

Proposed Revised National Hazardous Waste Management Plan

**Summary
Document**

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Environmental Protection Agency 2013

Proposed Revised National Hazardous Waste Management Plan

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1 INTRODUCTION

Waste is classified as being hazardous when it displays one or more of the hazardous properties listed in the Second Schedule of the Waste Management Act as amended¹ (e.g. explosive, oxidizing, flammable, irritant, harmful, toxic, carcinogenic). The relevant property or properties are determined by property testing or, where applicable, concentration based criteria. The National Waste Reports are published annually by the Environmental Protection Agency (EPA) and provide data on Ireland's waste generation and management including hazardous waste.

This Proposed Revised National Hazardous Waste Management Plan (hereinafter referred to as the Proposed Revised Plan), for the Republic of Ireland, is prepared by the EPA in accordance with Section 26 of the Waste Management Act 1996 as amended. The first such Plan was published in 2001 and was replaced by a second Plan published in 2008. A report² on the second Plan's implementation was prepared in 2011. This third Proposed Revised Plan is an update of the second Plan and will, on completion, supersede it. The Plan must be evaluated at least once every six years.

The 2012 Government Policy on Waste Management³ states:

“The National Hazardous Waste Management Plan is a strategic level document designed to provide overall direction to policy and decision makers involved in the prevention and management of hazardous waste. All of the plan's recommendations are designed to reduce the environmental impact of hazardous waste. Local authorities are obliged to take these recommendations into account when they review their own waste management plans.”

This third Proposed Revised Plan will cover a period of six years from the date of publication. The objectives of the Proposed Revised Plan are:

1. To prevent and reduce the generation of hazardous waste by industry and society generally;
2. To maximise the collection of hazardous waste with a view to reducing the environmental and health impacts of any unregulated waste;
3. To promote increased self-sufficiency in the management of hazardous waste and to minimise hazardous waste export;

¹ European Communities (Waste Directive) Regulations 2011 (S.I. 126 of 2011)

² National Hazardous Waste Management Plan (2008-2012) Implementation Report 2011 (www.hazardouswaste.ie)

³ A Resource Opportunity - Waste Management Policy in Ireland - Department of the Environment, Community and Local Government July 2012

4. To minimise the environmental, health, social and economic impacts of hazardous waste generation and management.

A full Strategic Environmental Assessment (SEA) was conducted concurrent with the development of the second Plan in 2008 in accordance with SEA legislation⁴. In accordance with Article 9(6) of European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (S.I. No. 435 of 2004) as amended, the EPA must decide if modifications to the National Hazardous Waste Management Plan 2008-2012 would or would not be likely to have significant effects on the environment taking into account relevant criteria set out in Schedule 1 of these Regulations. Following SEA screening, it is considered that the proposed modifications to the plan do not need to be subjected to further SEA processes. This SEA screening will be further updated following the public consultation on the Proposed Revised Plan. The SEA Targets and Indicators have been retained, where relevant, in the Proposed Revised Plan. A further Implementation/SEA Monitoring Report is planned to be developed during the next implementation period.

⁴ Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment, OJ L 197, 21.7.2001, p. 30–37, European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004, S.I. No. 435 of 2004.

2 THE CURRENT SITUATION

2.1 Legislation

The management of hazardous waste is governed by comprehensive legislation which principally originates in EU directives and regulations, and is implemented in Ireland by the Waste Management Acts 1996 as amended, related statutory instruments, and other Acts which are listed and briefly described in the Proposed Revised Plan.

There are a number of changes that will take effect within the Proposed Revised Plan period as a result of recent or expected legislative amendments, in addition to some areas that may have implications for hazardous waste considerations, including the following:

- Replacement of Regional Waste Management Plans
- Waste Electrical and Electronic Equipment
- End of Life Vehicles
- Ozone Depleting Substances / Fluorinated Greenhouse Gases
- Green Public Procurement
- Minamata Convention on Mercury
- Unconventional Gas Exploration & Extraction

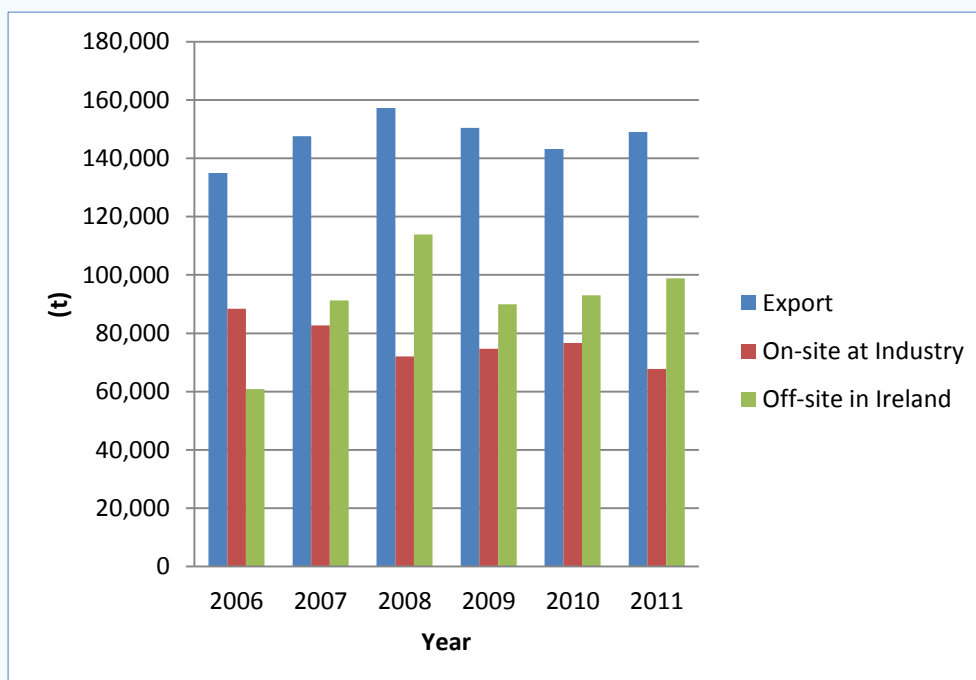
The Proposed Revised Plan makes a small number of recommendations in the legislative area including the consolidation of waste legislation, collection permit changes to address transport of small quantities of hazardous waste in order to avoid barriers for collection from small sources, a more holistic approach to manage farm hazardous waste and a regional enforcement approach to producer responsibility obligations.

2.2 Ireland's Hazardous Waste Profile

In Ireland, the largest quantity of hazardous waste is generated by Irish industry and includes such materials as industrial solvents, waste oils, industrial sludges and chemical wastes. Households, small businesses, farms and the healthcare and construction sectors also generate quantities of hazardous waste including batteries, electrical equipment, healthcare risk waste, solvent based paint and varnish waste, sheep dip and fluorescent lamps.

The profile of industrial hazardous waste generation has not changed significantly since 2001. Its generation is dominated by the 'pharmaceutical and chemical' ("pharmachem") industry sector with large contributions also from the manufacture of basic metals and metal products.

The overall quantity of hazardous waste managed in 2011 (most recent data) was 287,376 tonnes, representing a <0.1% reduction on that reported for 2009. In 2011, 67,772 tonnes of hazardous waste was treated *on-site of generation* at 20 IPPC-licensed facilities with 98,838 tonnes treated *off-site in Ireland* by a network of authorised hazardous waste treatment facilities in Ireland. In the same year, 149,037 tonnes of hazardous waste was *exported* for treatment and disposal abroad, mostly for thermal treatment (incineration and use as fuel), but also for metal recovery, solvent recovery and landfill (see also Section 4.1 below).



Trends in the location of hazardous waste treatment, 2006-2011

The long-term trend in the location of treatment of hazardous waste shows that the *on-site* treatment of hazardous waste has decreased overall. The *off-site* treatment of hazardous waste in Ireland has steadily increased over the years although it is down from a peak in 2008. The *export* of hazardous waste has become the established outlet for roughly half of all Irish hazardous waste.

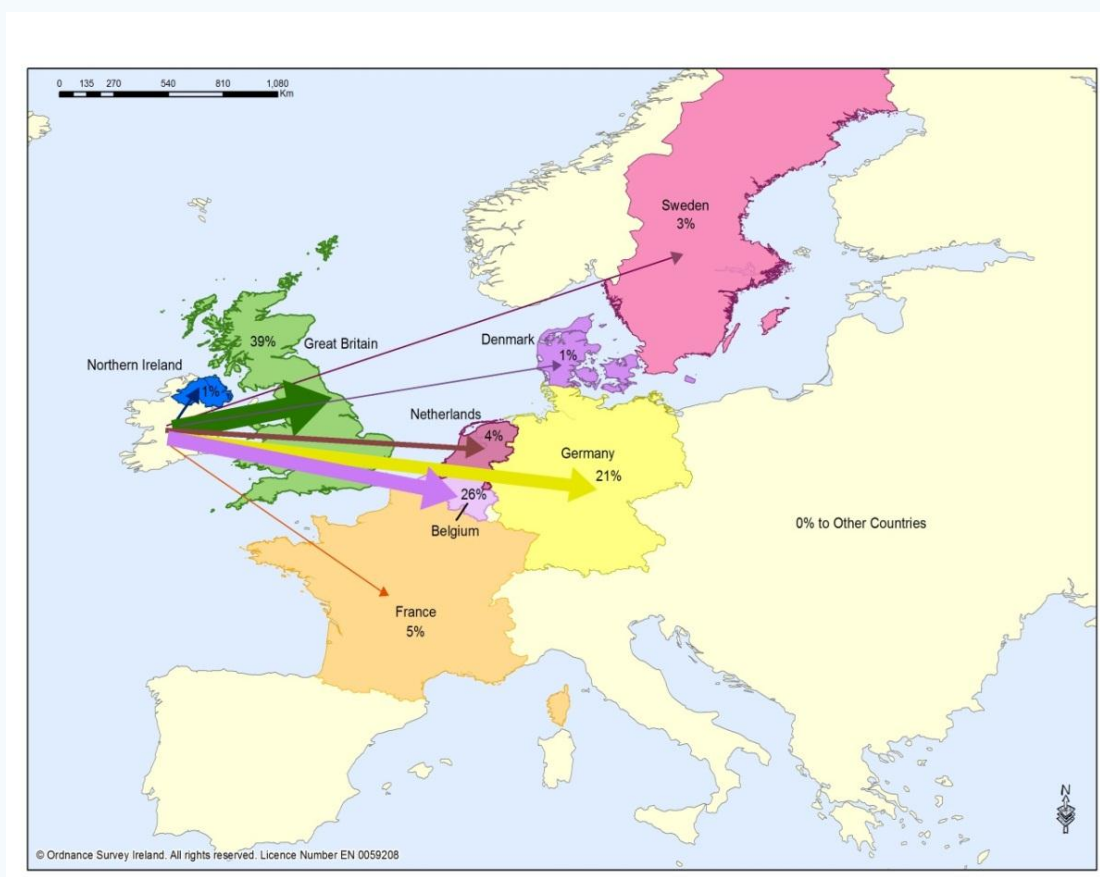
2.2.1 Hazardous waste treatment in Ireland

The reported quantity of hazardous waste treated in Ireland in 2011 was 166,610 tonnes, which is a slight increase of 1% since 2009. Although more recently there has been a decrease in the treatment of hazardous waste on site at industry in 2011 (a decrease of 9% on 2009 tonnage to 67,772 tonnes at IPPC licenced facilities), there was an increase in the

treatment of hazardous waste off-site at commercial facilities in Ireland (an increase of 10% on 2009 tonnage to 98,838 tonnes).

2.2.2 Hazardous waste exported for treatment

Exports of hazardous wastes amounted to 149,037 tonnes in 2011 consisting of a wide range of categories with a large proportion attributed to solvent and aqueous wastes. The waste was mainly exported to a number of EU countries for treatment. Four EU countries (United Kingdom, Belgium, Germany and France) accepted 90% of these exports.



EU destination countries of exported hazardous waste in 2011

2.2.3 Unreported waste

Unreported hazardous waste generally means undocumented waste that is assumed to be incorrectly managed and therefore has the potential to have a greater environmental impact than reported hazardous waste. Providing accurate estimates of unreported hazardous waste is very difficult. Some unreported waste may end up in general domestic or commercial waste, or it may be disposed of in an uncontrolled manner by burning, burying or discharge to sewer, water or surface ground.

There are a number of options for generators of hazardous waste to manage hazardous waste appropriately including commercial hazardous waste collection, the use of civic amenity sites (where hazardous waste is accepted), retail take back (mainly applicable to waste electrical and electronic equipment (WEEE) and batteries) and mobile and periodic drop-off services provided by local authorities.

Similar to the National Hazardous Waste Management Plan (2008-2012), the Proposed Revised Plan highlights the need for improved collection of hazardous waste for a number of smaller priority sources including vehicle servicing garages, farms, ports and harbours, and healthcare risk waste from individuals.

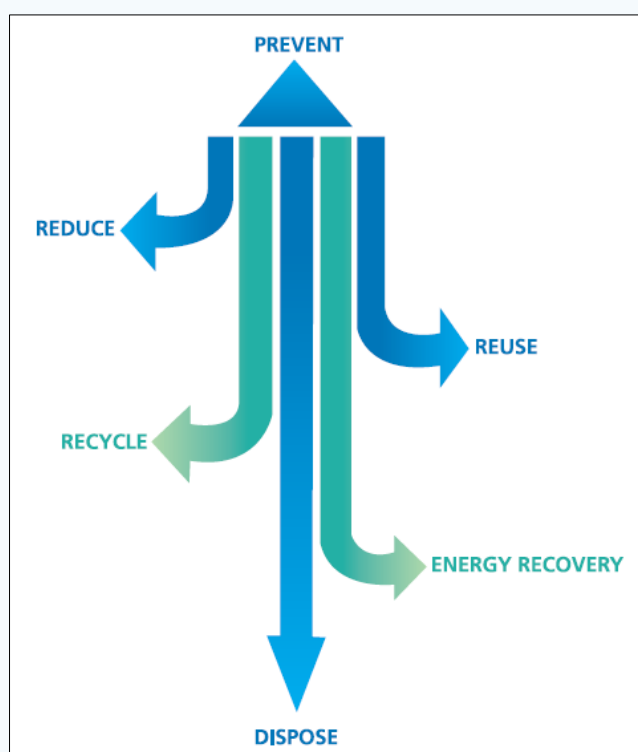
In terms of producer responsibility, the Proposed Revised Plan continues to recommend that the Department of Environment, Community and Local Government (DECLG) examines potential producer responsibility obligations concerning certain hazardous waste streams including human and farm animal medicines, waste oil, oil filters, paint and paint containers, pesticides and herbicides (household), ink and ink containers from publishing. In particular there is a need for a nationwide take-back scheme for unused or expired human medicines considering the widespread consumption of medicines, the likely uptake of this service and the potential for the prevention of environmental pollution. It is also proposed that a pilot scheme be carried out within the Proposed Revised Plan period focussing on the collection of hazardous farm wastes such as animal and plant protection product containers, unused or out-of-date animal health medicines and pesticides, waste oils, oil filters, empty cartridges (e.g., grease guns), aerosols, WEEE, paints, batteries and other hazardous farm wastes.

2.2.4 Enforcement challenges

Environmental regulators in Ireland including the EPA and local authorities are responsible for in excess of 500 environmental protection functions contained within over 100 pieces of legislation including hazardous waste legislation. In recent years challenging issues for enforcement in terms of hazardous waste include diesel laundering waste dumping incidents, unauthorised use of waste oil in burners for space heating, theft of waste electrical and electronic equipment (WEEE) for its metal content and unauthorised car scrapyards dealing with end of life vehicles.

3 PREVENTION OF HAZARDOUS WASTE

A new and revitalised approach to prevention is taken in the revised EU Waste Framework Directive⁵. Prevention is at the top of the waste hierarchy, and represents the preferred policy approach to materials management and an alternative to the wastage of materials or resources. The prevention of waste is preferable to its generation and to the monetary and environmental costs incurred as a result of its generation.



The waste hierarchy, highlighting prevention of waste as the preferred option

Hazardous waste prevention will continue to be a priority for the period of the Proposed Revised Plan and there will be continued focus on driving cultural change in Irish business and society in order to achieve greater resource efficiency. The EPA's National Waste Prevention Programme leads and co-ordinates a wide range of prevention initiatives. The National Waste Prevention Programme should continue to be a priority for the State and should co-ordinate the principal initiatives outlined in this Proposed Revised Plan and create opportunities for engagement at the sectoral and enterprise level.

The EPA is currently preparing the next National Waste Prevention Programme for its third cycle (2013-2018) and is currently focussing on a number of strategic objectives in order to achieve the goal of prevention which will include the prevention of hazardous waste.

⁵ Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives

Previously, initiatives under the National Waste Prevention Programme and other similar programmes have included a focus on prevention of hazardous waste including in the areas of healthcare (Green Healthcare Programme), farming (Farming the Environment Guide), household hazardous waste (A Householders' Guide to Hazardous Waste Prevention), vehicle servicing garages (Smart Garage Guide), and enterprise (Cleaner Greener Production Programme).



3.1 Product based hazardous waste prevention

In terms of product based hazardous waste prevention, there are a range of regulations in place that control the content of hazardous materials in specified products or articles including regulations on the Restriction of Hazardous Substances (in Electrical & Electronic Equipment), Persistent Organic Pollutants (POPs), Packaging (Essential Requirements), Batteries & Accumulators and Decorative Paints. Other legislation controlling the impact of products that may become hazardous (or environmentally harmful) wastes after use include End-of-Life Vehicles, Polychlorinated Biphenyls (PCBs), POPs, Solvents (incorporated into the Industrial Emissions Directive), Ozone Depleting Substances (ODS) and Fluorinated Greenhouse Gas (F-gas) Regulations. The EU REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals) Regulation should also reduce hazardous materials and products over time. Enforcement of and compliance with the above regulations will reduce the health and environmental impacts of these potentially hazardous and harmful substances.

The Proposed Revised Plan recommends that a waste characterisation study, is carried out to profile hazardous waste arisings from smaller sources (e.g., households and small businesses) to determine if product based legislation is having its desired effect and the hazardousness of related waste streams is reducing.

3.2 Prevention plans for prioritised sectors

The previous National Hazardous Waste Management Plan (2008-2012) proposed a number of approaches to waste prevention and devised general tools for engagement with priority sectors where hazardous waste is generated. Following on from the previous plan, four priority sectors have been identified for continuous engagement on hazardous waste prevention over the next Proposed Revised Plan period. The priority list will remain flexible with addition or deletion of sectors as further study, information or opportunities might dictate during the Proposed Revised Plan period.

Four priority sectors for hazardous waste prevention:

Sector	Typical wastes
Pharmachem	Solvents, other industrial hazardous waste
Agriculture	Waste oils, oily wastes, paints, pesticides, animal healthcare wastes.
Healthcare	Healthcare hazardous waste (e.g., Dressings, contaminated medical products and other general hazardous waste)
Households	Paint, pesticides, pharmaceuticals, batteries, fluorescent tubes

4 TREATMENT OF HAZARDOUS WASTE

The treatment of Irish hazardous waste generally takes place under regulated and controlled conditions. Currently almost half of this treatment takes place abroad, in other EU Member States for the most part. The EU Waste Framework Directive requires that a policy of national self-sufficiency in disposal installations be adopted by Member States where this is possible on the grounds of strategic need and conformance with the proximity principle. Hazardous waste destined for recovery is subject to an open and competitive waste market in the EU.

4.1 Current Situation

Almost half (47%) of Irish hazardous waste (not including contaminated soil) was exported for treatment abroad in 2011. Some 22% was treated on-site of generation, for the most part at IPPC-licensed facilities. The remaining 31% was treated at authorised hazardous waste facilities in Ireland. Export trends show an overall increase in hazardous waste treatment over the last number of years.

Comparison of treatment technologies employed for Irish hazardous waste

Hazardous waste treatment category or technology ⁶	2011	
	Treated in Ireland (tonnes)	Treated abroad (tonnes) ⁷
Incineration (D10)	12,615 on-site	35,569
Use as fuel (R1)	11,012 on-site	28,182
Solvent recycling (R2)	21,770 on-site 27,978 off-site	19,746
Metal recovery (R4)	369 off-site	28,702
Physico-chemical treatment (D9)	122 on-site 25,929 off-site	966
Landfill (D1, D5)	20,079 on-site	7,975
Inorganic material recovery (R5)	5,842 off-site	4,426
Acid/base regeneration (R6)	0	1,014
Organic substance recovery (non-solvent) (R3)	294 on-site 61 off-site	8,187
Oil recovery (R9)	180 on-site 34,127 off-site	233
Other (e.g., D8, D13/R12)	1,700 on-site 4,531 off-site	14,037
Totals	67,772 on-site, 98,838 off-site <u>166,610</u> total	<u>149,037</u>
	<u>287,376^d</u>	

⁶ For a full list of Waste Disposal and Recovery Codes, refer to http://www.epa.ie/pubs/forms/wreport/nwr/EPA_explanation_of_Recovery_and_Disposal_Codes.pdf

⁷ Refer to Table 21 of the Proposed Revised Plan for a list of the dominant waste streams employing the various treatment categories

Thermal treatment technologies (incineration and use as fuel) dominate export treatment options with solvent recycling and metal recovery also playing a significant role in export treatment.

The Proposed Revised Plan recommends that Ireland should strive for greater self-sufficiency in hazardous waste management where it is strategically advisable and where it is technically and economically feasible. Doing so recognises the proximity principle established in EU law to manage waste; maximises the reuse and recovery potential of materials, precious metal, and secondary fuels through provision of a range of local treatment options where practical. Furthermore it minimises international transport thus reducing associated risks (e.g. accidental spillage in transit) and avoiding transport based greenhouse gas emissions. It also seeks to ensure the availability of recovery and disposal outlets, for hazardous waste if problems arise in the export agreements for hazardous waste treatment in other Member States. In addition a self-sufficiency policy has the potential to stimulate green economy opportunities within the state.

The principles of proximity and self-sufficiency do not mean that Ireland has to possess a full range of hazardous waste recovery facilities. Hazardous waste destined for recovery is subject to an open and competitive waste market in the European Union. It is also recognised that Ireland is unlikely to become fully sufficient in its management of all its hazardous waste given the range of specialist treatments that are required for certain hazardous waste streams.

The recommendation to strive for greater self-sufficiency is intended to maximise the treatment and disposal of hazardous waste in Ireland, where strategically advisable and economically and technically feasible, with policy, environmental and availability of outlet benefits.

Three overarching strategic needs have been identified for action if additional hazardous waste is to be treated in Ireland and export is to be reduced:

- expansion of recovery and treatment capacity in Ireland for waste that does not need thermal treatment or landfill (e.g., physico-chemical treatment);
- addressing the deficit in thermal treatment capacity in Ireland (i.e., use as fuel, co-incineration or incineration) for Irish wastes currently being exported (e.g., solvents); and;

⁸ In 2011 a reported 28,270 t of hazardous waste was blended at facilities in Ireland prior to export as a waste for further treatment (27,058 t reported as exported for use as fuel in cement kilns, a further 1,212 t hazardous waste was blended prior to export for incineration abroad). These quantities are correctly counted in both the treated "offsite in Ireland" column and the "exported" columns. However, they have been discounted in the total column to avoid double counting in the total amount of hazardous waste managed.

- securing of long term disposal arrangements for hazardous waste streams not suitable for thermal treatment or recovery.

The pharmachem sector remains the dominant generator of hazardous waste which requires treatment, although the future should see a downward trend in waste shipments from this sector mainly as a result of increased use of water based biotechnology in drug manufacture and reduced step/continuous loop processes underpinned by economic incentives.

The Proposed Revised Plan outlines that solvent treatment should be facilitated where possible and in accordance with the waste hierarchy. This includes, for example, either solvent recycling (R2), use instead of fossil fuel at existing appropriate sites (e.g. at existing pharmachem facilities, in existing cement kilns) (R1), in purpose built incinerators (D10), and/or alternatives (e.g., physico-chemical treatment). For example, with regard to *on-site* treatment of solvents, in 2011, fifteen IPPC-licensed companies employed solvent distillation (to recycle solvents back into a process stream) or thermal treatment (with or without heat recovery).

The Proposed Revised Plan includes information from recent research⁹ on projections of hazardous waste and indicates that the sustainability associated with shipping these materials abroad for treatment needs to be reassessed.

4.2 Landfill of Hazardous waste

Ireland currently has no dedicated hazardous waste landfill disposal facility. Asbestos is the single largest hazardous waste stream that requires landfill disposal. The following table outlines the use of landfill abroad for Irish hazardous waste for the years 2010 and 2011.

Commercial landfilling of Irish hazardous waste (exported), 2010-2011

	2010 (tonnes)	2011 (tonnes)
Asbestos	9,512	7,001
Hazardous Construction and Demolition waste	54	26
Solid wastes containing dangerous substances	2	2
Other industrial hazardous waste	-	865
Sludges and filter cakes	-	39
Metals and heavy metal containing wastes	19	41
Contaminated soil	216	5,098
Total	9,803	13,073
Total off-site landfill excluding contaminated soil	9,587	7,975

⁹ Curtis, J, Pentecost A, Lyons S, Morgenroth E, di Cosmo V (2009) Towards a Green Net National Product for Ireland. STRIVE Report Series No.103

While landfill is the least favoured option on the waste hierarchy, it is recognised that for some non-recoverable or non-combustible hazardous wastes it will need to be considered. Relying on the current export model to address this need poses risks for long term availability of outlets. However, there are considerable hurdles to be overcome prior to development of a hazardous waste landfill, from a societal acceptance, regulatory and financial point of view. These hurdles should not be underestimated when developing plans which may include the need for or provision of such infrastructure. These hurdles must be weighed up against the uncertainty in the volumes of waste which are subject to landfill as the only option. Where brownfield sites such as existing landfills are proposed for co-location of hazardous wastes some of these obstacles may be more easily overcome.

There is no facility currently operational for the acceptance of asbestos for disposal in Ireland. It is proposed in the Proposed Revised Plan that in the absence of a dedicated national facility and considering the prohibitive export costs for asbestos that additional capacity is provided at specialist cells in a limited number of existing non-hazardous landfills.

In July 2010, a study on the Technical and Economic Aspects of developing a National Difficult Waste Facility (NaDWaF) was completed on behalf of the EPA¹⁰. This study looked at a range of hazardous and difficult wastes (which because of their nature and physical properties pose problems for disposal) including out of date unexploded marine distress flares and unused ordnance as well as radioactive sources, and also took an all-island perspective.

This Proposed Revised Plan recommends that the DECLG keep under review the provision of hazardous waste treatment capacity (e.g., hazardous waste landfill capacity), including at national or all-island level, taking into account the information in the Proposed Revised Plan in addition to the findings from the NaDWaF study. Appropriate instruments may also be considered to ensure hazardous waste disposal capacity is provided. These might include:

- policy directions or incentives for existing local authority or private sector landfill operators;
- a national contract or public private partnership; and/or
- an export levy.

Such instruments may provide additional incentive to potential investors in establishing the necessary infrastructure for the treatment of hazardous waste.

¹⁰ Report is available at http://www.epa.ie/downloads/pubs/waste/haz/EPA_NaDWaF_report_Final.pdf

4.3 Potential for all-island co-operation

The potential for all-island cooperation between Northern Ireland and Republic of Ireland authorities in a number of hazardous waste management issues was detailed in the National Hazardous Waste Management Plan (2008-2012). This Proposed Revised Plan continues to recommend all-island cooperation on hazardous waste management issues.

The *UK Plan for Shipments of Waste*¹¹, which was last updated in May 2012, allows shipments of hazardous waste [for disposal] between Northern Ireland and the Republic of Ireland, in either direction, provided that such waste is both generated and disposed of within Northern Ireland or Ireland. Shipments made under this policy are restricted to certain disposal operations (specially engineered landfill, incineration on land, physico-chemical treatment). The provision of common all-island landfill capacity for hazardous waste, including asbestos waste for example, is still possible within UK policy and is not prohibited in Irish policy.

The Proposed Revised Plan recommends that the DECLG should seek to further examine the potential for joint north-south approaches and co-operation, particularly in the provision of an all-island disposal and treatment capacity to manage hazardous waste, also taking into account recommendations outlined in the abovementioned NaDWaF study.

¹¹ DEFRA, 2012. *UK Plan for Shipments of Waste*.
(https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69546/pb13770-waste-shipments.pdf)

5 LEGACY ISSUES

The Proposed Revised Plan outlines existing measures available to deal with legacy issues concerning hazardous waste, most notably closed landfills, where hazardous waste would possibly have been disposed of in the past, and contaminated soil. Other issues described include extractive waste from historical sites and contaminated harbour sediments.

5.1 Closed Landfills

Local authorities are obliged under Section 22 of the Waste Management Acts 1996 as amended, to identify sites at which waste disposal or recovery activities have been carried on, to assess those sites and to take measures to prevent environmental pollution. Section 26 requires equivalent identification and assessment of sites at which waste disposal activities were carried out that to a significant extent involved hazardous waste.

The Code of Practice for the Environmental Risk Assessment for Unregulated Waste Disposal Sites was published by the EPA in 2007¹² and includes guidance on identifying waste disposal and recovery sites and sets out a risk-based assessment procedure that should be applied to sites identified in accordance with the above requirements. A web based system for local authorities to provide registers for such sites (under Sections 22 and 26 of the Waste Management Act 1996) has been rolled out by the EPA and updated in 2009. Twenty-five sites have been identified as containing hazardous waste.

The Waste Management (Certification of Historic Unlicensed Waste Disposal and Recovery Activity) Regulations 2008 (S.I. No. 524 of 2008) require the identification and registration of local authority operated unlicensed sites by end-June 2009 which is to be followed by site risk assessments and regularisation via an EPA authorisation system. To date, a number of historic unlicensed landfill sites have been subjected to Tier 1 Risk Assessment and their risk level identified. At the time of writing, fifteen applications for Certificates of Authorisation are being considered by the EPA and one has been granted. The EPA has estimated that considerable financial resources are required, over a long period of time, to apply full risk assessment and complete any necessary remedial actions to these sites.

The DECLG is funding an on-going pilot project on environmental risk assessment of legacy landfills.

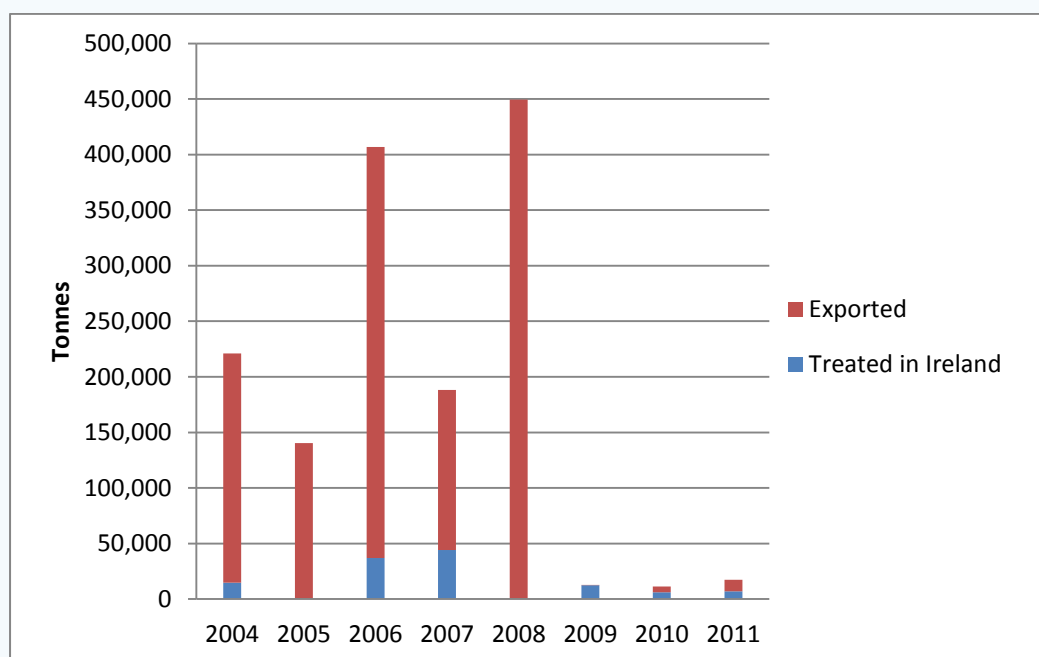
¹² http://www.epa.ie/pubs/advice/waste/waste/epa_cop_waste_disposal_sites.pdf

5.2 Contaminated soil

Under the revised EU Waste Framework Directive, land including unexcavated soil is outside the scope of the Directive and therefore contaminated land is subject to waste legislation only when it is subject to disturbance by excavation.

While contaminated soil is generated mainly in the redevelopment of former industrial sites, it is also generated through fuel-oil and chemical spills and from the remediation of former waste disposal sites. *In-situ* remediation is sometimes carried out. The alternative to on-site treatment is to remove contaminated soil for treatment off-site. One facility¹³ in Ireland is licensed to treat up to 40,000 tonnes of contaminated soil per annum. All other off-site treatment currently takes place abroad.

In relation to the reported quantity and treatment location of contaminated soil removed from development sites, the trend shows that a far greater proportion of the contaminated soil removed from redevelopment sites is exported. In recent years the quantity of contaminated soil has dramatically decreased as a result of the economic downturn and low level of development activity as a consequence.



Location of treatment of reported contaminated soil

In 2013 the EPA published Guidance on the Management of Contaminated Land and Groundwater at EPA Licensed Sites¹⁴. This document sets out the EPA's position in relation to the management of contaminated land and groundwater at EPA licensed sites.

¹³ Enva Portlaoise, waste licence register number W0184-01.

¹⁴ <http://www.epa.ie/pubs/advice/waste/contaminatedland/contaminatedland/>

The continued absence of a legislative requirement for a published register of contaminated sites makes it difficult to plan ahead for contaminated soil treatment. Development of a public register of contaminated sites, and a concerted programme to investigate and remediate these, may change the outlook for developing treatment facilities in Ireland.

6 PROPOSED REVISED PLAN IMPLEMENTATION

It is important to note that policy makers, regulators, product producers, generators and holders of hazardous waste all play a vital role in ensuring that such materials are prevented, minimised, collected and treated correctly in accordance with the waste hierarchy.

Implementation of this proposed National Hazardous Waste Management Plan will require financial and personnel resources to ensure that all recommendations in the Plan are acted upon by the nominated bodies and within specified timescales. The principal implementation and monitoring bodies for the Proposed Revised Plan are as follows:

- The **Department of the Environment, Community and Local Government** should adopt a policy leadership and sponsoring role for the Plan's implementation by:
 - making resources available for the Plan's implementation;
 - fulfilling specific implementation roles as identified in the Plan;
 - making new regulations where necessary and appropriate; and
 - ensuring other Government departments and public bodies fulfil their roles and responsibilities identified in the Plan.
- The **Environmental Protection Agency** will promote and co-ordinate the Plan's implementation, and will continue to take responsibility for:
 - chairing the National Waste Prevention Committee with oversight of the Plan's implementation;
 - fulfilling specific implementation roles as identified in the Plan; and
 - monitoring and reporting on the Plan's implementation.
- The **National Waste Prevention Committee** should continue to act as the principal stakeholder oversight body for the Plan's implementation, with responsibility for:
 - enabling two-way communication with sectoral and stakeholder interests;
 - participating on sub-groups that may be established for specific purposes, as may be decided by the Committee; and

- providing review, feedback and comment on implementation reports prepared by the Environmental Protection Agency.
- **Local authorities'** participation is essential for promoting good hazardous waste management practices and they are the subject of a number of specific recommendations.

They should:

- ensure that regional waste management plans, as well as regional and area development plans, take this Plan into account;
- fulfil their important role in providing small-scale collection services and generally raising awareness in hazardous waste management; and
- engage with the Local Authority Prevention Network.

6.1 Summary of recommended actions and responsibilities

Following the analysis and considerations included in the Proposed Revised Plan, the following is a list of the 24 recommendations as outlined in the Proposed Revised Plan though not necessarily presented in the order in which they could or should be implemented. Further details and analysis that supports the recommendations are included in the various chapters of the main Proposed Revised Plan document:

Administrative arrangements

1. Local authorities should consider the information provided in this Proposed Revised Plan, and, in accordance with Sections 22(8) and 26(6) of the Waste Management Acts 1996 as amended, take relevant recommendations of this Proposed Revised Plan into account in their revision and implementation of regional waste management plans, as well as regional planning guidelines and regional and area development plans.

Responsible: Local authorities

2. Public bodies should be aware of this Proposed Revised Plan and take its provisions and recommendations into account in the execution of their environmental protection, industrial development and other functions, with the objective of improving their own hazardous waste management and that of their clients, customers or stakeholders.

Responsible: All public bodies

Prevention

3. Continuously engage with priority sectors (pharmaceutical, health, agricultural and household) and communities (e.g. via the Local Authority Prevention Network) on hazardous waste prevention activities as detailed in the Proposed Revised Plan.

Responsible: Environmental Protection Agency, Local authorities and relevant sectoral organisations

4. Incorporate the prevention of the generation of hazardous waste into the National Waste Prevention Programme and the implementation measures within the Regional Waste Management Plans.

Responsible: Environmental Protection Agency, Local authorities

5. Engage with businesses towards achieving hazardous waste prevention, cleaner technology and better compliance with regulation.

Responsible: Environmental Protection Agency, Local authorities

6. In implementing the Green Public Procurement Action Plan provide for the substitution or reduction in use of hazardous materials and products in public procurement (eco-design).

Responsible: All public bodies

7. Carry out waste characterisation studies, via the National Waste Prevention Programme, to profile hazardous waste content of arisings from smaller sources (e.g., households and small business).

Responsible: Environmental Protection Agency

8. Carry out studies on relevant waste streams, e.g. packaging, WEEE, to determine if product-based legislation is having its desired effect and the hazardousness of related waste streams is reducing.

Responsible: Environmental Protection Agency

Collection of hazardous waste

9. Plan and provide resources to local authorities to develop in each local authority area adequate hazardous waste collection facilities for households and small businesses (e.g. at civic amenity sites, mobile special collections). Consider the establishment of a

network of collection and transfer facilities to capture small-scale quantities of asbestos (arising from DIY and small contracting jobs).

Responsible: Department of the Environment, Community and Local Government, Local authorities

10. Continue to carry out enforcement to ensure improved hazardous waste collection from small-scale hazardous waste streams (e.g., garages, ports and harbours).

Responsible: Relevant sectoral organisations, Local authorities

11. Assessment and development of potentially new producer responsibility obligations for certain hazardous waste streams (e.g., a take back scheme for unused or expired human medicines), on foot of the recently established review of producer responsibility initiatives and detailed studies into priority hazardous waste streams.

Responsible: Department of the Environment, Community and Local Government

12. Complete a farm hazardous waste collection pilot project.

Responsible: Environmental Protection Agency in collaboration with relevant bodies

Infrastructure and self-sufficiency

13. Keep under review the provision and facilitation of hazardous waste treatment¹⁵ capacity and make recommendations on the appropriate economic or other instruments necessary for such capacity to be provided, either by the private or public sector.

Responsible: Department of the Environment, Community and Local Government

Regulatory

14. Consolidate and reform existing regulations where appropriate, and make provision for new hazardous waste regulations where the need becomes apparent during implementation of this Proposed Revised Plan.

Responsible: Department of the Environment, Community and Local Government

¹⁵ 'Treatment' means recovery or disposal operations, including preparation prior to recovery or disposal (EU Waste Framework Directive 2008/98/EC)

15. Cooperate in enforcement activities concerning product based pollution prevention (e.g., Restriction of Hazardous Substances in Electrical and Electronic Equipment, Persistent Organic Pollutants (POPs)).

Responsible: Relevant public authorities

Legacy issues - Closed landfills

16. Identify, assess and, where necessary, remediate sites where hazardous waste was to a significant extent disposed of in the past. This action should conform to the Code of Practice prepared by the EPA's Office of Environmental Enforcement.

Responsible: Local authorities and Department of the Environment, Community and Local Government

North-south initiatives

17. Seek to establish, with the appropriate Northern Ireland authorities, a North-South co-operative group working on hazardous waste issues.

Responsible: Department of the Environment, Community and Local Government

Guidance and awareness

18. Conduct awareness and information campaigns (e.g., via social media), to pro-actively inform individuals and businesses of available hazardous waste collection services in their areas, as well as their legal obligations. Provide and disseminate practical guidance on the management of sectoral hazardous waste (e.g., household, commercial, farming).

Responsible: Local authorities, Department of Agriculture, Food and the Marine and relevant sectoral organisations

19. Prepare up to date factsheets on each of the main hazardous waste streams including information on appropriate management options for such waste streams.

Responsible: Environmental Protection Agency

20. Complete the code of practice on the minimum operational and environmental standards for accepting hazardous waste at civic amenity sites and disseminate to local authorities and civic amenity operators.

Responsible: Environmental Protection Agency

21. Continue to promote awareness and guidance on the correct management of healthcare hazardous waste (e.g., Green Healthcare Programme) to all HSE employees, as appropriate). Formally launch the Green Healthcare Programme.

Responsible: Environmental Protection Agency, Health Service Executive

22. Carry out a study to evaluate and recommend an appropriate regulatory mechanism and relevant guidance for the management and disposal of spent sheep dip.

Responsible: Environmental Protection Agency in consultation with relevant stakeholders

Plan Implementation

23. Devise sectoral and waste stream specific indicators (e.g., industrial, farming, healthcare) to help monitor implementation of the Proposed Revised Plan's objectives.

Responsible: Environmental Protection Agency

24. Periodically report on the progress on the Proposed Revised Plan's implementation.

Responsible: Environmental Protection Agency

6.2 Targets, Indicators and Reporting

Objectives, Targets and indicators have been included in the Proposed Revised Plan to allow for monitoring the implementation of the Proposed Revised Plan (management indicators) and monitoring any environmental effects of the Proposed Revised Plan's implementation (environmental indicators).

In relation to the Proposed Revised Plan, the EPA will carry out a mid-term review and will report to the National Waste Prevention Committee on the implementation of this plan, incorporating information from the implementing bodies defined in this plan. The national waste report will present statistics on hazardous waste treatment and progress relative to other targets.