorporating the National Children's Hospital
2. Agency Consumer Products Ltd
3. Allan J. Navratil
4. An Garda Síochána
5. Animal and Plant Health Association
6. B Bourke
7. Carrigaline Area for a Safe Environment
8. Clodagh O'Connor

9. Connacht Region Waste Authorities
10. Connolly Hospital, Blanchardstown
11. Cork Harbour Alliance for a Safe Environment
12. Countryside Council for Wales
13. County and City Managers' Association
14. Department of Agriculture, Fisheries and Food
15. Department of Communications, Energy and Natural Resources
16. Department of Education and Science
17. Department of Health and Children
18. Department of the Environment, Heritage and Local Government
19. Department of the Environment, Northern Ireland
20. Dublin City Council
21. Dublin City University – Sustainability Initiative
22. Dun Laoghaire Rathdown County Council
23. Eco Congregation Ireland
24. Environment and Heritage Service – Department of the Environment, Northern Ireland
25. FARM – Federation of Agrochemical Retail Merchants
26. Forfás
27. Greenstar Ltd
28. Health Services Executive – Helen Maher
29. Health Services Executive – Martina Hunt
30. Healthcare Waste Management Services
31. Historic Scotland
32. IDA Ireland
33. Indaver Ireland
34. Institute of Public Health in Ireland
35. Irish Cement Ltd
36. Irish Co-operative Organisation Society (ICOS)
37. Irish Doctors' Environmental Association
38. Irish Farmers' Association
39. Irish Lamp Recycling
40. Irish Waste Management Association
41. Joint Managerial Body on behalf of Voluntary Secondary Schools
42. Laois County Council
43. Limerick Clare Kerry Regional Waste Management Office
44. Longford County Council
45. Maurice Fitzgerald
46. Monkstown, Glenbrook and Passage Branch of CHASE (Cork Harbour Alliance for a Safe Environment)
47. Mrs. Natasha Harty

48. N Eacha (3 submissions)
49. Nicholas Murphy
50. Offaly County Council
51. Peter H North
52. Repak Ltd.
53. Scottish Environmental Protection Agency (SEPA)
54. Swedish Environmental Protection Agency - Naturvårdsverket
55. Tegral Building Products Ltd
56. The Infection Prevention Society, Irish Branch (incorporating the ICNA)
57. Tobin Consulting Engineers
58. WEEE Ireland
59. West Regional Authority
60. Wicklow County Council

### **3.3.1 Summary of Submissions Received**

The following text highlights the principal issues addressed in the submissions.

- Prevention
- Collection/transport
- Recovery and treatment
- Disposal
- Strategic environmental assessment
- General issues from submissions

#### **3.3.1.1 Prevention**

It was highlighted several times that prevention of waste was one of the major positives of the first plan. Through the stakeholder meetings and the submissions received, it was evident that a majority support the idea of keeping prevention as one of the most important themes in the review of the NHWMP.

However, there were some that felt that prevention of waste was not pursued to a large enough degree in the Proposed Plan. Some submissions also expressed a disappointment in the level of actual implementation of prevention initiatives in the first Plan.

The IWMA suggests that absolute restraints on waste generation, as per the last Plan, are unfeasible economically and an effective cap on inward investment. The Plan and economic development must be considered together.

There was strong support from all sectors for the provision of funding to support a wide range of prevention initiatives. Examples of the types of initiatives that could be considered include:

- Initiatives to encourage cleaner production e.g. CGPP,
- Initiatives to support a reduction in the use of toxic or hazardous substances in products,
- Initiatives to develop non-hazardous alternatives for member of the public, and
- Funding for research on new techniques and processes that would eliminate the use of toxic materials.

In keeping with this, it has been suggested that an agency similar to the Toxic Use Reduction Institute in Massachusetts be formed. Such an agency would be equipped with the best expertise available in the minimisation of the use of toxic materials and subsequently it could be mandatory that every new production procedure using toxic material must be approved by this agency to ensure the best practicable environmental option is used.

The view was expressed that prevention of hazardous waste is at the core of sustainable waste management and the investment of resources in waste prevention and minimisation can result in potential long-term benefits for all types of enterprises. The development of incineration and/or landfill facilities for hazardous waste may only serve to hinder waste prevention. To this end, the need for the Plan to thoroughly examine alternative technologies across the world, both currently in use or emerging, was raised. Ultimately, the goal should be 'Zero Waste'.

In industry, many of the large producers of hazardous waste come under IPPC licensing. This means that they must look at recovery options for their waste and in some cases 'efficiency audits of raw material usage' are required. This places an emphasis on material efficiency and on waste minimisation. The high cost of hazardous waste management influences companies to reduce/minimise waste.

#### Awareness/Education

There is a consensus that awareness needs to be increased across the board in targeted campaigns on a national basis. In general, it was felt that there was a need for an increased awareness amongst the general public on hazardous waste. It has been acknowledged that campaigns such as Race Against Waste was successful with regard to the issue of household waste and so a public awareness campaign on hazardous waste would be beneficial.

As part of an information campaign, the idea of an informative website was raised. It could include information on how to manage household hazardous waste, where it should be disposed of etc. For example, with the impending rollout of CFL bulbs, it would be useful for the public to know how to manage the waste generated. It could also be beneficial in the event of local authorities seeking planning for the acceptance of hazardous waste at recycling centres insofar as a greater level of awareness/education amongst the public on hazardous waste would help the process. Any public awareness campaigns could also be linked up with the Green Schools scheme. However, there was

also the caveat that awareness campaigns should be mindful of the recovery/disposal options available. Some of the areas flagged as being in need of awareness/education include:

- Construction, demolition, farming and motor trade sectors in order to improve segregation and management of hazardous waste.
- The HSE has also engaged a consultant to deliver a HSE Waste Training Programme to be delivered during 2008. However, it is felt that there is not enough awareness of HSE waste take-back schemes.
- Businesses are unaware of their obligations under the WEEE Directive.
- It was suggested that public awareness on asbestos waste should be addressed. One option mooted was the creation of a website detailing the issues related to asbestos waste and how it should be dealt with, and
- Potential for product or material substitution.

It was also suggested that case studies be conducted in the key sectors. Where case studies are carried out, it is important that the knowledge gained be disseminated throughout the relevant sector using seminars etc.

There is also a need for guidance documents on management of hazardous waste, in particular: asbestos, agricultural waste and healthcare waste.

It was suggested that funding should be made available for seminars specifically dealing with hazardous waste. The Cleaner Greener Production Programme (CGPP) was endorsed by small businesses and the implementation of further such initiatives is supported. It is felt that there is more scope within the CGPP programme for dealing with hazardous waste.

#### Financial Incentives

Some submissions proposed taxation of “bad” packaging (or products) to fully internalise the cost of dealing with products that are not readily recyclable or safely bio-degradable.

An example of this is the principle of solidarity of materials. This approach means that producers of packaging materials pay into a compliance scheme irrespective of whether the material is collected or not. This is based on the environmental and economic principles of collecting the easy to get/easy to recycle materials, sometimes to a much greater degree than their individual material targets. Consequently, materials such as the multi-foil laminates, exotic materials and hazardous materials pay twice: once to the packaging scheme and once again to have the hazardous components dealt with. The funds in the compliance scheme are used to fund the additional and higher levels of collection for some materials, e.g. paper, cardboard, glass, etc., to levels in advance of targets without unfairly penalising those producers.

Overall, there was strong support for keeping prevention of hazardous waste at the core of the review of the NHWMP. It was mentioned on several occasions that proper implementation of this plan is

essential to achieving the targets set for hazardous waste prevention or it could otherwise be seen as a failure as the original NHWMP is. Integration of the NHWMP into both the Regional Waste Management Plans and the National Development Plan is also seen as a way of ensuring better implementation and delivery.

### **3.3.1.2 Collection/transport**

Many of the submissions on the collection of waste included points relating to the use of recycling centres and producer responsibility schemes as a collection method for hazardous waste from households and small businesses.

Healthcare waste was an issue in several submissions. It was proposed that the EPA liaise with the HSE in order to draft guidelines for collection of healthcare wastes. There are many sources of healthcare waste outside of hospitals, e.g. veterinary surgeries, dental surgeries, universities, research laboratories, etc., but it is not known if the waste from all these sources is collected appropriately. All regions need to have an appropriate collection service for waste from all such sources. The HSE have in place a mechanism for the return of waste from self-medication in the home but this is not available in all HSE regions. One suggestion was put forward that if suitable containers were available the waste could be mailed back to a HSE contact. Such a service exists in the USA.

Another area where recording and collection of waste is poor is the area of printing processes. Many within this industry discharge their water-based products to foul sewer rather than collecting and disposing of them properly. The collection and recovery of silver from photographic and x-ray solutions should also be investigated.

It was suggested that a centrally organised scheme for the disposal of hazardous waste from schools should be considered.

Additional collection methods suggested in the submissions are the following:

- The use of containers for mailing medical waste from home, as used in America, is a possible method to increase collection.
- Collection events/open days at licensed waste facilities should be considered, and
- Farm waste: One off collection event / amnesty / integrated collection event for hazardous and non-hazardous farm waste.

The waste industry would expect to be consulted on developing solutions for the collection of hazardous waste.

### Recycling Centres

Many submissions on the collection of hazardous waste from recycling centres supported their role in the collection of hazardous waste but highlighted potential issues: staffing, funding, training, public

acceptability, licensing and health & safety. Some of the submissions suggested an expansion of the range of materials accepted at recycling centres to allow for the collection of other hazardous waste such as adhesives, weed killers, aerosols and cleaning agents. In some cases, when the Chemcar service was offered, the collection capacity was reached before the end of the allotted time and so waste was left at the site. Collection of hazardous waste at a recycling centre would prevent such incidents. A 'roving' Chemcar service could be offered to those with no permanent recycling centre within a reasonable distance. The use of recycling centres as a drop-off point for certain types of agricultural waste was suggested with one-off collection events for materials such as unwanted pesticides could also be held at recycling centres.

The definition of a 'small business' should be clarified to protect such a system from abuse by larger companies.

Many submissions highlighted the issues of using recycling centres as drop-off points for hazardous waste. The main issues for this are centred on the training, expertise and staff resources that would be required. It was suggested that a scientist would be required on site to inspect the hazardous waste coming in and that a Dangerous Goods safety Advisor would also be needed. Operatives at any facility, including recycling centres that accept hazardous waste, should be trained in the handling of hazardous waste. It was suggested that FÁS include hazardous waste handling and management in their training courses. It may also require extra staff to cater for an increased level of waste intake. It would be expected that planning for the increased intake of waste would be problematic, not least because of concern amongst local householders who would oppose the collection of hazardous waste in close proximity to their homes. In addition, the status of recycling centres with regards to planning and licensing would need to be clarified.

Another issue raised in several of the submissions was that of the collection of asbestos waste. One or two suggested the use of recycling centres as a drop-off point for small-scale asbestos waste, i.e. from households. However, the general consensus was that though it is a priority waste, it should not be collected at recycling centres because of health and safety issues. A scheme whereby a contractor removed the waste, at a small cost to the householder, was suggested.

It should also be noted that not all recycling centres may be suitable to accept hazardous waste.

#### Producer Responsibility

It is believed that that producer responsibility initiatives (PRIs) can form part of the solution for hazardous waste management. Several submissions suggested materials for which there should be PRIs:

- Aerosols,
- Oils and oil filters,
- Hazardous agricultural waste,
- Paints, and

- Batteries

Money raised by PRIs could go towards a central fund to help local authorities manage this waste. It would also encourage producers to find non-hazardous components. The NGO sector felt it was important to get greater involvement of those creating and supplying hazardous products to play a role in their collection and recovery.

#### Transport

One of the issues raised with regard to the movement of hazardous waste was the fact that Ireland currently exports the majority of it for treatment, which puts the country at the mercy of European/world markets. There is concern in some sectors that if the borders close to waste from Ireland, there will be a severe lack of options for recovery and disposal of hazardous waste. This has led many submissions to suggest that Ireland should be self sufficient in terms of managing its hazardous waste.

However, some felt that Ireland would never reach the critical mass required to warrant its own hazardous waste facilities such as landfills or incinerators. They felt that with the current trend for reduction in hazardous waste and the potential for emerging new technologies that would be more amenable to all, the introduction of incineration was premature. They felt that whilst the capacity for treatment exists abroad, Ireland should export the waste that arises as well as continuing to aim towards the prevention of hazardous waste.

The other main issue with regard to the transport of hazardous waste was that of C1 forms. It was mentioned that the range of charges for C1 forms across the different local authorities, was a reason for some evading the C1 system. Some raised the point that the cost of a waste permit application is disassociated from the volume of waste collected. This can lead to small-scale collectors the storing the hazardous waste on site until it makes more financial sense to move it. Several submissions commented on the need for a new C1 system. Most companies that use the system are moving the same types of waste each time but in varying quantities. It was suggested that an annual C1 form with a movement form, similar to the TFS system, would be better. One-off forms could be used for events such as spill clean-ups, i.e. movements that are not the normal business of the company. It was also proposed that the registration of hazardous waste producers could be incorporated into a new C1 system.

#### **3.3.1.3 Recovery and treatment**

Many submissions supported recovery of hazardous waste but also emphasised Ireland's weakness due to reliance on export and the need to increase capacity for recovery and reprocessing of materials. More specific comments have been grouped together below.

##### General (Recovery)

General comments in relation to recovery of materials include:

- Triple-rinsed containers should be classified as non-hazardous. The European Crop Protection Association analysed triple-rinsed containers in a study on Germany and such containers were shown to meet below the hazardous threshold. Triple-rinsed containers are suitable for recycling once they are not used as containers for food products,
- Solvent waste could be returned to the producer for recovery, and
- There were concerns expressed about use of recycled products from hazardous waste sources (e.g. possibility of contamination if used in food applications).

### Technology

Preferred technologies for recovery include:

- Alternative recovery and disposal methods should be examined – thermal treatment does not have to mean “incineration”.
- The plan should support technologies such as solvent blending. However, it has been suggested that to use blended solvents as a fuel in waste kilns would require greater treatment systems to meet emissions standards.
- Studies into the technical and economic feasibility of co-incineration should be conducted

### Incineration

There were mixed reactions to incineration as a technology. Some submissions outlined that incineration should be included as an option while others stated that it would undermine prevention and the incentives to recover and reuse. A number of issues were raised in relation to incineration, including:

- More consideration should be given to alternatives to mass incineration than there is in the Proposed Plan,
- Incineration is premature given the reduction in hazardous waste since 2004 and the scope for reduction. It was advised that whilst there is capacity for treatment abroad, Ireland should continue to use this option whilst looking at alternative options amongst current and emerging technologies,
- The Plan states that thermal treatment in Ringaskiddy would cater for 18-20,000 tonnes of waste. The EPA licence for the proposed incinerator allows for 50,000 tonnes. Only 10% of this would come from Cork. If the incinerator is being considered as an all-island facility, it goes against the proximity principle,
- There is a concern that because commercial incinerators need guaranteed quantities of waste to be viable, recovery of waste would be hindered,
- The impact of incineration and hazardous landfill on human health should be given greater consideration,

- Government policy has moved away from incineration and the Plan should reflect this, and
- Is there a case to suggest that all incinerator ash could be classed as hazardous?

#### Contaminated Soil

The general consensus is that contaminated soil should be treated as close to the point of generation as possible. Points made in relation to this are:

- Where possible, contaminated soil remediation facilities should be set up adjacent to landfills to be used as cover,
- Consideration should be given to the concept of 'soil hospitals' as used in the reclamation of soil in The Netherlands, and
- Do the new waste regulations allow for mobile treatment plants for the recovery of contaminated soil?

### **3.3.1.4 Disposal**

#### Landfill

There were mixed views as to whether or not Ireland should develop hazardous waste disposal cells. Issues outlined in relation to the provision of hazardous waste landfill cells include:

- The development of landfill capacity for hazardous waste should be open to both the public and private sector,
- Landfills for hazardous waste should be considered on a regional basis,
- There may not be sufficient capacity in proposed landfill sites to cater for hazardous waste to be landfilled when the ash from incineration is factored in,
- Studies have shown that there may be an association between chromosomal anomalies and hazardous waste landfills, and
- In relation to the disposal of asbestos, the non-surrender of a landfill licence creates too many problems. Bonded asbestos waste is very stable and unreactive and presents no problems when deposited in an appropriately designed landfill cell. A suggested approach would be to list the site as site where hazardous waste has been deposited. The site is registered as such with the local authority which allows for the identification of such land in development plans as land on which certain development is prohibited so as to prevent disturbance of the waste.

#### Minerals Industry

Mining activities are regulated by Directive (2006/21/EC) on the management of waste from extractive industries and most, but not all, such activities are IPPC licensed. The National Waste Prevention

Programme: Outline Work Plan (2004-2008) states that mining waste is significant but generally non hazardous. However, chapter 1 of the European Waste Catalogue lists several hazardous wastes from the sector. Directive 2004/35/EC contains a number of specific provisions relating to hazardous waste from the extractive industry. It is therefore important that the disposal of this hazardous waste stream be considered in the Plan. Hazardous waste from extractive industries is not addressed directly outside of Table 8.

### Harbours

The view was raised that policy and action thresholds on foot of identification and assessment of ports should be developed. However, they may be covered in the Water Framework Directive or Maritime Strategy. This should be clarified.

There appears to be no mention of inland harbours/mooring facilities. There is considerable use of chemicals for sanitary purposes, bilge cleaning, antifouling paint, etc. Containers of these chemicals require correct disposal.

It was suggested that it would be preferable that contaminated dredge soil should be treated and disposed of within the State rather than exported.

### **3.3.1.5 Strategic environmental assessment**

The submission from one NGO notes that the Health Research Bureau has stated that Ireland has insufficient resources to carry out adequate risk assessments on waste management facilities. This is an issue considering that monitoring and regulation are central to the SEA process. There are some hazardous wastes at abandoned/historic mine sites and these should therefore be accounted for in legacy Issues. An inventory of historic mine sites is currently being prepared and should help provide a clearer picture of the extent of hazardous waste at these sites. The SEA should also be more considerate of potential impacts on human health.

### **3.3.1.6 General issues from submissions**

#### Local Authorities

The need for state funding in order to implement many of the measures outlined was outlined. If local authorities are expected to accept hazardous materials at recycling centres, then funding will need to be provided to facilitate this operation. The Plan refers to such expansion being funded by the Department of the Environment, Heritage and Local Government but there does not yet appear to be any guarantee of such funding.

Adequate staff resources are also a primary requirement, not just in relation to operating recycling centres but to be able to fulfil the greater enforcement duties expected. There appears to be a need for the clarification of the distinct roles of the Green Business Officer and Waste Prevention Officer. Also,

Environmental Awareness Officers (EAO) and Green Business Officers should be afforded the status that their role in prevention and minimisation warrants. Local Authorities should be explicitly recognised as among the implementation and monitoring bodies of the National Hazardous Waste Management Plan.

It was proposed that the registration of hazardous waste producers could be incorporated into a new C1 system. The concept of waste facility permit holders and waste collection permit holders reporting on the type and quantities of waste generated by their customers was not agreed with. With the permit holders having to do their own annual environmental report, a separate report on their customers would amount to double reporting.

The waste management industry welcomes collective tendering on mobile collection and the management of waste at recycling centres. However, some local authorities are unsure if it is viable because some of the recycling centres in Dublin are already operated under contract. However, there is scope for discussion on whether local authorities or the private sector should provide for these facilities.

### Agriculture

The management of hazardous agricultural waste is an important aspect of the Plan because of the quantities and types of waste produced on farms. This waste includes herbicides, pesticides, fungicides, fertilizer bags, contaminated plastic waste and veterinary waste. As it stands, farmers are a commercial business and must deal with hazardous waste in the same way as any commercial business. The development of a farm waste collection system with costs being met “in whole or in part by producer responsibility obligations on certain products such as animal and plant protection containers” would have implications for the operation of the packaging waste recovery regime. It should be amended to specifically propose that the cost of any such system be subvented by all producers of all products that give rise to hazardous agricultural waste.

The Animal Remedies Regulation (S.I. No. 734 of 2005) put into effect a ‘bring back’ scheme for out of date and/or partially used animal remedies. Waste management legislation suggests that to receive these animal remedies, a practice must have a waste transfer permit and in some cases a hazardous waste transfer licence. However, this is impractical, uneconomical and unworkable. A similar scheme to the DUMP (Disposal of Unused Medicines) project could encourage the veterinary profession to engage in the spirit of the animal remedies regulations and the introduction of a scheme to encourage farmers to return veterinary waste to a collection point on a specific day could be encouraged.

One of the suggestions was that there should be a study to ascertain what levels of hazardous waste were present on the average farm. Agrochemical waste and its packaging is the main concern for farmers. Whilst triple rinsing of containers renders the containers non-hazardous, concern was expressed in one or two submissions about where the washings go. In some cases the washings would be used but there may potentially be chemicals being diluted and disposed of to a foul sewer. Allowing farmers to transport hazardous agricultural waste to a drop-off point for disposal without the need for a permit would facilitate a greater level of appropriate disposal of waste. There appears to be

no mention of large-scale agricultural waste, e.g. BSE-infected carcasses that would need to be disposed of.

### Data

There were some queries related to data in the Proposed Plan:

- In the section on unreported waste, the figure for 'fluorescent lamps' was 2,267 tonnes, which is equivalent to 12,000,000 lamps. In the Environmental Report it gives a figure of 254 tonnes (1,390,000) lamps. This would appear to be more realistic since there were 7,000,000 such lamps sold in Ireland in 2006,
- One NGO has suggested that there is inconsistency regarding the quantities of hazardous waste generated, i.e. that on Page 7 the Plan says 560,000 tonnes of hazardous waste was produced in 2004, inclusive of contaminated soil. On Page 22 it says states that Ireland produces 700,000 tonnes of hazardous waste annually. With respect to this, it was suggested that the Plan be put on hold until there was a review of the hazardous waste figures similar to the Minister for the Environment's review of non-hazardous waste figures,
- The quoted figure of 1.2kg of hazardous waste collected per capita appears to be low considering that it does include WEEE, and
- As a general comment, figures used should be consistent with documents such as the National Waste Report.

### Implementation

It was felt that any references to the implementation, or lack thereof, of the original NHWMP should include who was responsible for its implementation. The Waste Management Act requires each Government Minister, a local authority and any other public authority in whom are vested functions in relation to the protection of the environment to have regard to the plan and, where the Minister, local authority or public body considers it appropriate to do so, they are obliged to take measures to implement or otherwise give effect to recommendations contained in the NHWMP. It is important to state this as implementation responsibility falls on different bodies. Ultimately though, it should be made clear in the summary of recommended actions and responsibilities in the Plan that ownership of the process of overseeing the implementation of the NHWMP should rest with the EPA.

NGOs would like an independent expert on 'zero waste', an ecologist and a representative from an NGO on the Implementation Committee.

### Infrastructure

Many submissions stated that they felt there was a lack of infrastructure in Ireland to deal with hazardous waste and that Ireland needs more facilities for the treatment and disposal for hazardous (incl. WEEE) within the country. There was some criticism of the poor progress in relation to the

development of waste recovery and disposal capacity here and a belief that there will not be much progress over the course of this Plan unless economic incentives are offered.

Many submissions outlined the need to provide facilities for the disposal of household hazardous waste – mostly at recycling centres – to allow the public to dispose of hazardous waste in a safe manner. Currently, it is believed that much of this waste is disposed of to landfill.

It was recommended that a system or strategy be developed for the provision of clinical waste collections to householder who need to dispose of medical waste resulting from treatment at home.

Asbestos disposal is another big issue relating to hazardous waste disposal. Some submissions suggested that recycling centres could accept small quantities of asbestos removed from households. With regard to this, it was suggested that a website be set up to explain how to properly package and label this asbestos. However, many other submissions recommended against the use of recycling centres as drop-off points for household asbestos citing the expertise, training and staff resources needed as well as the potential planning problems.

#### Waste Management Planning

It was stated that proper selection criteria and risk assessment must be the basis for nominating and deciding on any disposal/recovery strategy. Proposed technologies and facilities need to be determined and their spatial requirements determined also in order to create a clear implementation mechanism.

It was outlined that waste needs to be addressed on a national level and should link all regional and national waste plans together. The current plan is disconnected from those implementing it on the ground and from other regional and national waste plans. The plan should be recognised by An Bord Pleanála and be integrated into both the regional waste management plans and the NDP. The current planning and licensing system is perceived to be significantly delaying licensing and planning and thus delivery of infrastructure.

#### Legislation & Regulation

Across the board, the consolidation of existing regulations, particularly with respect to reporting requirements, was welcomed. Several submissions raised the point that the Plan needed to take the new waste facility permit and waste collection permit regulations into account. The need for clarification on the status of recycling centres, after being cleared to accept hazardous waste, was raised. Article 21 of the waste facility permit regulations refers to authorisation required for mobile plants. The mobile plant in Section 7.1.1 of the Plan should be differentiated from the regulations.

One submission suggested that legislation or regulations be put in place that prevented garages from storing hazardous waste for long periods of time.

It should also be clarified that in cases where there is clear evidence of pollution arising from illegally deposited hazardous waste that Section 55 of the Waste Management Act takes precedence over the Planning Act as a basis for remediating the site.

As a general point, the overview on national legislation should include:

- Directive 2006/21/EC on the Management of Waste from Extractive Industries,
- The proposed Soil Framework Directive,
- Waste Management (Hazardous Waste) (Amendment) Regulations (S.I. No. 73 of 2000),
- European Communities (Carriage of Dangerous Goods by Road)(ADR Miscellaneous Provisions) Regulations 2007 (S.I. No. 289 of 2007), and
- Regulation (EC) No 850/2004 on persistent organic pollutants.

#### Self-Sufficiency

In general, the concept of self-sufficiency was welcomed. However, the waste industry expressed the view that self-sufficiency should be encouraged where technically and economically feasible as opposed to just regulating against export. It was also suggested that progress with regard to self-sufficiency would continue to be slow unless economic incentives are offered.

There is a need for a hazardous waste landfill on the island of Ireland. However, the capacity of the landfill should be related to the expected levels of incineration residues that may arise.

Concern was raised in relation to the view that co-incineration at cement kilns would result in higher costs at incineration plants because of the loss of a high-calorie fuel, i.e. blended solvents. An incineration facility must be taking in all types of hazardous waste.

It was felt that Ireland should be self sufficient with regard to physico-chemical treatment of waste. There should be investment in the research of other methods of acid neutralisation that do not produce large volumes of filter cake.

#### Enforcement

In general, the need for greater levels of enforcement was agreed upon. However, several submissions pointed out that there were several barriers to this. Increasing the level of enforcement means a greater level of resources is needed. It also needs continuity and a local expertise, with respect to the enforcement staff, to be more effective. However, many current enforcement staff are on short-term contracts. Thus to increase enforcement levels, the local authorities will need adequate financial and staff resources. There was also the suggestion that it is more important to improve the enforcement of current legislation rather than introducing new legislation – it was felt that the current legislation was adequate but that it just wasn't being enforced properly. It was also put forward that the retail take-back of WEEE needed to be subject to greater enforcement in terms of compliance with the terms of the WEEE regulations and the required storage facilities.

It is expected that the Department of Agriculture, Fisheries & Food (DAFF) have a role to play in the enforcement of the Animal Remedies Regulations and also in relation to the storage, handling, usage

and recording of plant protection products. Such enforcement would fit into DAFF cross-compliance inspections and so the local authorities would not be burdened with the task.

There was also a call for a greater interrogation of C1 records. However, this would be dependent on staff resources.

Should the management of hazardous waste be considered on an all-island basis, the necessary enforcement measures would need to be in place to ensure that waste crossing the border into Northern Ireland is not shipped to Britain or further afield.

#### Targets and Indicators

It has been suggested that studies should be carried out in order to find out the levels and composition of certain waste streams being generated. This will allow for performance indicators to be developed.

The HSE suggested that the Comptroller & Auditor General report 'Value for Money of Waste Management in Hospitals' findings be used as benchmarks where applicable.

The view was raised that whilst the indicators and targets listed were reasonable, a 2007 baseline rate should be established. Performance indicators should also be divided into primary and secondary targets, as some would have more of an impact than others.

Another submission called for targets to be derived from international best practice and that quantities collected be one of the performance indicators.

#### Unreported Hazardous Waste

In relation to fluorescent lamps, there were some suggestions that fluorescent lamps should not be included in the unreported waste category because (i) it suggests inappropriate management of the waste and (ii) it is part of the WEEE stream.

It is believed that the key to reducing unreported waste is to increase awareness amongst both the waste producers and the public and having accessible collection systems in place.

#### Other Comments/Issues

Some general comments that arose include:

- The electronics manufacturing sector should be considered for priority action given the solvents and hazardous compounds it uses,
- Waste oil burners should not be promoted amongst farmers and the motor trade since they are not an appropriate form of disposal for waste oils,
- As service from permitted collectors is considered too expensive for small-scale jobs, the cost burden on small-scale collection and small-scale depots should be reduced,
- Industry was in favour of assistance from a body such as Enterprise Ireland in order to develop treatment technologies,

- As the Plan is not expected to be complete and published until mid-2008, it is suggested that the first implementation report would be best published in June 2010,
- A list of references at the end of the document would be useful, and
- The figures used should be double checked to ensure they are consistent.

### 3.3.2 Transboundary Consultations

In accordance with Article 7 of the SEA Directive, transboundary consultations were conducted. Those Member States accepting hazardous waste from Ireland for treatment were invited to participate in transboundary consultations. In response to a letter sent by the EPA on the 14<sup>th</sup> December 2007 in relation to the Environmental Report on the Proposed National Hazardous Waste Management Plan a number of submissions were received, as outlined in Table 1 .

**Table 1                      Summary of Submissions received under Transboundary Consultations**

Organisation	Issues Identified	Clarifications & Response
Countryside Council for Wales	<p>No reference has been made to the likely reduction of risk to the marine biodiversity with regard to treatment of hazardous waste in Ireland.</p> <p>Suggestion was made that adherence should be made to Environmental Liability Directive (2004/35/CE).</p> <p>The statement 'potential impact of hazardous waste management on the marine environment is directly through the transport and export of wastes' and 'general shipping activities may result in certain levels of pollution and the management of hazardous waste may therefore be an indirect cause of this', has been acknowledged.</p> <p>The point that there would be a continued risk to biodiversity from pollutants if these were not handled correctly in the absence of the Plan, it supported. In addition the premise that transport of hazardous waste outside of the State would continue to pose a risk to marine biodiversity in the absence of the Plan was noted.</p>	<p>With regard to proposed mitigation measures relating to treatment, explanation is required regarding the statement 'the pace of implementation of the Plan will be important to the success of this strategy'.</p> <p>The first National Hazardous Waste Plan was very slow regarding implementation and it is acknowledged that in order that the same is not to occur again the pace to which the Plan is implemented is critical to the success of the strategy.</p>
Historic Scotland	No comments were offered on the Environmental Report	No clarifications were identified.
Scottish Environmental Protection Agency	No comments were offered on the Environmental Report	No clarifications were identified.
Swedish Environmental Protection Agency	Stated that they did not wish to participate in the transboundary consultation	No clarifications were identified.

Organisation	Issues Identified	Clarifications & Response
<p>Department of the Environment Northern Ireland</p>	<p>Agreement that there is likely to be productive economies of scale to be achieved from considering hazardous waste markets and facilities in Northern Ireland and the Republic of Ireland.</p> <p>With regard to the potential for all-island co-operation, they agree with some of the points made but want to stress that it should not in any way reduce the obligations on waste operators under the TFS Regulations in either jurisdiction.</p> <p>With regard to sharing information on business users of civic amenity sites, they acknowledge that this is a good idea but it should be acknowledged that there could be practical difficulties.</p> <p>They wanted to state that any changes to EHS's charging structure for transboundary movements of waste would need to ensure compatibility with domestic arrangements of hazardous waste movements and alternative income sourced to ensure that EHS achieve full cost recovery.</p> <p>The DoENI wanted to clarify that the pre-treating of hazardous waste does not necessarily mean that the quantity is doubled. A suggestion was made in relation to Section 6.8, footnote 83 that the wording 'doubling the weight of material' could be replaced with 'with the assumption that those waste requiring solidification double the quantity'.</p> <p>Issue of possibility of illegal cross-border movements of waste should business users be charged for drop-off facilities at civic amenity sites.</p> <p>In order to fully address the north/south implications the authorities of Northern Ireland are happy to co-operate and provide relevant data as appropriate.</p> <p>Welcome the proposal to establish an informal north/south working group on hazardous waste and would be happy to consider draft terms of reference.</p>	<p>Clarification required as to the content of recommendation 26.</p> <p>It states that responsibility lies with the Department of the Environment as to the appropriate level of regulation for authorised civic amenity sites where hazardous waste is accepted for disposal. The type of regulation is still to be clarified.</p>

## 4 HOW ENVIRONMENTAL CONSIDERATIONS AND CONSULTATIONS HAVE BEEN TAKEN INTO ACCOUNT IN THE ADOPTED PLAN

### 4.1 ENVIRONMENTAL CONSIDERATIONS

The strategic environmental assessment process took place in parallel to the preparation of the Plan. Thus, from the outset, consideration of the environmental consequences of proposals have been taken into account. At a formal level the process involved a series of workshops, discussions and meetings with statutory consultees, sectoral groups and other organisations. The iterative process ensured that the strategic environmental assessment and the preparation of the Plan were well integrated to meet the environmental objectives and the objectives of the Plan. (Figure 1).

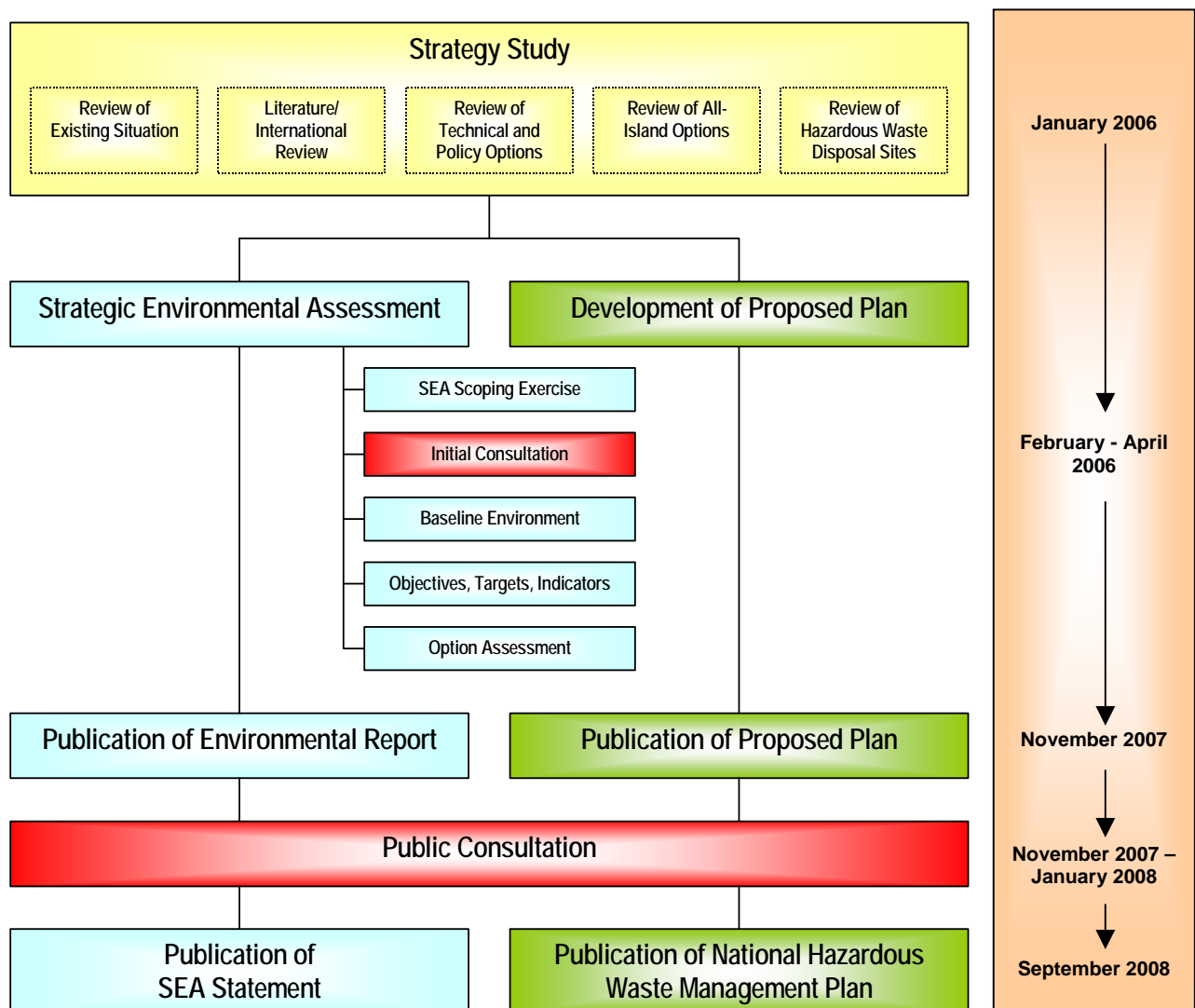


Figure 1 Integration of SEA and the preparation of the Plan (including timeline)

## 4.2 SUMMARY OF SEA ASSESSMENT

A detailed assessment of the options considered was undertaken and the findings are presented in Table 8.17 to Table 8.22 of the Environmental Report<sup>1</sup>. A summary of the assessment (taken from the Environmental Report) is presented in Table 3 below, with a key to the symbols used presented in Table 2. In each case the business as usual option and the Preferred Option were subjected to the detailed assessment.

**Table 2 Key to Assessment of Options**

Assessment Symbol	Explanation of Symbol	Description of Impact
-	Potential Significant Negative Impact	The impacts from hazardous waste activity on the receiving environment are likely to be negative (detrimental).
+	Potential Positive Impact	The impacts from hazardous waste activity on the receiving environment are likely to be positive (beneficial).
Ø	No Change	No change from the current situation, i.e. baseline.
+/-	May be a Positive or Negative Impact	The impacts from hazardous waste activity on the receiving environment may be positive or negative (detrimental or beneficial)
O	Neutral	No impacts are anticipated

Note, the impacts of emissions from Waste or IPPC licensed facilities are considered not significant since they are within the Emission Limit Values of the licence<sup>2</sup>.

<sup>1</sup> A copy of the Environmental Report is available to download from the EPA website: <http://www.epa.ie/whatwedo/resource/hazardous/>

<sup>2</sup> The IPPC licensing regime aims to prevent, reduce, and as far as possible eliminate pollution by giving priority to intervention at source and ensuring prudent management of natural resources.

**Table 3 Summary of Assessment for Preferred Option**

	Water	Air	Climate	Soil	Material Assets	Transport	Biodiversity	Human Health	Mitigation Required
<b>Prevention</b> Programme of prevention including producer responsibility initiatives, preparation of waste management plans, once-off best performance studies, financial support and promotion.	+	+	+	+	+	+	+	+	No significant negative impacts are anticipated from implementation of the preferred option. The Prevention Option will have a net positive impact through reduction in the generation of hazardous waste overall. The business as usual option would result in negative impacts through continued increases in hazardous waste generation. No further mitigation is required.
<b>Collection</b> Integrated Approach combination of Drop-Off and Producer/ Supplier Take back.	+	+	Ø	+	+	-	+	+	A potentially significant negative impact from the preferred collection scenario has been identified i.e. increased transport and transport related emissions from the increased collection of hazardous waste. This can be mitigated by provision of treatment facilities in Ireland so that transport overall is minimised (i.e. reduced export). The business as usual option would result in continued (unknown) risks from unreported hazardous waste.
<b>Treatment</b> Integrated Recovery Option with combination of WTE facility, solvents treated at cement kilns and export.	+	+	+	0	+	+	+/-	0	Provision of treatment facilities in Ireland will have an overall positive environmental impact on the environment. The impact on biodiversity could potentially be negative if designated sites are included. This can be mitigated by avoiding designated sites. The business as usual option would result in continued reliance on export market for hazardous waste treatment and associated transport-related impacts.

	Water	Air	Climate	Soil	Material Assets	Transport	Biodiversity	Human Health	Mitigation Required
<b>Disposal</b>  Co-located hazardous waste disposal cells	0	0	+	0	+	+	+/-	0	Provision of disposal facilities in Ireland is not anticipated to cause negative impacts on the environment. The impact on biodiversity could potentially be negative if designated sites are included. This can be mitigated by avoiding designated sites when siting facilities. The business as usual option would result in continued reliance on export market for hazardous waste disposal and associated transport related impacts. Improvements to the C1 system are also proposed as mitigation to ensure traceability of hazardous material is improved.
<b>Contaminated Soil Treatment</b>  Increase the use of mobile plant on site, increase treatment capacity in Ireland, reduce export.	0	0	0	+	+	+	0	0	Provision of mobile plant could enable the contaminated soil to be treated on-site or off-site in Ireland thereby reducing the need for export and the associated transport emissions. No negative impact is expected. However some general mitigation is proposed. It is proposed that on-site treatment of contaminated soil should be considered as a measure to mitigate transport related impacts. In addition, a risk assessment of sites should be carried out to prioritize remediation and ensure this issue is addressed quickly. A coherent and comprehensive approach, including the creation of a register/ inventories of the baseline situation, is required.

The preferred scenario is summarised in Table 4 below.

**Table 4 Preferred Scenario Chosen for the Adopted Plan**

<b>Prevention</b>	Target the priority hazardous waste sectors with sector specific waste management plans, prevention initiatives training and financial support, within the framework of the National Waste Prevention Programme.
<b>Collection</b>	The drop-off based system will be improved with the further development of civic amenity sites and implementation of retail take back for appropriate materials. Mobile collection could be provided in a limited way for specific waste streams (farm waste and some household hazardous).
<b>Treatment</b>	There will be a modest increase in off-site solvent recovery (2,000 tonnes per annum), cement plants to employ 50,000 tonnes per annum blended solvent fuel, waste to energy capacity of 50,000 tonnes per annum to thermally treat remaining waste suitable streams and some export of hazardous waste for recovery may continue.
<b>Disposal</b>	Develop hazardous waste disposal capacity (co-located with existing or planned landfill facilities) in Ireland

### 4.3 INFLUENCE OF THE SEA PROCESS DURING PLAN PREPARATION

**Key Influence of SEA:** The strategic environmental assessment process has ensured that potential environmental impacts (both positive and negative) associated with hazardous waste management have been given due consideration in the preparation of the National Hazardous Waste Management Plan. This is presented in Table 5 below. It is a stated objective of the Plan to minimize the environmental, social and economic impacts of hazardous waste generation and management and the strategic environmental assessment ensures contributes to achieving this objective.

**Table 5 How Environmental Considerations Have Been Taken Into Account In The Plan.**

SEA Objectives	Environmental Considerations and Findings from the Environmental Report	Integrated into the Plan (Yes/No)	How has Environmental Consideration Been Taken into Account and if not Why?
To protect water quality (rivers, lakes, marine and groundwater) from hazardous waste	<u>Surface Water</u>  Risks are posed by existing facilities (some emission breaches noted) former disposal sites, and unreported hazardous wastes. Risks are also posed by uncontrolled disposal of hazardous waste/illegal dumping.	Yes	<p>The adopted Plan identifies strategies for improved prevention and collection of hazardous wastes and the remediation of former waste disposal sites. It is anticipated that these strategies will have a positive impact on surface water through targeted sectoral waste prevention initiatives and increased control of generated hazardous waste. No significant adverse effects are anticipated from hazardous waste treatment due to controls under EPA licensing regimes.</p> <p>Tables 8.17 to 8.22 in the SEA Environmental Report provide the details of the assessment in relation to prevention, collection and treatment of hazardous waste and remediation of former waste disposal sites.</p>
	<u>Groundwater</u>  Pollution may occur from former disposal sites, illegal dumping, inappropriate disposal of unreported hazardous wastes and other such activities such as diesel laundering	Yes	<p>The adopted Plan identifies strategies for improved prevention and collection of hazardous wastes and the remediation of former waste disposal sites. It is anticipated that these strategies will have a positive impact on ground water through targeted sectoral waste prevention initiatives and increased control of generated hazardous waste. No significant adverse effects are anticipated from hazardous waste treatment due to controls under EPA licensing regimes.</p> <p>Tables 8.17 to 8.22 in the SEA Environmental Report provide the details of the assessment in relation to prevention, collection and treatment of hazardous waste and remediation of former waste disposal sites.</p>
	<u>Marine</u>  Risks arise from marine transport and export of wastes, via accidents, spillages or general handling.  Hazardous residues have been identified in some port sediments, probably related to historical activity. This has been the case for Dublin Docklands and is expected for the redevelopment of the Cork Docklands. Marine spoil dredge is also a consideration in Port locations.	Yes	<p>The adopted Plan seeks to improve the hazardous waste treatment and disposal infrastructure within Ireland, increase our self-sufficiency and reducing our reliance on export. By reducing the quantities of waste exported, the potential for impact to the marine environment through transport related emissions and spill risk is reduced.</p> <p>The plan recommends that a programme for the systematic identification, assessment and action planning for potentially contaminated harbour, port and marina sediments be developed. This will have a positive impact on the marine environment.</p> <p>Table 8.19 in the SEA Environmental Report provides detailed assessment of treatment and recovery, as Ireland aims for self-sufficiency in managing hazardous waste.</p>

SEA Objectives	Environmental Considerations and Findings from the Environmental Report	Integrated into the Plan (Yes/No)	How has Environmental Consideration Been Taken into Account and if not Why?
To protect air quality from hazardous waste and/or reduce air pollution or limit the levels that do not damage the natural environment or human health	<u>Air</u> Risks from possible combustion of unreported wastes, and emissions from authorized hazardous waste facilities.	Yes	<p>Improved collection together with the strategies for prevention outlined in the adopted Plan will tackle the illegal disposal of waste, including uncontrolled burning of hazardous waste. This will have a positive impact on air quality through reduction in uncontrolled burning in particular.</p> <p>All authorised hazardous waste treatment facilities are subject to licence conditions, enforced by the EPA. These licences require that a facility demonstrate that significant environmental pollution will not be caused by the operation the facility. Protection of the environment and human health is assured by this process.</p> <p>Tables 8.17 to 8.22 in the SEA Environmental Report provide the details of the assessment in relation to prevention, collection and treatment of hazardous waste.</p>
To minimize greenhouse gas emissions associated with hazardous waste management	<u>Climate</u> The main climate related emissions are from transport of hazardous waste, in particular exported wastes. Unlike municipal waste, generation of methane is not a problem.	Yes	<p>Much of our exported hazardous wastes are transferred by road to port facilities in Ireland before being shipped to countries such as Germany and Holland for treatment. In many cases, additional road transport is required from the destination port to take the waste to the appropriate facility for treatment and disposal. Transport generates greenhouse gas (GHG) emissions. The adopted Plan addresses this issue, with the aim of increasing self-sufficiency through proposals to develop additional hazardous waste treatment and disposal facilities, thus reducing the need for shipping and road transport of waste.</p> <p>The Plan includes proposals for treatment in Ireland through incineration, co-incineration and solvent recycling. While all have the potential to produce GHG emissions, there are savings to be made through reduced transport (there would be less road transport required and no marine transport), solvent recycling (reduced process emissions from manufacture of solvents) and energy recovery (from incineration).</p> <p>Tables 8.19 and 8.20 in the SEA Environmental Report provide the details of the assessment in relation to treatment and recovery of hazardous waste and the disposal of this waste.</p>
To safeguard soil quality and quantity from hazardous waste and reduce soil contamination	<u>Soil</u> National soil quality is not significantly impacted, but former waste disposal sites and inappropriate disposal of unreported wastes can have a significant impact on soil. A large volume of contaminated soil is currently being exported.	Yes	<p>The adopted Plan identifies strategies for improved prevention and collection of hazardous wastes and the remediation of former waste disposal sites. It is anticipated that these strategies will have a positive impact on soil quality. In the short term the volume of contaminated soil for disposal will increase as historical sites are identified and remediated. The Plan includes for on-site / mobile treatment facilities for contaminated soils. Increased self-sufficiency will also ensure the protection of soil as a resource.</p> <p>Tables 8.17 to 8.22 in the SEA Environmental Report provide the details of the assessment in relation to prevention, collection and treatment of hazardous waste, including contaminated soil, and remediation of former waste disposal sites.</p>

SEA Objectives	Environmental Considerations and Findings from the Environmental Report	Integrated into the Plan (Yes/No)	How has Environmental Consideration Been Taken into Account and if not Why?
To make use of the built environment, energy and raw materials	<p><u>Material Assets</u></p> <p>Current impacts on transport and energy are noted, as is the infrastructure deficit in hazardous waste treatment capacity in Ireland</p>	Yes	<p>The adopted Plan addresses this issue with the aim of increased self-sufficiency through proposals for further hazardous waste treatment and disposal facilities, thus reducing the need for shipping and road transport of waste through export.</p> <p>Table 8.19 in the SEA Environmental Report provides detailed assessment of treatment and recovery.</p>
To conserve and enhance biodiversity, including flora and fauna, and integrate biodiversity considerations wherever possible into the National Hazardous Waste Management Plan	<p><u>Biodiversity</u></p> <p>Indirect impacts may occur via air or water emissions from hazardous waste facilities. Former waste disposal sites may also be creating negative impacts. Direct impacts could occur if facilities are sited near protected habitats.</p>	Yes	<p>The Proposed Plan identifies strategies for improved prevention, collection and treatment of hazardous wastes and the remediation of former waste disposal sites. It is anticipated that these strategies will have a positive impact on biodiversity through reduction in hazardous waste generation and increased control of generated hazardous waste. No significant adverse effects are anticipated from hazardous waste treatment due to controls under EPA licensing regimes.</p> <p>Siting of treatment and disposal facilities within Ireland has the potential to impact on protected sites. A stated target of the Plan is to avoid loss or damage to protected sites from siting of hazardous waste facilities. Specific facility developments are subjected to further controls and assessment through EPA licensing, planning approval and environmental impact assessment.</p> <p>Tables 8.17 to 8.22 in the SEA Environmental Report provide the details of the assessment in relation to prevention, collection and treatment of hazardous waste and remediation of former waste disposal sites.</p>
To protect human health from hazardous waste	<p><u>Human Health</u></p> <p>The biggest impacts on health are likely to arise from inappropriate disposal of hazardous wastes and illegal hazardous waste activities. Possible impacts on a domestic / occupational level through accidents are also recognized. If more self-sufficiency is achieved more waste facilities and an increase in air emissions are projected.</p>	Yes	<p>The Proposed Plan identifies strategies for improved prevention and collection of hazardous wastes and the remediation of former waste disposal sites. It is anticipated that these strategies will have a positive impact on human health.</p> <p>It is noted in the Proposed Plan that all authorized facilities are subject to licence conditions, enforced by the EPA. These licences require that a facility demonstrate that environmental pollution will not be caused by the facility. Licences contain emission limit values for air quality, surface water, groundwater, air etc. These legislative limits have been agreed at EU level and are intended to protect human health. Protection of the environment and human health is assured by this process.</p> <p>Tables 8.17 to 8.22 in the SEA Environmental Report provide the details of the assessment in relation to prevention, collection and treatment of hazardous waste and remediation of former waste disposal sites.</p>

## 5 REASONS FOR CHOOSING THE ADOPTED PLAN

The reasons for choosing the National Hazardous Waste Management Plan, as adopted, in light of the other reasonable alternatives considered are discussed below. Implementation of the Plan will result in:

- increased self-sufficiency in managing Ireland's hazardous waste, through improved hazardous waste management infrastructure;
- a reduction of the quantity of hazardous waste generated, which will lead to an overall decrease in impacts to the environment, through targeted sectoral waste prevention initiatives;
- a reduction in the quantity of unreported hazardous waste which will lead to a decrease in impacts to water, air, soil, biodiversity and human health/population, through improved collection infrastructure targeting small scale generators in particular, and reducing the "unknowns" with regard to unreported hazardous waste;
- a reduction in the potential for negative impacts to biodiversity, air and climate caused by the export of hazardous waste, through increased self-sufficiency and minimisation of waste movements;
- an increase in the overall quantity of hazardous waste requiring transport due to an increase in the quantity of hazardous waste and contaminated soil collected. This could be mitigated by the treatment of hazardous waste in facilities in Ireland rather than abroad, thus minimising kilometres travelled per tonne of waste;
- the transfer of emissions from hazardous waste treatment from facilities in other countries to facilities in Ireland. All hazardous waste facilities in Ireland will be subject to authorisation by planning authorities and the Environmental Protection Agency.

No significant adverse environmental impacts are anticipated from implementation of the Plan. One of the most relevant and significant vehicles in ensuring that the management of hazardous waste at licensed facilities does not result in environmental pollution are the authorisation/licensing procedures already in place. Continued and consistent enforcement of licence conditions for all licensed facilities is the most effective mitigation measure available.

Where potential negative impacts have been identified, mitigation measures have been proposed. The National Hazardous Waste Management Plan is prepared and presented at the strategic level. It is therefore noted that individual facilities will be subject to planning approval by the planning authorities and licensing by the EPA. In addition, such facilities would also be subject to environmental impact assessment, thus ensuring that due consideration is given to their potential environmental impacts.

## **6 MEASURES TO MONITOR SIGNIFICANT ENVIRONMENTAL EFFECTS OF THE IMPLEMENTATION OF THE ADOPTED PLAN**

### **6.1 INTRODUCTION**

Article 10 of the SEA Directive requires that monitoring should be carried out in order to identify at an early stage any unforeseen adverse effects due to implementation of the Plan, and to be able to take remedial action. Monitoring is carried out by reporting on a set of indicators, which enable positive and negative impacts on the environment to be measured. Environmental targets and indicators were developed during the strategic environmental assessment and the preparation of the Plan (refer to Table 9.1 of the Environmental Report). Monitoring is based on these indicators and is discussed in more detail below.

The EPA will monitor the implementation of the Plan and report periodically to the National Waste Prevention Committee (NWPC). Monitoring of environmental indicators will be co-ordinated with monitoring the overall implementation of the Plan, for which targets and indicators have also been defined (refer to Tables 20 to 22 of the Plan).

### **6.2 SOURCES OF INFORMATION FOR MONITORING**

Monitoring will focus on aspects of the environment that are likely to be significantly impacted by the Plan. Where possible indicators have been chosen based on the availability of the necessary information and the degree to which the data will allow the target to be linked directly with the implementation of the Plan. Table 6 presents an environmental monitoring programme that aims to track progress towards achieving strategic environmental objectives and targets, and includes sources of relevant information.

From Table 6, it can be seen that the majority of information required is already being actively collected and/or compiled, but not all of this is being gathered and reported on at a national level.

## 6.3 REQUIRED MONITORING

The Environmental Monitoring Programme was presented in Table 9.1 of the Environmental Report. has identified that the following monitoring will be required to monitor the significant environmental effects of the implementation of the Plan.

**Table 6 Environmental Monitoring Programme**

Target	Environmental Objective	Indicator	Data Availability & Source	Frequency of Monitoring.
Reduce exceedences of emission limits to water and air from licensed hazardous waste facilities	Water Air	Number of hazardous waste facilities in breach of emission limits to surface water, groundwater and air	EPA – Licence Enforcement Files	Every 2 Years
Legacy hazardous waste disposal sites to be managed in accordance with Code of Practice	Water Soil	Number of legacy disposal sites to which Code of Practice is applied	EPA – Code of Practice Implementation Records	Every 2 Years
No increases in dioxin levels in ambient environment in vicinity of hazardous waste incinerators	Air Human Health	Dioxin in cow's milk	EPA - Monitoring of Cows Milk	When available
Contribute to generation of energy from renewable sources.	Climate	Quantity of hazardous waste managed via energy recovery	EPA – National Waste Report	Annual
Reduce distance travelled by hazardous waste	Climate Transport	Tonne-kilometres travelled by road and sea	EPA – to be calculated from best available records (e.g. facility records, new C1, TFS) (data not currently collected).	Every 2 Years
Reduce export of hazardous waste and move towards self-sufficiency	Transport Material Assets	Quantity of hazardous waste exported	EPA – National Waste Report	Annual
Reduce the generation of unreported hazardous waste	Human Health Soil	Estimation of unreported hazardous waste	EPA – estimation will be made every two years from National Waste Report	Every 2 Years
Increase the in situ treatment of contaminated soil	Soil	Quantity of contaminated soil treated in situ as a proportion of the total	EPA – Licence Enforcement Files (data not currently collected).	Every 2 Years

Target	Environmental Objective	Indicator	Data Availability & Source	Frequency of Monitoring.
Increase the treatment of contaminated soil in Ireland	Soil Material Assets	Quantity of contaminated soil treated in Ireland as a proportion of the total	EPA – National Waste Report and Licence Enforcement Files.	Every 2 Years
Develop any new hazardous waste facilities on previously used land or brownfield sites	Material Assets	Area of new hazardous waste facilities on greenfield and brownfield sites	EPA - Licensing files (data not currently collected).	Every 2 Years
Avoid loss or damage to designated sites from siting of hazardous waste facilities	Biodiversity	Area of designated sites used by of proposed for development of hazardous waste facilities	EPA - Licensing files	Every 2 Years
Reduce major incidents of unauthorised disposal of hazardous waste	Human Health	Reports of large scale illegal disposal involving hazardous waste (not including relatively small scale fly-tipping).	EPA – unauthorised waste activities report	Every 2 Years
Reduce complaints relating to hazardous waste facilities	Human Health	Number of complaints received relating to hazardous waste facilities	EPA – licence enforcement files	Every 2 Years

The EPA will carry out a mid-term review of performance against SEA Objectives. A review of the monitoring programme is considered to be an important part of the SEA reporting.

## **7 CONCLUSION**

The strategic environmental assessment carried out on the during the preparation of the National Hazardous Waste Management Plan has ensured that any potential significant environmental impacts of the Plan have been identified and that they have been given appropriate consideration. Consultation on the Proposed Plan and Environmental Report has further contributed to the development and finalization of the adopted National Hazardous Waste Management Plan.

The publication of this SEA Statement does not conclude the strategic environmental assessment process; the process continues with monitoring of environmental impacts of the implementation of the Plan, and periodic progress reports to the National Waste Prevention Committee.