

8. CONCLUSIONS

8.1 Definition of hazardous waste

The definition of hazardous waste is dynamic and will continue to change as Member States and the EU Commission adopt new entries on the hazardous waste list. Ireland should become an active participant in the development of the definition of hazardous waste.

As the definition of hazardous waste broadens to incorporate additional waste streams, it is likely that increased quantities of waste may require management as hazardous waste.

8.2 Hazardous waste quantities

The information on hazardous waste arisings shows that quantities of reported hazardous waste increased by a total of 29% from 229,634 tonnes in 1996 to 296,017 tonnes in 1998. Excluding reported contaminated soil arisings of 45,486 tonnes in 1998, an increase of 9% is observed between 1996 and 1998.

Overall, reported hazardous waste quantities for disposal and recovery are up, some categories significantly so. The export of hazardous waste increased by 92.5% between 1996 and 1998 while the quantity of hazardous waste managed on-site of production decreased. Even though the gross quantity of hazardous waste subject to recovery increased, the rate of recovery (as a percentage of the total) decreased between 1996 and 1998.

On exports, between 1996 and 1999, an increase of 180% is observed from:

- 51,727 tonnes exported in 1996 to
- 99,598 tonnes exported in 1998 to
- 144,902 tonnes exported in 1999.

The estimated quantity of unreported hazardous waste decreased by 24% from 98,228 tonnes in 1996 to 74,311 tonnes in 1998.

The increasing overall quantity of hazardous waste being generated highlights the need for action to be taken in the management of hazardous waste,

primarily in its prevention and minimisation but also importantly in managing the hazardous waste that is generated.

8.3 Prevention

There is little or no co-ordinated effort being expended at present on the prevention of waste in general and hazardous waste in particular. A number of individual initiatives have been and are being undertaken but no integrated prevention programme has been attempted.

This Plan establishes the need for an integrated Prevention Programme with an overall target of reducing quantities of hazardous waste disposal to 1996 levels – a “standstill scenario”. The Plan also sets a target for the elimination of unreported hazardous waste quantities.

Many of the lessons learned in Ireland and in other countries have been adopted in formulating the approach to prevention. The conclusion to be drawn from experience is that an integrated approach is necessary. Such an approach must encompass demonstration, dissemination, assistance (financial and technical) and education.

The Prevention Programme will need to include two elements:

- a Sustainable Production (Process Waste) Programme targeting industrial hazardous waste generators; and
- a Product Waste Programme targeting individual products (or wastes which can be associated with the use of identifiable products). Initiatives associated with this programme are refundable deposits and taxes (or surcharges) on products.

The cost of the Prevention Programme is estimated to be £43.5 million.

The Prevention Programme is the cornerstone of the National Hazardous Waste Management Plan. A number of key decisions are required if it is to be implemented successfully – the provision of funds, the resourcing of a prevention team and the

development of a prevention ethos. The co-operation of all stakeholders is required if the long term benefits to both industry and the environment are to be realised.

8.4 Collection of hazardous waste

Ireland has a relatively well developed network of waste contractors who arrange the recovery and/or disposal of hazardous waste for their clients. This service has historically been availed of principally by larger generators of hazardous waste. There are thousands of small industries, commercial outlets and farms which do not avail of this service. Waste generated by these activities forms a significant proportion of the unreported segment of national arisings. The environmental impact of this waste may be high (compared to its impact if it was recovered or disposed of in regulated facilities) and it is therefore important that this waste is collected and treated.

A network of collection services is required for industrial, commercial and agricultural generators (who have an obligation not to cause environmental pollution in managing their waste) and for households (for whom segregation and separate collection is likely to be required in the near future due to the proposed amendment to the hazardous waste directive). A combination of economic instruments, the segregation of hazardous waste and the enforcement of existing legislation will ensure that best use is made of existing collection services.

Some potential solutions include the provision of hazardous waste receptacles at civic amenity sites; the introduction of producer responsibility obligations; mobile collection services; and the provision of receptacles in shops and other retail outlets.

The costs of hazardous waste collection services will vary depending on a number of factors including the type of service, the characteristics of the waste, the frequency of collection, the location of the waste (urban or rural) and the population density.

8.5 Recovery and disposal of hazardous waste

The proven ability to recover a significant proportion of hazardous waste in Ireland is encouraging. The continued available capacity to handle the total national arisings of certain waste types, subject to improved collection rates, will form a key part of the infrastructure required during the period of implementation of this Plan.

For commercial thermal treatment, Ireland is totally reliant on other countries. For landfill, a diminishing willingness of landfill operators to accept hazardous waste and the increasing influence of EPA waste licensing will further highlight the shortfall in hazardous waste landfill capacity and will, potentially, result in an increasing reliance on the export market.

While acknowledging that a thermal treatment facility is required in order to achieve self sufficiency in hazardous waste management, certain questions remain concerning the viability of a thermal treatment facility (for reasons outlined in chapter 6). However, the private sector is more likely to take the initiative in establishing a facility based on its own evaluation of the economic risks involved; a number of organisations have, in recent times, indicated their interest in establishing thermal treatment facilities.

There are no purpose built commercial hazardous waste landfill facilities in Ireland. The scale and number of facilities required is likely to be influenced by the success of the Prevention Programme, collection initiatives and whether municipal solid waste and hazardous waste thermal treatment facilities are constructed.

Facilities and services in Ireland for the removal, storage and export of PCB waste and PCB contaminated equipment are adequate for the current level of arisings of such material. The relatively low level of arisings currently being experienced is unlikely to justify the establishment of dedicated PCB disposal facilities although the possibility of such a disposal service being established cannot be ruled out as an option. The establishment of a thermal treatment facility is the most likely means by which PCB disposal capacity will be developed in Ireland.

Reliance on hazardous waste disposal facilities in other countries is not desirable. Until indigenous thermal treatment and landfill facilities are established or prevention initiatives eliminate or minimise the waste that is currently exported, agreements with regulatory authorities in other countries should be sought in order to ensure an outlet for hazardous waste which cannot be recovered.

There is no scope for EU Member States to restrict the movement of waste for the purpose of recovery. On the other hand, Member States may and do restrict the movement of waste for disposal. Hence, the major bottlenecks in Ireland relate more to disposal than recovery. Development of the recovery industry in Ireland is important but the market limitations, on the basis of free inter-EU movement, must be recognised. In the context of self-sufficiency and security of disposal outlets, the provision of disposal facilities in the form of landfill and thermal treatment, or alternatives, is a greater priority. The provision of such facilities must not be allowed to interfere with the potential to prevent or minimise the generation and disposal of hazardous waste.

8.6 Hazardous waste disposal sites

A desktop study completed by the Agency concluded that up to 487 sites may have been used for the disposal of hazardous and non-hazardous waste. This figure is preliminary and local authorities will provide more detailed figures in due course.

It is considered that the identification and prioritisation of sites are tasks that could be undertaken in the short term. Subsequent investigations and remediation strategies are likely to require site specific information and detailed guidance will be required. Technical guidance, in addition to the Agency's series of manuals on landfill, will be required in order to ensure a consistent approach to the management and aftercare of hazardous waste disposal sites.

The remediation approach most suitable for Ireland is likely to be functional or 'suitable for use'. In other words, the actual standard which will be applied to a given site will be dependent on the

nature of the individual site and the specific risks associated with it. The most cost-effective remediation approach which renders the land suitable for specific functional use will thus be identified on a site-by-site basis.

The suitability of the COSIMA project as a tool for the identification of historical hazardous waste disposal sites should be assessed. In addition, the use of geographical information systems (GIS) which are currently being developed in many local authority areas should incorporate information on the location and scale of historical hazardous waste disposal sites.

