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## Impacts of the National Hazardous Waste Management Plan

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## **Impacts of the National Hazardous Waste Management Plan**

This initiative issued by the Environmental Protection Agency, covers the period from 2008 till 2012. The main objectives of the plan are to achieve a reduction in the quantity of hazardous waste generated, the minimisation of unreported and unregulated hazardous waste, an attempt at self-sufficiency by reducing hazardous waste exports and the minimisation of the environmental, social and economic impact of hazardous waste generation. Several sectors in Ireland are specifically identified and the potential effects on these organisations is discussed below, together with commentary from industry spokespersons.

### **The Pharmaceutical Sector**

This sector generates 62% of total industrial hazardous waste produced in Ireland. Current manufacturing processes are dominated by the use of organic solvents, which in turn become the single largest hazardous waste stream in Ireland. Much of this waste stream is currently exported for recovery or recycling abroad. There is already an explicit requirement for prevention of hazardous waste generation contained within the provisions of integrated pollution prevention control licenses. These (IPPC) licences cover the environmental management in facilities through a set of environmental objectives and targets. The plan proposes an additional prevention programme that will involve working with this sector to see if further efficiencies and cost reductions through further waste reduction is possible.

The plan also provides for the Environmental Protection Agency (EPA) to commission a study in 2009 on the treatment of waste solvents with particular regard to the potential for solvent recycling. According to Brian Meaney, Scientific Officer with the EPA, the proposed study will highlight the economic feasibility of solvent recycling.

Pharmaceutical Ireland, an umbrella group for a number of organisations in this sector, states that the plan is likely to have little impact on their operations. Michael Gillen, of Pharmaceutical Ireland, contends that involvement with the sector's Responsible Care Programme has meant that compliance with regulations and environmental best practice has been ongoing since 1992. The result has been year-on-year reductions in hazardous waste production. Good business practice has also meant that the management of hazardous waste has already been efficiently targeted by ensuring that small scale "clean waste" is processed in Ireland, while remaining hazardous waste is exported. Michael Gillen also stated that the volume of waste exported may well have reached a critical mass, but maintains there is no political will in Ireland to build a processing facility here.

Despite the plan's objective to commission a study on the treatment of waste solvents, Brian Meaney from the EPA, contends that the private sector have already invested considerable sums of money in upgrading existing facilities in recent years, including solvent blending, which have added benefit and value to the Irish pharmachem industry.

### **Publishing and Printing Industries**

The use of inks and varnishes based on organic solvents leads to hazardous waste arising in this sector. Waste ink, ink containers, and solvent contaminated rags used for cleaning are generated. Most companies are compliant with current regulations and use waste management companies to treat their hazardous waste, but some of the smaller operators dispose to landfill, creating the perception of different standards applying.

Smaller companies also complain of a lack of recycling facilities provided by Local Authorities. They feel that the plan could have a positive impact in the following manner; by creating awareness of hazardous waste produced; by the provision of accessible and cost-effective collection services from Local Authorities and in the introduction of a waste producer responsibility program whereby producers take back waste cartridges and ink containers supplied.

The Dept of Environment, Heritage and Local Government is also asked to provide guidelines for all Government departments and Local Authorities covering the substitution or reduction of hazardous materials in public procurement, including the substitution of solvent-based inks. Since Government departments produce much printed material, any adoption of this policy should consequently reduce the amount of hazardous waste produced by printing and publishing organisations.

### **The Transport Sector**

This sector refers to road, rail, ship and air transport. Hazardous waste production is associated with the maintenance of vehicles, typically being the replacement of spent or contaminated fluids and cleaning of automotive machinery and parts. The greatest priority for this sector is ensuring compliance with existing waste management regulations.

This sector is currently not well regulated and the EPA plans to rectify this by forming partnerships with Local Authorities. Under the plan, this partnership will provide guidance, information and awareness for motor garages relating to all hazardous waste generated, with a particular focus on waste oils and the prohibition of their combustion in space heaters. According to a spokesperson for ENVA, a waste management company, small premises burning waste oils in space heaters is currently at a low level, but the number is growing due to economic pressures.

Any impact on these small operators will depend on the degree of awareness created, and the level of enforcement undertaken. End-of-life vehicles (ELV's) are currently dealt with at authorised treatment facilities (ATF's) which operate under a waste permit system. These operators remove hazardous waste oils and fluids from vehicles before shredding the metal for export to steel mills, which are usually located in the UK. Hammondlane Metal Co Managing Director, Vincent Boyle says that while ATF's are exempt from IPPC licensing, many smaller ATF's have existing difficulties in meeting the requirements for the renewal of waste permits. There is also inconsistency in both the

rigour applied by local authorities and between standards in the North and South of this island.

Another issue is the number of licensed and unlicensed operators who do not treat ELV's before export. These operators ship their cargo (10-15% of ELV's) through Warrenpoint, Co Down to facilities in UK that accept untreated vehicles, using C1 (consignment note) and transfrontier shipment documents obtained in Northern Ireland. The new plan recommends a North-South working group on hazardous waste to identify barriers to co-operative approaches and to make recommendations for overcoming them. Brian Meaney of the EPA contends the plan's recommendation for a North-South working group will describe various infrastructural, services, information and awareness initiatives. Also in relation to marine issues, the Dept of Transport and Marine, is to develop procedures to deal with ship-generated waste in accordance with relevant legislation.

### **The Agricultural Sector**

This sector is geographically dispersed and composed of enterprises varying widely in both scale and activity. Veterinary medicines pesticides and packaging wastes are common. Sheep dip also represents a major waste stream. Monaghan County Council's farm project, through the Local Authority Prevention Demonstration Programme produced a booklet advising farmers on how do deal with hazardous wastes such as waste oils, batteries, pesticides, medicines, needles etc. A major study into the generation and management of non-organic agricultural waste is recommended by the plan and this study will inform opportunities for the prevention and collection of agricultural waste. The scope of the study will be finalised in consultation with relevant stakeholders and will seek to build on progress made to date by stakeholders in this sector.

It is anticipated that the study will be completed no later than 12 months after commencement (and in any event no later than 2010) and recommendations implemented by nominated bodies according to an agreed schedule. The co-operation and participation of farm representative and other relevant industry representative groups will also be sought for the study and implementation phases of this work.

### **The Healthcare Sector;**

#### **Including hospitals, pharmacies, general practitioner surgeries, day care centres and treatment units**

A relatively small proportion of healthcare waste is classified as hazardous waste, but it remains a waste stream of major concern from environmental, occupational health and safety and public health concerns. The safe practice of infection control remains the overriding concern in this sector.

The cost of healthcare waste disposal is relatively high, and there is scope for reducing this cost through good and incentivised (or enforced) waste segregation at ward level as 30% of healthcare waste arises from the packaging of products. Hazardous waste from health care is shredded before undergoing steam injection, with the residue going to an EPA licensed landfill site. Brendan McGrath, Assistant National Directors for HSE Estates, explained that as a result of the old Health Board divisional system, the various

regions are still not acting as one unit. Different arrangements are still in place in these various regions, although there is wide acceptance that they are in broad compliance with the legislation. There is also a proposal to have a co-ordinator in place shortly, who will deal with such environmental matters on a national and all island level.

The HSE will also be carrying out benchmarking and performance measurement in relation to hazardous waste. The plan recommends that the HSE commence development of a programme to ensure that very small scale waste arisings, including used, unused and out-of-date medical supplies from public health nurses and self-administering patients is adequately collected for correct disposal. There is no formal HSE policy currently in place for public health nurses handling hazardous waste. Hence public health nurses must first adequately collect sharps, unused or out-of-date medications from patients and then dispose of them in relevant hazardous waste receptacles located in their respective health care buildings.

### **Household Hazardous Waste Production.**

An important factor in the prevention of household hazardous waste is to provide information on 'green products' and alternatives to the use of cleaning, decoration and garden products which constitute hazardous waste after use. The EPA will, (where funding is available), continue to support An Taisce's Green Homes project and will continue to support Local Authorities through the Local Authority Prevention Demonstration Programme. The impact of the plan on this sector will depend on the success of awareness programmes, available local collection facilities and the provision of trained personnel. Local authorities are charged with working with the community and local businesses, but again this is dependant on funding.

### **Contaminated Soil**

Contaminated soil usually arises from the remediation and redevelopment of contaminated urban sites and the amount generated each year varies. Envva's Portlaoise facility is authorised to treat up to 40,000 tonnes of contaminated soil each year, which represents about 10% of the total in recent years. The remaining 90% is exported.

Contaminated soil is often generated in large quantities from urban regeneration projects such as the redevelopment of city docklands. It can be cost effective to load the soil from such sites directly onto heavy goods vehicles and then onto ships for bulk export. This avoids extensive and relatively expensive road transport. The plan includes an objective to prevent such export where treatment in Ireland is technically and economically feasible and would not result in greater emissions or other impacts being generated from such transport.

### **Asbestos and Asbestos Containing Materials**

Other than contaminated soil, asbestos and asbestos containing material is the single largest hazardous waste stream that requires landfill disposal. The landfilling of this waste is subject to a unique set of criteria. For example, it must be landfilled alone and separate to the main body of non-hazardous waste; it must be clearly marked on all site maps and its presence in a dedicated area means that a landfill licence cannot be

surrendered in relation to that area. The latter is the greatest barrier for landfill operators who might consider accepting this waste. In 2006 more than 2,500 tons of highly bonded asbestos containing waste was landfilled in the KTK Landfill in Co Kildare. At great expense, over 5,000 tons was exported to landfill in Germany. The KTK Landfill has recently closed and according to asbestos consultant Peter Byrne, there is no landfill site at present that will accept this waste in Ireland. Peter Byrne goes on to say that this will give rise to fly-tipping, and adds to the volume of unreported waste.

There are various grades of asbestos containing waste, most of which poses no threat to the environment. The “Proximity Principle of Waste” advocates that such waste should be disposed as close to the generation site as possible. Waste management companies argue that Local Authorities should therefore provide landfill sites in their areas for most grades of this waste. The plan on the other hand recommends that at least one hazardous waste landfill site should be developed in Ireland together with at least one other site which would be capable of accepting construction materials containing asbestos. A commitment to an export ban on hazardous waste should also incentivise the local authorities to initiate plans for hazardous waste landfill facilities in Ireland.

### **Second Level Education**

The Department of Education and Science are invited, under the plan, to propose a cost effective collection method for waste laboratory chemicals from schools. No collection model has yet, been brought forward by the Department so it is difficult to assess the impact this might have. The VEC sector claim that their use of chemicals is minimal and they have consulted with the local authorities as to their disposal.

### **Local Authorities.**

Local Authorities must have a hazardous waste management plan which is consistent with the EPA strategy. The impact of the plan on Local Authorities specifically requires the following; the retraining and recruitment of specialist hazardous waste personnel; the provision of awareness programmes for various sectors including households; the provision of adequate waste collection facilities; the management of the disposal of hazardous waste using hazardous waste contractors and enforcement possibly through an environmental enforcement network.

### **Environmental Protection Agency .**

Under the plan this agency has committed to several studies, preparations of codes of practise and information and awareness campaigns. A technical study will be undertaken in relation to the provision of hazardous waste landfill. Almost half (47.5%) of Irish hazardous waste (not including contaminated soil) was exported for treatment abroad in 2006. Some 31% was treated on the site of generation, which were for the most part at IPPC-licensed facilities. The remaining 21% was treated at authorised hazardous waste facilities in Ireland. The promotion of some technologies such as cement kilns is actively encouraged in the interest of reducing exports by using existing infrastructure as the technology exists for the use of such wastes as fuel.

## **The Waste Management Sector**

This sector welcomes the plan as an opportunity for expanding their operations. Due to the proposed better infra-structure for the island of Ireland to deal with hazardous waste. This sector predicts demand for public/private enterprise in relation to the provision of hazardous waste landfill. An all island approach to the disposal of hazardous waste, as proposed in the plan is also welcomed by waste management companies, such as ENVA, which operates on both sides of the Border. Increased volumes would make certain technologies more viable. The plan's proposal to look at more efficient and consistent documentation relating especially to transfrontier forms, issued by local authorities is further welcomed by this sector. Currently the cross border system suffers from the lack of an electronic facility which would contribute to efficiency and consistency. ENVA also welcomes the proposed Producer Responsibility Programme, especially in relation to paints and paint-based products.

In overall terms, the plan is necessary realistic and achievable if adequate support from stakeholders is forthcoming. The safe and efficient management of hazardous waste is an important requirement for Ireland and it will be necessary to monitor the progress of this plan. However given the current economic climate, it will be a significant challenge to ensure that by 2012, all of the objectives within the plan are met. It therefore remains to be seen, whether hazardous waste management in Ireland as a whole can achieve best environmental practice status by 2012.

The National Hazardous Waste Management Plan can be downloaded from the EPA website at; <http://www.epa.ie/downloads/pubs/waste/haz/>

## **The Authors**

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