



Comhshaol, Oidhreachta agus Rialtais Áitiúil
Environment, Heritage and Local Government



CIRCULAR WPPR 17/08

NATIONAL STRATEGY ON BIODEGRADABLE WASTE
**IMPLEMENTATION OF SEGREGATED “BROWN BIN”
COLLECTION FOR BIOWASTE AND HOME COMPOSTING**

To each City and County Manager

31 July 2008

Key Points

- Ireland has to meet challenging **targets** (Annex II) for the diversion of biodegradable municipal waste from landfill in line with the general targets set in the EU Landfill Directive.
 - In order to achieve those targets increasing proportions of biodegradable waste must be diverted to composting or, in the case of paper, either recycling or composting.
- The Minister requests local authorities to -
 - accelerate the implementation of the *National Strategy on Biodegradable Waste* and in particular the roll-out of the '**brown bin**' source-segregated collection systems for organic waste in order to drive the diversion of biodegradable municipal waste from landfill, through -
 - direct provision of such services,
 - consultation with the collectors,
 - imposition of conditions on Waste Collection Permits across each region,
 - introduction and modification of local bye-laws,
 - provision of composting/biogas infrastructure,
 - Educational Awareness campaigns,
 - targeted enforcement.
 - promote home composting in suitable areas through ongoing awareness and education/training campaigns, including the provision of home composting units to householders at reduced prices.
- The Minister intends to expand the funding available to local authorities for home composting campaigns under the *National Waste Prevention Programme* operated by the Environmental Protection Agency (EPA).
- It is imperative that the measures adopted in the statutory Waste Management Plans for the management of biowaste continue to be implemented as a matter of priority -
 - each region should continue to report on progress in implementing its Waste Management Plan on an annual basis in accordance with the recommendation in Key Point 13 of *Taking Stock and Moving Forward* and in accordance with *Annex IV* of this circular. Local authorities should submit their Annual Reports to the Department,
 - the Annual Implementation Reports should show progress on implementing the *National Strategy on Biodegradable Waste* over the previous year, with a focus on actions taken and successes achieved,
 - Annual Implementation Reports should be submitted to the Department and also to the Environmental Protection Agency in order to assist it in the preparation of the National Waste Report series.
- The Minister intends to require source segregation of commercial biodegradable waste and local authorities' waste planning should take account of this.

Dear Manager,

1. Introduction

- 1.1 I have been directed by Mr. John Gormley, T.D., Minister for the Environment, Heritage and Local Government, to refer to the need for urgent action in the source segregation, separate collection and biological treatment of organic waste in order to meet the requirements of Council Directive 1999/31/EC on the landfill of waste (i.e. the “Landfill Directive”). A summary of the key points in this circular is set out above.
- 1.2 Your attention is drawn to the urgency which has been assigned to -
- the introduction of source segregation and separate collection services for the organic fraction of biodegradable municipal waste (BMW), and
 - subsequent submission to appropriate biological treatment technologies (i.e. “brown bin” collection of biowaste¹ followed by composting/anaerobic digestion), as well as
 - increased participation in home composting, particularly in rural and suitable suburban areas.

2. Definitions

- 2.1 **“biodegradable municipal waste”** is *municipal waste that is capable of undergoing anaerobic or aerobic decomposition, such as food and garden waste, and paper and paperboard.*
- 2.2 The percentage content of municipal waste, which is biodegradable usually, fluctuates between 65% - 75%. This waste is comprised primarily of paper and cardboard and biowaste.
- 2.3 **“biowaste”** means *biodegradable garden and park waste, food and kitchen waste from households, restaurants, caterers and retail premises and comparable waste from food processing plants.*
- 2.4 This organic material, primarily putrescible food and garden waste is a major component of the biodegradable municipal waste stream and can comprise up to 40% of BMW. Ambitious recycling rates for food and garden wastes will be pursued to help meet the overall landfill targets for BMW.

3. Government policy in relation to source segregation of biowaste

- 3.1 The Minister is firmly committed to having the necessary measures in place to ensure compliance with the EU landfill diversion targets that will apply from 2010 onwards. Meeting this obligation and avoiding the risk of infringement proceedings before the European Court of Justice, with the potential for substantial fines, entails doubling the existing level of diversion from landfill by

¹ In the draft revised Waste Framework Directive, “biowaste” means ‘*biodegradable garden and park waste, food and kitchen waste from households, restaurants, caterers and retail premises and comparable waste from food processing plants*’

2010 and further increases in diversion in subsequent years. The widespread provision of brown bin source segregated collections for biowaste and increased home composting practice will be of fundamental importance in the achievement of these targets.

3.2 Notwithstanding that the Department has initiated a major review of waste management policy, current aims and objectives in relation to recycling and recovery of biodegradable waste must be vigorously pursued by local authorities and the implementation programme must be urgently accelerated. The recent publication of the *National Waste Report 2006*, which provided stark evidence of unsatisfactory levels of organic waste recycling, further highlights the urgent necessity for rapid expansion in the biological treatment of the organic fraction of the municipal waste stream.

3.3 **Local authorities should provide for, as a matter of urgency -**

- **the implementation of source-segregated collection for organic waste in urban areas (i.e. urban agglomerations of greater than 1,500 persons – the Census of Population 2006 reports that 61% of the population in Ireland reside in urban areas of greater than 1,500 persons),**
- **the promotion of home composting and/or community composting outside of these areas.**

4. Implementation of Waste Management Plans

4.1 In line with the waste hierarchy, the priority must be placed on the prevention and minimisation of waste. Local authorities should examine the objectives contained in their waste management plans with a view to focusing on the waste prevention and minimisation objectives set in relation to biodegradable waste.

4.2 The Environmental Protection Agency (EPA) has been running a successful *Local Authority Prevention Demonstration (LAPD) Programme* aimed at building capacity in local authorities in the promotion of waste prevention and resource efficiency and designed to show that financial savings are possible for local authorities as well as the communities and businesses whom they serve. This programme is funded under the *National Waste Prevention Programme (NWPP)*, which is also run by the EPA.

4.3 Under the NWPP, the EPA also run a number of targeted initiatives, including the *Green Hospitality Award*, which is a structured environmental management programme designed for use in the hospitality industry. Local authorities should continue to work through their Environmental Awareness Officers in promoting waste prevention initiatives in business and the wider community as well as working with the EPA and the hospitality sector directly or through their relevant trade associations in pursuing waste prevention initiatives at the local/regional level.

4.4 The waste management plans adopted by local authorities have responded well to this challenge in establishing progressive policies for the home composting,

source segregation, separate collection and biological treatment of biowaste. In this regard, the principal measures proposed for the management of biowaste within the plans are broadly summarised as follows -

- encouragement of more widespread home composting practice,
- reception of green waste at civic amenity facilities for centralised composting,
- phased introduction of separate collections for source segregated biowaste, and
- provision of centralised facilities for the biological treatment of biowaste.

4.5 The detailed policies of the individual regions and counties in relation to home composting, source segregation, separate collection and biological treatment of biowaste are summarised in *Annex III*.

4.6 It is imperative that the process for implementation of the measures set out for the management of biowaste within the various statutory waste management plans be advanced as expeditiously as possible, while ensuring that a practical, workable and cost-effective system of organic waste management is delivered which provides a high level of protection for the environment, as well as for human and animal health.

4.7 Key Point 13 of the policy document, *Waste Management: Taking Stock and Moving Forward*, advised the local authorities within each region to prepare an Annual Report on the implementation of the waste management plan. In addition, Section 14.6 of the *National Strategy on Biodegradable Waste* states that each region should record progress made in relation to the *National Strategy on Biodegradable Waste* over the previous year. This requirement to prepare an Annual Report has become even more essential in the context of the serious challenge facing Ireland in relation to the diversion of biodegradable municipal waste from landfill.

4.8 It is of paramount importance that all regions continue to prepare such reports, which should have a clear focus on the actions taken and the successes achieved in the previous calendar year.

4.9 Annual Reports on the implementation of waste management plans should be sent to the Department. In addition, Annual Reports should also be transmitted to the EPA, so that the information can be taken fully into account by the Agency when compiling their annual National Waste Reports. *Annex IV* provides an outline template of the format of an *Annual Waste Management Plan Implementation Report*.

5. Home Composting

5.1 The *National Strategy on Biodegradable Waste* has highlighted that garden waste and food waste of vegetable origin is very suitable for home composting with the added advantage that the materials obtained from this process can readily be applied beneficially within domestic gardens. *Ten Options for*

*Change*² also highlights the desirability of home composting, pointing out that “where it is feasible, composting at source possibly represents the lowest cost and most environmentally sustainable option for treating biowaste”, while emphasising the importance of appropriate awareness-raising, training and support from the local authority for the home composting community. The EPA publication attaches particular significance to the need to undertake research projects, which are designed to develop home composting systems that can treat wastes without the creation of nuisances.

- 5.2 Home composting is particularly important in the circa 40% of rural areas across the State that are not being prioritised for the introduction of a separate collection of source segregated biowaste. Besides the need to promote home composting in rural areas, local authorities should also target those suburban areas where there are very large gardens with significant quantities of green waste - as such areas have the potential to contribute to more sustainable ecological practices and will assist in optimising the overall extent of collection services that will be needed.
- 5.3 Research undertaken by the UK *Waste and Resources Action Programme* (WRAP) suggests that households which start to engage in home composting are likely to effect a diversion of 220 kg per household per annum from the municipal waste collection system and can aspire to an increased diversion rate of 280 kg per household per annum through improved performance as they gain experience in the art of home composting. However, the actual amount of waste diverted through home composting should be verified by local authorities through appropriate survey methods.
- 5.4 Experience from international practice demonstrates that home composting is very successful where support is provided to home composters by local authorities, particularly in the form of -
 - awareness raising among communities on the importance and value of home composting, e.g. Door-to-door Campaigns, Compost “volunteers”, Co-ordinators, “Green Teams”, Workshops, “Open Days” at exemplary gardens, “Green Schools”, joint promotions with garden centres, websites etc.,
 - education in home composting techniques, e.g. Brochures, Handbooks, Training Days, “Master Composter”, “Help-lines”, Transition Year Projects in Schools, website guidance etc.,
 - provision of subsidised home composting units,
 - availability of a system of feedback for the public to report on their experiences with home composting, e.g. problems, lessons learned, quantity of biowaste diverted etc., and
 - application of the *Polluter Pays Principle* in the form of the introduction of “Pay-by-Use” waste charging mechanisms to incentivise diversion of biowaste to home composting.

² 2008 EPA publication "Hitting the Targets for Biodegradable Municipal Waste: Ten Options for Change", page 7.

- 5.5 Grant aid under the *National Waste Prevention Programme* administered by the EPA will be expanded to provide financial assistance for suitable home composting campaigns by local authorities that are designed to secure widespread public participation in the activity. A *Call for Proposals* will be made and it is the intention that financial support will be provided to those local authorities whose applications contain proposals that embody all the attributes of best practice in the promotion and implementation of home composting. The EPA are currently developing criteria for this initiative and will also be developing, in consultation with Cré, guidance for local authorities on experience and best practice from other EU countries which have well developed home composting systems. The EPA expects to issue the *Call for Proposals* to local authorities in the early Autumn 2008.
- 5.6 Notwithstanding this impending *Call for Proposals* under the NWPP, local authorities should continue to promote home composting, including through the provision of home composting units to householders at subsidised prices. It is equally important that the distribution of home composting units be supported by ongoing awareness and education/training campaigns in order to encourage households to use these units to the greatest extent practicable.
- 5.7 Properly executed “grass-cycling” – whereby grass is recycled naturally by leaving the fine clippings on the surface as an integral part of a frequent mowing regime – is well suited to Irish climatic conditions; it can contribute to the fertilisation of the lawn, while reducing potential for the growth of weeds. Accordingly, householders and gardeners at institutional and municipal premises should consider the appropriateness of grass-cycling, including the deployment of special mulching lawnmowers (i.e. using chopping action to produce fine clippings) in circumstances where frequent cutting of the lawn is not practicable.

6.0 Community-Composting

- 6.1 It is appropriate that community-composting schemes should be encouraged as an important means of involving the general public in the management of their own waste, thereby -
- increasing awareness of waste recycling practices within communities,
 - reducing waste charges,
 - eliminating the necessity for the transport of waste, and
 - diminishing the quantities of waste being sent to landfill.
- 6.2 A research project is currently being carried out under the *Environmental Research, Technological Development and Innovation (ERTDI) Programme: 2000 to 2006* which is endeavouring to develop a template for community-scale in-vessel composting and it is anticipated that the outputs of this study will provide a useful resource in assisting communities with the introduction of such facilities.

- 6.3 In addition, a dedicated initiative of the *Race Against Waste* Campaign was the publication of a guidance document *How to Win in the Race Against Waste in Your Community* which is designed to assist community groups and organisations in continuing to lead the way in protecting and enhancing our environment. In particular, the document contains very useful and relevant guidance which can assist communities in relation to the -
- undertaking of waste audits,
 - implementation of a home composting programme,
 - preparation of leaflets and newsletters,
 - organisation of workshops, and
 - drafting of press releases.
- 6.4 This guidance has been used effectively by successful participants in the *Tidy Towns*' competition in earning merit marks for their waste management practices from the judges for the scheme, particularly in green waste management. The *Tidy Towns* competition is one of the most successful voluntary movements in the State and is administered by the Department. The Department would encourage local authorities to continue to work with *Tidy Towns Committees* in fostering and delivering small-scale composting operations at the local level. Evaluators, in the judgment of future *Tidy Towns*' competitions, will be asked to take particular account of the proportion of waste being diverted through home composting. In this regard local authorities should assist *Tidy Towns Committees* by furnishing the necessary information to the committees when they are formulating their 3-5 year plans.
- 6.5 It is imperative that a community-composting plant holds the requisite waste authorisation and veterinary approval.

7. Waste Permitting Regulations

- 7.1 The *Waste Management (Collection Permit) Regulations 2007* (S.I. No. 820 of 2007), as amended by the *Waste Management (Collection Permit) (Amendment) Regulations 2008* (S.I. No. 87 of 2008) and the *Waste Management (Facility Permit and Registration) Regulations 2007* (S.I. No. 821 of 2007), as amended by the *Waste Management (Facility Permit and Registration) (Amendment) Regulations 2008* (S.I. No. 86 of 2008) came into effect on 1 June 2008. These complementary sets of regulations revise and replace the *Waste Management (Permit) Regulations 1998* and the *Waste Management (Collection Permit) Regulations 2001* respectively and provide for a system of permitting by local authorities of commercial waste collection activities and the permitting or registration of activities undertaken at waste facilities.
- 7.2 As part of an integrated collection system in accordance with the provisions of the *Waste Management (Collection Permit) Regulations 2007 (as amended)*, each local authority should use the new permitting system to facilitate the introduction of appropriate separate collection policies within all suitable urban and rural areas across its functional area as set out in its waste management

plan. This requirement should be applied to both household and commercial waste collection services.

- 7.3 A comprehensive guidance note on the implementation of the revised permitting regulations has been prepared for the local authorities by the EPA. In addition, training has been provided for local authority staff on the application of the revised regulations. The objectives of the guidelines and training sessions are to seek to ensure that all commercial collectors permitted by an authority will be subject to equivalent controls and obligations in so far as individual waste management plans allow, and that conditions attaching to permits should be reasonable and proportionate.
- 7.4 The permitting system aims to ensure that householders and businesses have a clear and consistent pattern of practice that must be implemented. Inter-regional co-operation should be employed by local authorities in order to facilitate such a harmonised approach. Advance consultation with waste collection companies and the public will contribute towards an efficient implementation. A local authority involved in the collection of waste should also implement the same collection conditions on its own service arrangements as are being imposed upon private collectors.
- 7.5 The practical implementation of the regulations will be monitored and reviewed to ensure that local waste collection and facility activities are operated to a high environmental standard, including compliance by waste collectors with the principle of *pay-by-use* in accordance with the *polluter pays principle*.

8. Waste Bye-Laws

- 8.1 Bye-laws governing the presentation of biowaste should be adopted by local authorities to support the implementation of separate collection systems as proposed under the current waste management plans, thereby placing an obligation on the waste producer (householder or business) to comply with the rules of the local collection system. Bye-laws should spell out -
- what recyclable materials have to be separated,
 - details of what container type / colour is acceptable, and
 - timetable / frequency for presentation of the material.
- 8.2 To promote a harmonised approach in the provision of containers for segregated collection systems, local authorities are advised to have regard to the recommendations on colour coding set out in Section 11.3 in the *National Strategy on Biodegradable Waste*. In areas where existing coloured bins are in place which differ from the recommended colour scheme, the introduction of interim arrangements to facilitate replacement by natural obsolescence should be the favoured approach. Bye-laws should also be introduced in parallel with the collection systems required under the waste collection permits and / or implemented by local authority waste collection services.
- 8.3 Where any local authority makes bye-laws under Section 35 of the Act, their adoption and provisions should be brought to the attention of the residents or

businesses as appropriate. Priority may need to be given by local authorities to the active enforcement of the bye-law requirements, particularly in the initial period following their introduction. Sanctions should be specified within the bye-laws and will typically include an initial caution and / or penalty as well as the threat of non-collection of bins, which do not conform, to the requirements of the bye-laws. Further actions may be required beyond these measures, and application of methods used successfully in litter enforcement may be warranted. Once the bye-laws and rules for presentation of waste become well established, serious consideration should be given to the ultimate sanction of the permit holder refusing to collect waste from non-compliant residents or businesses in the functional area of the said local authority unless it has been presented in accordance with the requirements of said bye-laws – followed by enforcement action against those waste producers who then fail to promptly remove the rejected bins.

- 8.4 Local authorities, if they have not already done so, should immediately forward a copy of any bye-laws that have been adopted to the Department.

9. Treatment Capacity for Biodegradable Waste

- 9.1 The overall capacity for centralised treatment of source-separated food and garden waste must increase substantially to meet the targets set out in the *National Strategy on Biodegradable Waste*.
- 9.2 Due to their lower capital costs and basic modular design smaller scale facilities have the potential to be put in place quickly. This will have the benefit of contributing towards Ireland's diversion effort in advance of the EU Landfill Directive deadlines.
- 9.3 Local authorities will need to gain access to suitable biological treatment facilities to which the source segregated and separately collected biowaste may be transferred.
- 9.4 There is considerable spare composting capacity for green waste at the moment, which is estimated at circa 100,000 tonnes. Industry reports that substantial further plans for expansion are underway which have already received planning approval or are in the planning process.
- 9.5 While green waste capacity is adequate, further progress will be required in relation to the treatment capacity for food waste. Composting facilities for food waste are required to comply with strict EU and national regulations on animal by-products (ABP). It is estimated that there is circa 75,000 tonnes per annum of compliant capacity currently and with a further additional capacity of circa 270,000 tonnes being planned to be built by 2010. The latter will be subject to compliance with the normal planning and veterinary requirements.
- 9.6 The provision of these capacities represents a challenge to the industry in providing compliant infrastructure, which is capable of processing the diverted biodegradable municipal waste. Local authorities should make provision for the availability of suitable biological treatment facilities to which the source

segregated and separately collected biowaste may be transferred. While local authorities do not have to directly provide such facilities, they should be able to identify suitable biological treatment capacity at county or regional or national level in circumstances where source segregation and separate biowaste collection services are to be introduced.

10. Training

- 10.1 The *National Strategy on Biodegradable Waste* envisages a key role for training as the drive to expand infrastructural capacity in alternative technologies and diversion from landfill intensifies. This will clearly require a focus on the up-skilling of those working in the sector – similar to other industrial operations, personnel trained in the practices of controlled biological treatment are better operators and all aspects associated with the activity benefit from skilled and knowledgeable staff.
- 10.2 Cré, the Composting Association of Ireland, in partnership with the Institute of Technology Sligo and FÁS, has developed a training course aimed at facility operators, regulators, planners/designers etc. Local authorities are urged to support and participate fully in this and similar initiatives, including the opening of their facilities to trainees and by providing students with the benefits of their experience.

11. Animal By-Products Legislation

- 11.1 Ireland has adopted stringent national legislation on the management and use of animal by-products. The *National Strategy on Biodegradable Waste* highlights the need to conform to the national and EU³ veterinary rules when preparing and implementing proposals to introduce biological treatment systems that intend to utilise food waste of animal origin as a potential feedstock. Moreover, for composting or anaerobic digestion plants treating animal by-products, a veterinary approval is needed from the Department of Agriculture, Fisheries and Food in addition to the normal waste authorisations.
- 11.2 Current EU veterinary regulations allow category 2 and category 3 animal by-products to be used as feedstock in composting/biogas plants under appropriate circumstances and conditions. The following animal by-products materials may be considered for use as feedstock in composting/biogas plants -
- catering waste as defined in Article 6 (1) (l), Regulation (EC) No. 1774/2002;
 - former foodstuffs as described in Article 6 (1) (f), Regulation (EC) No. 1774/2002, including raw materials;
 - fresh by-products from fish as described in Article 6 (1) (i), Regulation (EC) No. 1774/2002;
 - manure and digestive tract content;

³ Regulation (EC) 1774/2004 of 3 October 2002 *laying down health rules concerning animal by-products not intended for human consumption* and associated EU Regulations and Decisions.

- raw milk from animals not showing signs of any communicable disease as defined in Article 6 (1) (g), Regulation (EC) No. 1774/2002;
- fish or other sea animals caught in the open sea for the purpose of fishmeal production as defined in Article 6 (1) (h), Regulation (EC) No. 1774/2002; and
- shells, hatchery by-products and cracked egg products from animals not showing signs of any communicable disease, as defined in Article 6 (1) (j), Regulation (EC) No. 1774/2002.

11.3 There are restrictions imposed on the use of the output materials derived from the composting and anaerobic digestion of feedstocks containing animal by-products.

11.4 Current national and EU veterinary legislation provides the following scenario in respect of the management system for the biological treatment of biowaste -

- **“catering waste”**⁴ can be treated to **“equivalent effect standards”**⁵ and lands can subsequently be grazed within 21 days of application of ABP-derived compost,
- a mixture of **“catering waste and former foodstuffs”**⁶ when treated to Annex VI of Regulation EC No. 1774/2002 standards will allow lands to be grazed within 21 days of application of ABP-derived compost - at the discretion of the Department of Agriculture, Fisheries and Food,
- a mixture of **“catering waste and former foodstuffs”** when treated to **“equivalent effect standards”** will only allow lands to be grazed after 3 years have elapsed following application of ABP-derived compost.

11.5 The Department of Agriculture, Fisheries and Food has recently undertaken a consultation exercise with interested parties in relation to a review of Statutory Instrument Numbers 612⁷ and 615⁸ of 2006. However, subject to the need to ensure full compliance with the Regulations, including proper processing standards and the prevention of cross-contamination, consideration is being given to allowing additional Category 3 animal by-products into

⁴ “catering waste” means ‘all waste food originating in restaurants, catering facilities and kitchens (including central kitchens and household kitchens)’ (from Annex I of Regulation (EC) No. 1774/2002)

⁵ “Equivalent effect standards” relates to the situation under Regulation (EC) No. 1774/2002 whereby “the competent authority may authorise the use of specific requirements other than those laid down in Annex VI, Chapter 2 provided that they guarantee an equivalent effect regarding the reduction of pathogens” (from Paragraph 14, Chapter 2, Annex VI of Commission Regulation (EC) No. 808/2003 of 12 May 2003 amending Regulation (EC) No. 1774/2002).

⁶ “former foodstuffs” are described as ‘former foodstuffs of animal origin, or former foodstuffs containing products of animal origin, other than catering waste, which are no longer intended for human consumption for commercial reasons or due to problems or manufacturing or packaging defects or other defects which do not present any risk to humans or animals’. The rules set out within the EU legislation also make a distinction on “raw material from animal origin” within the category of “former foodstuffs”

⁷ European Communities (Transmissible Spongiform Encephalopathies and Animal By-Products) Regulations 2006

⁸ Diseases of Animals Act 1966 (Transmissible Spongiform Encephalopathies) (Fertilisers and Soil Improvers) Order 2006

composting/biogas plants as well as to a possible reduction in the length of the grazing ban to 21 days following the spreading of organic fertilizers/soil improvers on land.

- 11.6 There are still issues to be addressed in relation to the application of animal by-products legislation in Ireland and priority is being given to resolving these. A separate circular will be sent out to local authorities later in 2008 when these issues have been clarified.

12. Market Development and Standards

- 12.1 Development of markets for the recovered biodegradable municipal waste is central to the success of the *National Strategy on Biodegradable Waste*. A Market Development Group of key stakeholders was established in 2004, under the guidance of the Department, with the objective of driving forward the development of existing markets for recyclables and identifying new applications and markets for recyclables and secondary recycled products.

- 12.2 The procurement of a contract to project manage the implementation of the €13 million action plan contained in the *Market Development Programme for Waste Resources 2007 – 2011* will be completed shortly and it is expected that the Programme will commence in October 2008.

- 12.3 The implementation of the Programme will bring together the key players in the waste sector and will have an important role in the development of sustainable markets for all biodegradable fractions collected from the municipal waste stream. A special sub-committee of the Market Development Group has been established to deal specifically with market development for recovered organic waste resources.

- 12.4 Furthermore, the viability of the composting industry in terms of developing markets is critically dependent on the quality of the product it manufactures. A set of national compost quality standards will be developed by Cré working in partnership with a certified standards body, in association with the EPA, the Department and industry. The Compost Standard will have regard to the technical working document issued by the Sustainable Resources Section of DG Environment on the *Biological Treatment of Biowaste*⁹ and Animal By-products legislation. The national Compost Standard will be introduced following a period of consultation. The Standard, which is currently at draft stage, will specify the maximum permissible concentration of various potential contaminants. The quality standards will also be supported through the development of an associated *Quality Assurance Scheme*, which will stimulate further demand by instilling greater confidence among clients and consumers in the compost products manufactured by the industry.

⁹ *Biological Treatment of Biowaste*, issued by the Sustainable Resources Section of DG Environment (European Commission), Ref. DG ENV.A.2/LM/biowaste/2nd Draft of 12th February 2001.

13. Promotion of Separate Collection for Organic Waste

13.1 The level of civic awareness and motivation in relation to segregated collections will determine to what extent the public participate in the proposed new services for biowaste. The roll-out of new waste collection schemes and recycling facilities is most successful when accompanied by a focussed public awareness campaign. The ultimate aim is to deliver a collection scheme, which operates with a high degree of public participation and low levels of contamination, while providing good yields.

13.2 When new facilities and collection schemes are being implemented, an information programme should be drawn up and initiated in advance of the introduction of the collection scheme to meet the following requirements to -

- reach the optimum audience in the catchment area,
- develop an appreciation of the need for the scheme,
- demonstrate the commitment of the local authority,
- ensure an understanding of what materials are targeted, and what materials are excluded,
- clearly outline the mechanics of the scheme (times / dates / locations etc.),
- deal with queries from the public and act upon feedback, and
- provide ongoing information back to the system users during the operational phase, to maintain motivation levels.

13.3 Your attention is also drawn to an EPA publication entitled “*Organic Waste Management in Apartments (2005-WRM-DS-23-M1)*” which is available at the following link:

http://www.epa.ie/downloads/pubs/research/waste/ertdi-71_carey_report-for-web1.pdf.

14. Landfill Levy

14.1 In accordance with the policies set out in the *National Strategy on Biodegradable Waste*, landfill of waste is a solution of the past that can only have a minor and ever diminishing role in the future. The Minister has already issued new Regulations¹⁰ under the Waste Management Acts to increase, from 1 July 2008, the rate of landfill levy from the current rate of €15/tonne to €20 per tonne for waste deposited at authorised landfill facilities.

14.2 The recent increase in the levy is a transitional measure as it represents the limit on the annual increase in the landfill levy that is permissible under the existing legislation. Such a restriction greatly diminishes the potential of that economic instrument to drive forward the significant changes in waste management practices, which are now necessary if Ireland is to meet the EU landfill diversion targets. In order to support the development and implementation of alternatives to the disposal of waste and for the mechanical and biological

¹⁰ Waste Management (Landfill Levy) Order 2008 (S.I. No. 168 of 2008) and the associated Waste Management (Landfill Levy) Regulations 2008 (S.I. No. 199 of 2008)

treatment of residual waste, the Minister has signaled his intentions to introduce primary legislation to amend the Waste Management Acts in order to allow the imposition of significantly higher levy rates with a view to deploying this economic instrument on a staged basis over a number of years. This measure will drive the diversion of waste from landfill having regard to the targets that have to be met under Council Directive 1999/31/EC on the landfill of waste. In this context, consideration will also be given to providing a power to set a similar levy in respect of thermal treatment, as was recommended by the report – ‘*Introduction of a Landfill Levy*’¹¹, and in line with the commitment in the *Programme for Government* (Annex I). It is hoped to publish the proposed legislation in the latter part of this year. Such levies have been deployed in other European countries where it has been found that landfill and incineration were undermining recycling efforts.

15. Restrictions on Landfill

15.1 The *National Strategy on Biodegradable Waste* has highlighted the legal obligation for all commercial outlets to separate certain categories of packaging waste and the restriction imposed on the disposal of these materials to landfill. The Strategy notes that similar measures will be implemented on a phased basis for specified fractions of biodegradable waste, in tandem with the expansion in collection and recovery capacity. Target materials in this respect include commercial paper, green waste, food waste produced at large-scale commercial outlets and textiles.

15.2 Further measures in respect of potential landfill restrictions relating to the acceptance or prohibition of materials will be examined in line with the policy contained outlined in the Strategy and in the *Programme for Government*.

16. Pay-by-Use

16.1 *Pay-by-use* is recognised as providing an effective and equitable incentive in the diversion of waste from landfill. Previous circulars have highlighted the importance of introducing effective *pay-by-use* charging systems for household waste, whereby a clear incentive is provided to the householder to consign waste for recycling at the point where the decision is being taken to discard it. Local authorities are encouraged to accelerate and intensify the application of these systems to the greatest extent practicable as part of the wider drive towards achieving the national and EU landfill diversion targets.

17. Waste Recovery Infrastructure

17.1 The very successful Waste Management Infrastructural Grant Scheme under the *Regional Operational Programmes, 2000 - 2006: Capital Grants Scheme* has already contributed circa €100 million in financial assistance towards the

¹¹ Report prepared by Kirk McClure Morton on behalf of the Department of the Environment, Heritage and Local Government in May 2001 recommended (Recommendation No. 2) “the scope of the levy should be extended to cover incineration, pyrolysis and gasification, as well as any biological treatment processes which accept materials such that there is no possibility of using digestate on land (because of its quality) so as to encourage minimization, re-use, recycling and composting” (Section 10.2, p. 10-3).

provision of waste recovery infrastructure by local authorities – including provision for the reception of green waste at civic amenity facilities and support for centralised composting facilities for both green waste and separately collected, source segregated biowaste.

17.2 Local authorities are encouraged to provide facilities at civic amenity sites for the reception of green waste for centralised composting. While some civic amenity sites accept such materials, many do not. Space constraints apply in some facilities, however there are a number of technologies that can be employed to provide take back of green waste even in relatively small sites. The provision of such facilities is necessary, even in areas where segregated collections are proposed, to ensure that as wide a range of options as possible are available to householders to divert the greatest quantities of biodegradable material to recycling.

17.4 In this context, all new or extended civic amenity sites should include provision for the acceptance of green waste from householders destined for centralised composting. Given that the costs associated with the provision of such a service are significantly lower than those relating to source segregated collections at kerbside and in light of the overarching need to divert this waste from landfill, local authorities should provide such a service free-of-charge or at a notional fee in order encourage householders to avail of the additional capacity for green waste diversion.

17.5 The Department will prioritise the allocation of future funding towards schemes which, in accordance with the relevant waste management plan, are designed to increase the level of biological treatment of organic waste arising within the municipal waste stream. In particular, support will be provided for -

- cost-efficient systems for the reception of green waste at civic amenity facilities and recycling centres, and
- centralised biological treatment facilities, which can make a major contribution towards the achievement of the landfill diversion targets.

18. International Review of Waste Management Policy

18.1 The international review of waste management policy foreseen in the *Programme for Government* has recently commenced. Eunomia & Partners have now been retained by the Department to carry out the research necessary in order to identify the legal, policy, institutional and technological solutions necessary to achieve best practice in waste management and to improve the delivery of national objectives and EU obligations. The technical requirements of the Terms of Reference for the International Review as set out in Section 2 of the Requests for Tender are reproduced in *Annex V*.

18.2 While this study will include an examination of recycling policies, it must be recognised that the impending deadline for the achievement of the diversion targets required under the Landfill Directive dictates immediate and decisive action. There is an immediate imperative to progress source segregation and

separate collection of biowaste, as well as increasing the extent of home composting practice.

19. Further information

19.1 Should you have any queries in relation to this circular contact Kevin O'Donoghue, Assistant Principal Officer, Waste Policy: Prevention and Recovery Section; tel: (01) 888 2440; email: kevin_o'donoghue@environ.ie.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Pat Macken', written in a cursive style.

Pat Macken,
Principal Officer
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ANNEX I

COMMITMENTS IN RESPECT OF WASTE MANAGEMENT WITHIN THE PROGRAMME FOR GOVERNMENT (PfG)

The PfG makes major commitments in relation to national waste policy in stating -

“This Government is strongly committed to a waste management hierarchy based on the cornerstones of reduction, re-use, recycling and marketing of recycled products. We are also committed to meeting the targets to divert biodegradable waste from landfill required under the 1999 EU Landfill Directive. To achieve this, we are committed to the introduction of Mechanical Biological Treatment (MBT) facilities as one of a range of technologies.

We will ensure the highest operating standards for all waste management technologies based on best international practice. We will also ensure that all waste facilities have good transport links and, where feasible, are close to the national road or rail networks.

We will undertake an immediate international review of waste management plans, practices and procedures and act on its conclusions.

In the meantime, in order to reach our targets under EU legislation:

- We will ensure that for any future projects neither the State nor local authorities will be exposed to financial risk through ‘put or pay’ clauses in waste facilities.
- We will not alter the landfill levy in such a way as to give a competitive advantage to incineration.

In particular the Government will:

- Establish new ambitious waste management targets for maximum prevention, re-use, recycling and modern waste treatment to ensure that we match the best performance in the EU for recycling with the objective that only 10% of waste or less is consigned to landfill (down from 66% now).
- Ensure that the landfills currently provided for under regional waste management plans should be the last to be constructed for a generation.
- Drive down the cost of waste management charges to householders and business by ensuring that our waste management system is competitive and uses all available technologies to achieve this including the use of waste for generating sustainable electricity.
- Ensure the implementation of the *National Strategy on Biodegradable Waste* which aims to divert 80% of biodegradable waste from landfill through segregated collection of biodegradable waste and the generation of compost.

- Establish community monitoring arrangements of major waste management facilities, including on-line monitoring where appropriate, with specific powers/rights to information.
 - Expand the network of bottle banks, recycling centres and segregated collection and introduce household hazardous waste collection (e.g. paint cans etc) in all suitable recycling centres.
 - Ensure that flat rates on waste disposal will be abolished and a mandatory system of weight-related charges for waste collection introduced.
 - Review the level of fines and custodial sentences which can be applied at the lower Courts in cases of pollution, dumping, illegal developments and other environmental crime.”
-

ANNEX II

TARGETS IN EU LANDFILL DIRECTIVE (1999/31/EC) FOR DIVERSION OF BIODEGRADABLE WASTE FROM LANDFILL

EU Targets¹²:

- no later than 16th July 2010, biodegradable municipal waste going to landfills must be reduced to **75%** of the total amount (by weight) of biodegradable municipal waste produced in 1995;
- no later than 16th July 2013, biodegradable municipal waste going to landfills must be reduced to 50% of the total amount (by weight) of biodegradable municipal waste produced in 1995; and
- no later than 16th July 2016, biodegradable municipal waste going to landfills must be reduced to 35% of the total amount (by weight) of biodegradable municipal waste produced in 1995.

Member States which consigned more than 80% of collected municipal waste to landfill are allowed to postpone the attainment of these targets by a period not exceeding four years.

The *National Waste Database Report 1995* records that Ireland consigned some 92% of collected municipal waste to landfill in that year. Accordingly, Ireland has availed of a four-year derogation in respect of the first two target dates.

As allowed under the Directive, Ireland availed of a four-year derogation in respect of the first two target dates.

¹² Against the background of surging economic growth and associated waste generation since the baseline year of 1995 Ireland has continued to diverge from the mandatory diversion target. The effect of this is that Ireland will have to achieve a recycling rate of **59.3%** (**1.4m** tonnes) in 2010, **72.8%** (**1.7m** tonnes) in 2013, and **80.1%** (**1.8m** tonnes) in 2016.

ANNEX III

Summary of Statutory Waste Management Plan Policies of Local Authorities for the Source-Segregation, Separate Collection and Biological Treatment of Biowaste

Region	Policies
Dublin	<ul style="list-style-type: none"> • It is intended to have at least 12 full-scale recycling centres in operation by 2010, complemented by additional centres at community level – proposed to accept green waste at these centres. • Following a piloting phase, the local authorities propose to introduce a separate biowaste collection on a phased basis once biological treatment capacity is established. • The local authorities will develop two biological treatment facilities for source segregated biowaste with a maximum capacity of 90,000 tonnes per annum – in addition, a recommended capacity range of 50,000 to 100,000 tonnes per annum should be developed by the private sector.
North East	<ul style="list-style-type: none"> • The local authorities will ensure the provision of green waste composting facilities for garden and landscaping waste – 2 to 3 facilities are encouraged with capacity of up to 10,000 tonnes per annum (2006-2007). • The local authorities will ensure that a separate biowaste collection is established (2008). • The development of biowaste treatment plants to treat source segregated organic waste from households, business and industry (2007).
South East	<ul style="list-style-type: none"> • Home Composting will be available to not less than 20% of urban households and 50% of rural households by 2010. • In the period post-2007, a separate biowaste collection will be mandatory throughout urban agglomerations greater than 1,000 persons in the region for household, industrial or commercial waste – to be completed by end of 2008 unless otherwise determined by the region. • The region will encourage the provision of biological treatment facilities to cater for 60,000 tonnes of source segregated biowaste by 2011.

Midlands	<ul style="list-style-type: none"> • Civic Amenity Facilities (existing and proposed) should include provision for reception of green waste by 2010, subject to space constraints. • The local authorities will ensure that a separate biowaste collection is introduced through the permitting system for private waste collectors from 2006, to extend to a minimum of 50% of region's householders by the end of 2009. • The development of biological treatment facilities with a minimum total capacity of 30,000 tonnes per annum will need to be provided by 2010.
Mid-West	<ul style="list-style-type: none"> • Major Civic Amenity Facilities should include provision for reception of green waste by 2010. • The local authorities will endeavour to divert biowaste from landfill: 35% by 2010, 43% by 2013 and 50% by 2016 - all in accordance with the provisions for separate collection and biological treatment of biowaste set out in <i>National Strategy on Biodegradable Waste</i> (and including home composting). • Two additional biological treatment facilities shall be provided by the region by end of 2007.

ANNEX III (contd...)

Summary of Statutory Waste Management Plan Policies of Local Authorities for the Source Segregation, Separate Collection and Biological Treatment of Biowaste

Region	Policies
Connacht	<ul style="list-style-type: none"> • The expansion of home composting to 10% of urban households and 30% of rural households. • All major Civic Amenity Facilities should include provision for reception of green waste for transfer to green waste composting facilities. • The local authorities will ensure that a separate biowaste collection is introduced, to extend to a minimum of 90% of urban and 25% of rural households by the end of 2009. • Continue to revise waste collection permits to include for segregated collection of organic waste in the commercial and industrial sectors. • Provide adequate additional biological treatment capacity for biowaste.
Cork	<ul style="list-style-type: none"> • Cork County Council will continue and Cork City Council will consider continuing with the provision of subsidised home composting units through special educational events. • Cork County Council and Cork City Council will assess the feasibility of introduction of a separate brown bin collection scheme. • The proposed waste recovery facility for the Cork region will incorporate biological treatment capacity for 35,000 tonnes per annum of separately collected biowaste. • Cork County Council will investigate the establishment of a green waste composting facility for green waste arising in the area.
Kildare	<ul style="list-style-type: none"> • Continued provision and promotion of home composting systems for household organics. • Implementation of a 3-bin collection system by 2009 to ensure compliance with landfill diversion targets for biodegradable municipal waste. • Promotion of and support for the provision of at least one biological treatment facility by end 2009 to manage all biowaste collected by the 3-bin service.

Wicklow	<ul style="list-style-type: none"> • The expansion of home composting to 35% of County by 2010, corresponding to - <ul style="list-style-type: none"> ➤ 20% participation in urban areas, and ➤ 55% participation in rural areas. • Implementation of a 3-bin collection system to ensure compliance with WMP target of 25% diversion of biodegradable waste by 2010. • Promote the provision of biological treatment facilities by the private sector and have regard to developments in adjoining waste management regions.
Donegal	<ul style="list-style-type: none"> • Provision of 8 Civic Amenity Facilities within the county by 2008. All facilities will accept green waste. • Ensure sufficient biological treatment capacity is available in the county by 2010. • Introduction of biodegradable waste bins in 2006 with 40% coverage of those with a collection service by the end of 2010.

ANNEX IV

SUGGESTED FORMAT FOR ANNUAL IMPLEMENTATION REPORTS ON WASTE MANAGEMENT PLANS

1. Annual Implementation Reports on Waste Management Plans

1.1 A recommendation (Key Point 13) of the policy statement “*Taking Stock and Moving Forward*” was for local authorities to adopt a systematic and regular assessment of how well their waste management plan is being implemented. In accordance with this recommendation the Department of the Environment, Heritage and Local Government will therefore require each local authority with responsibility for that region’s waste management plan to compile an annual report, outlining the progress that has been made in relation to the policy targets specified in their waste management plan. The Report should be in two parts:

1.2 Part One: Statistical Information

- (i) Details of waste generation and management in the municipal waste stream, including -
 - household waste;
 - commercial waste; and
 - biodegradable municipal waste.
- (ii) Key service indicators should be compiled comprising statistical data in relation to specific commitments made by local authorities under the Waste Management Plans;
- (iii) Data should also be provided on those relevant local authority service indicators which relate to waste management.

1.2.1 This information, should be compiled and submitted to the Environmental Protection Agency, PO Box 3000, Johnstown Castle Estate, County Wexford by 15 September 2008 and thereafter submitted on an annual basis by the following 30 June each year. A copy of the statistical information should also be forwarded to the *Waste Policy: Prevention and Recovery Section, Department of the Environment, Heritage and Local Government, Custom House, Dublin 1.*

1.3 Part Two: Narrative on Progress achieved

1.3.1 In addition to the above, each local authority with responsibility for that region’s Waste Management Plan should compile a brief narrative report outlining progress that has made in relation to Plan’s targets, initiatives that have been taken, provision of waste infrastructure, commentary on emerging trends, decoupling from economic and demographic growth, difficulties that have arisen, and proposals to overcome these, under each of the following general headings -

- Awareness/ Education/ Training Campaigns on Waste Management,
- Waste Prevention (including reuse) – household, commercial and industrial,
- Recycling of Waste – household, commercial and industrial,

- Uncollected Household Waste,
- Monitoring/ Validation of Waste Statistics,
- Biological Treatment of Biodegradable Municipal Waste,
- Construction and Demolition (C&D) Waste,
- WEEE,
- End-of-Life Vehicles (ELVs),
- Hazardous Waste,
- Packaging waste,
- Energy Recovery,
- Landfill Disposal,
- Section 22/ Section 26 Registers on Waste-related Sites and their Risk Assessment, and
- Priorities for Following Year.

1.3.2 This narrative report should be compiled and submitted to both the Environmental Protection Agency, PO Box 3000, Johnstown Castle Estate, County Wexford and the *Waste Policy: Prevention and Recovery Section, Department of the Environment, Heritage and Local Government, Custom House, Dublin 1* by 15 September 2008 and thereafter submitted on an annual basis by the following 30 June each year.

ANNEX V

(Extract from Section 2 of the Requests for Tender for Consultancy Study
“International Review of Waste Management Policy”)

2. OBJECTIVES AND SPECIFICATION OF REQUIREMENTS

2.1 Objectives

The Minister for the Environment, Heritage and Local Government proposes to appoint consultants to conduct an international review of waste management policy as identified in the Programme for Government.

The purpose of the study is to inform a policy review and will examine the following waste streams, but excluding hazardous waste: -

"municipal solid waste" meaning ‘household waste as well as commercial and other waste which, because of its nature or composition, is similar to household waste’, and

"construction and demolition waste" meaning ‘waste, which arises from construction, renovation and demolition activities but excluding excavated soil and stones’.

The study should: -

- identify possible changes to policy at national level in order to assist Ireland to move towards a sustainable resource and waste policy including minimising the creation of waste and self-sufficiency in the reuse and recycling of materials, and
- examine the legal, institutional, and organisational arrangements currently in place and analyse potential changes, which could assist in achieving Ireland’s policy goals, and meeting national and international obligations.

The overall policy goals of a sustainable resource and waste policy include: -

- minimising waste generation and the hazardous nature of certain wastes
- minimising raw material use, especially non-renewable resources
- minimising energy use, especially non-renewable resources
- minimising pollution, including eliminating or restricting emissions of persistent organic pollutants in line with the Stockholm Convention
- protecting and promoting public health
- maximising economic benefit, including the revenue that can be gained from the waste resource, providing the above goals are met
- maximising opportunities for enterprise in reuse, remanufacturing and reprocessing
- a sustainable production and consumption approach.

Given Ireland’s economic situation and the lack of lock-in to existing waste technologies, Ireland is in a position to reach and lead best practice in resource recovery and waste minimisation policy. The study should approach the policy area on that basis. In addition, the policy must provide for meeting, and where appropriate exceeding, national, EU and other international objectives and requirements.

2.2 Scope

In compliance with the waste hierarchy, the study should examine the following areas, prioritising those at the top of the hierarchy: -

- prevention, minimisation and precycling
- re-use
- recycling
- technologies for treatment of biodegradable and/or hydrocarbon-derived waste
- pre-treatment for disposal
- disposal

The study should look at each of these areas to analyse: -

- best practice internationally including some significant non-EU policy and technological approaches, which maximises resource efficiency, waste minimisation and resource recovery
- emerging policy and technological approaches. It is important that new policy and technological approaches are also examined and considered. The study should therefore seek to identify opportunities where Ireland could be a world leader as recently demonstrated by the plastic bag levy
- current best practice in Ireland. The review should examine notable successes in waste policy in Ireland and consider lessons that can be learned
- obstacles to improvements and change
- where existing policies/technologies have failed nationally and internationally
- recommended actions.

2.3 Issues For Which The Study Should Have Regard

The study should have regard to: –

- Environmental policy and principles, including:
 - best practice in waste prevention and minimisation
 - targets for reducing reliance on landfill through the diversion of biodegradable municipal waste
 - climate change policy
 - energy use and climate impacts, net energy and climate effect considering outputs. This should include direct GHG emissions and carbon sequestration potential
 - Consultants may wish to consider the use of “ecological footprint” or other such matrices
 - chemicals policy
 - How the policy can contribute towards achieving an energetically and chemicals/materials self-sustainable Ireland
 - air quality policy
 - international obligations
 - how the policy can address other national and EU commitments such as the Biofuels Directive, renewable energy commitments, Lisbon Agenda, and how the contribution compares against existing mechanisms

- regulation and enforcement
- sustainable development
- environmental impact of alternative treatment and recovery options
- life cycle analysis of options
- cost effectiveness of measures
- scale and geographic spread of infrastructure having regard to economies of scale and transport infrastructure availability.
- Ireland's economic and employment objectives, having regard to: -
 - The national competitiveness, regional development and value for money considerations of the (NDP) as well as NDP resource parameters, particularly the multi-annual Capital envelopes
 - the potential for new businesses and technologies in resource characterisation, separation and recovery, materials reprocessing, re-manufacturing, chemical processing
 - value to the Exchequer, including addressing how added benefits (beyond waste reduction) resulting from the policy may reduce Exchequer/Government costs and/or boost Exchequer revenue in other areas
 - costs and benefits arising
 - economic impacts under higher energy cost scenarios
 - Effects on national balance of payments
 - Materials flow accounting
- the role of the private sector
- planning and co-ordination issues, including:
 - the devolved nature of non-hazardous waste management planning
 - the proximity principle
 - power to direct waste
- relationships with other plans or policies, including in respect of the protection of human health
- mechanisms for stakeholder consultation, participation and access to information and justice at national, regional and local levels
- adaptability and risk associated with various policy approaches including the feasibility and ease of implementation of any recommendations
- resource use and re-use impacts
- how the policy can utilise and increase the knowledge base and technical expertise of the country
- social impacts
- the effective application of the polluter pays principle
- effectiveness and efficiency of various policy approaches

In that context, the proposed study should evaluate: –

- Ireland's performance to date with respect to our national, EU and other international obligations
- the prospects for achieving Ireland's landfill diversion targets having regard to all relevant or prospective developments
- the legal, institutional, organisational and infrastructural arrangements likely to be required in order to meet Ireland's EU and other international obligations.

2.4 Reporting Requirements

In carrying out this evaluation, the study will examine and report on: –

- the suitability and effectiveness of the current statutory and regulatory arrangements
- the suitability and effectiveness of the current organisational structures and operational arrangements for delivery of waste management infrastructure and services
- the suitability, availability and quality of waste management infrastructure and services, including the practical potential for the use of emerging technologies
- likely future constraints on the development of the waste management sector which will impact on the ability to meet our national and EU obligations including anticipated EU legislation which will enter into force within the next decade
- the roles of key stakeholders whose activities impact on Ireland’s waste management performance
- International models of best practice in waste management service provision, waste prevention and waste minimisation programmes including the use of economic instruments.

2.5 Recommendations

The study should evaluate the scope for, and where appropriate make recommendations regarding: –

- the extension of the use of proven technologies or systems for the mechanical, biological, chemical or thermal processing of waste (or combinations thereof), of a processing capacity already successfully operating at established facilities elsewhere, and the use of all new or emerging alternative technologies, which could potentially be undertaken: -
 - to support the recovery of waste from the municipal waste stream
 - to ensure the environmentally sound treatment and management of residual waste and hazardous waste, or
 - to increase the recovery rate for waste generally.

The tender submitted will identify the technologies or systems to be reviewed and will propose a concise table or matrix for quantitatively and qualitatively comparing technologies or systems, including comparison to existing “conventional” technologies and systems such as landfill, incineration, source segregation etc.

Recommendations will be supported by:

- an indication of the status of development of any and all alternative technologies or systems proposed, backed up by case studies or documented research
- the impact of alternatives on existing source-segregation and recycling practices and the scale of changes required to the existing “system”

- a description and examination of the options for further dealing with, preferably in a value-added manner, the outlets from reviewed technologies.
- Effective means for detailed resource/waste/chemical characterisation and analysis and the role this can play in resource segregation and the effectiveness of appropriate waste utilisation/conversion technologies
- further measures to enhance the prevention and minimisation of waste and to encourage the reuse of recovered waste resources
- further measures which could be undertaken to support the development of indigenous reprocessing capacity for waste
- potential new waste/resource management processes / business models including leaseback, product service systems, recovery of used products, remanufacturing, dematerialisation etc
- Measures to promote new waste/resource management processes / business models
- the desirability of further producer responsibility schemes, including in respect of deposit and refund
- the desirability of retaining, amending or extending a national programme of recycling infrastructure grant assistance to local authorities and of extending financial assistance to the private sector
- Measures to promote potential new technologies and techniques
- Further measures to promote the development of indigenous businesses based on material flows generated from waste, including measures to promote security of supply of materials to create a stable basis for enterprise
- the use of economic instruments in support of the achievement of national waste management objectives, including:-
 - Disposal levies
 - Measures to promote new waste/resource management processes / business models
 - Measures to promote potential new technologies or techniques
 - Measures to promote the development of indigenous businesses based on material flows generated from waste
 - The operation of the plastic bags levy to consider the possible expansion of variable levies to other packaging materials.
- potential regulation and legislation, including -
 - Producer Responsibility/Product Stewardship
 - Extended Producer Responsibility including measures required for implementation
 - green public procurement or similar measures to promote stable markets and demand for reusable and recycled products and associated services
 - Mandatory annual reporting on resource use and waste production.
- potential public and stakeholder awareness measures

2.6 Sources of Information

The sources of information used in the study must be identified in the final report.