



EPA TECHNICAL GUIDANCE DOCUMENT

RPS SUBMISSION DOCUMENT

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Consulting Engineers

1 EPA TECHNICAL GUIDANCE DOCUMENT - SUBMISSION

RPS welcome the opportunity to consult on the EPA Technical Guidance Document (Draft) entitled *Municipal Solid Waste – Pre-Treatment & Residuals Management*.

RPS have prepared this submission in response to the content of the above document and proposed pre-treatment obligations for landfill operators. RPS are happy to discuss any of the points raised with the EPA prior to the publication of the final document.

1.1 IRELAND'S NATIONAL WASTE POLICY

Waste management policy in Ireland is well established with a series of policy statements¹ adopting the principles of the EU Waste Management Hierarchy through the delivery of integrated treatment solutions. Ireland's long-term waste strategy has been to improve rates of materials recovery and to divert wastes, especially biodegradable wastes away from disposal landfill.

National policy has directed local authorities and waste collectors to maximise the separation at source of dry recyclables and biowaste. The objective has been to divert materials from the residual stream and to deliver clean valuable resources. The provision of separate kerbside collections for dry recyclables, biowaste and residual waste is a key part of the national waste collection strategy for the enhanced recovery of municipal wastes.

National policy has also endorsed the development of alternatives to landfill for the management of residual wastes. The preference has been for the development of Waste-to-Energy (WtE) which provides complete diversion of residual waste from landfill rather than other pre-treatment options such as Mechanical Biological Treatment (MBT) whose by-products are often landfilled.

In the last 10 years considerable progress has been made and published data shows that in 2006 Ireland achieved a national municipal waste recovery rate of 36%. However this figure highlights the continued high rate of municipal waste disposal and the slow progress in delivering real alternatives to landfill. Impending European and National diversion targets make the requirement to increase the diversion of biodegradable waste from landfill an urgent issue for the waste sector.

1.2 REGIONAL WASTE MANAGEMENT PLANNING

RPS have been main authors of Regional Waste Management Plans in Ireland preparing first and second generation plans for several waste regions as shown in Table 1.

Table 1 Regional Waste Management Plans prepared by RPS

First Generation Waste Plans	Replacement Plans
Waste Management Plan for the Dublin Region 1998/1999	Waste Management Plan for the Dublin Region 2005 – 2010
Waste Management Plan for the Midlands Region 2001	Waste Management Plan for the Midlands Region 2005 – 2010

¹ Changing Our Ways (1998), Department of Environment Heritage and Local Government (DEHLG)
Preventing and Recycling Waste: Delivering Change (2002), DEHLG
Taking Stock and Moving Forward (2004) DEHLG
National Strategy for the Management of Biodegradable Waste (2006), DEHLG

Table 1 Regional Waste Management Plans prepared by RPS (Continued)

First Generation Waste Plans	Replacement Plans
Waste Management Plan for the North East Region 2001	Replacement Waste Management Plan for the Connacht Region 2006 – 2011
Waste Management Plan for the Connacht Region 2001	Waste Management Plan for the North East Region 2006 – 2011
Waste Management Plan for the Limerick/Clare/Kerry Region 2001	Replacement Waste Management Plan for the Limerick/Clare/Kerry Region 2006 - 2011
	Donegal Waste Management Plan 2006 - 2011

These Plans have been prepared in agreement with the local authorities in each region and regional policy objectives broadly follow national waste policy and the EU Waste Management Hierarchy. A summary of key objectives contained within the regional waste plans are outlined below.

- The continued investment in waste prevention and minimisation initiatives led by the Environmental Awareness Officers, Green Schools Officers and similar staff.
- The promotion of home composting.
- The appointment of Green Business Officers or similar staff to drive better waste management for business and industry in the regions.
- Rollout of separation collection of dry recyclables to all householders and businesses.
- Rollout of separation collection of biowaste to householders and businesses particularly in regional urban areas.
- The expansion of bring bank and recycling centre networks for householders.
- The development of regional infrastructure especially Waste-to-Energy facilities as the preferred long-term alternative to landfills
- The rationalisation of regional landfill facilities.

Progress in the delivery of waste objectives varies from region to region reflected by the wide-ranging rates of recovery. RPS recognises that the financial resources available to the local authorities varies considerable and directly influences regional implementation. Furthermore RPS recognises that central government and local authorities have made considerable financial investments to date in the implementation of their long-term waste strategy. It is critical that existing and future investments are not put at risk by the proposed landfill obligations. A brief case study of the Dublin Region is provided to illustrate progress in a region which currently generates the largest volume of municipal wastes.

The management of Biodegradable Municipal Waste (BMW) was a main consideration in the development of regional policy in the replacement regional plans. For the most part local authorities adopted regional BMW diversion targets agreeing to progressively reduce the quantities of BMW landfilled in line with European and National targets. This approach recognises the regional groupings and the agreed regional waste strategy. Specific objectives in terms of reducing the amount of BMW landfill were adopted focusing on delivering specific awareness campaigns, enhancing collection services and delivering alternatives to landfill.

In the context of the regional waste plans, RPS support in general terms the proposed measures by the EPA to reduce the quantity of BMW landfilled provided the long-term waste management strategy as set down in the regional waste plans is not undermined. This includes the phased rollout of separate collections for biowaste from households and relevant businesses and the development of preferred alternatives to landfill such as Waste-to-Energy facilities on a regional scale.

Case Study: Dublin Region

The Dublin Local Authorities (Dublin City Council, Dun Laoghaire Rathdown County Council, Fingal County Council, South Dublin County Council) have made considerable progress in the implementation of the objectives of the Regional Waste Plan.

In 2006 over 1.3 million tonnes of municipal waste was generated in the region with a recovery rate of 40%. The local authorities in Dublin are the primary collectors of household waste in the region and have since 2002 provided for separate collections of mixed residual waste and dry recyclables. The recent addition of plastic bottles accepted in the dry recyclables bin and a move towards fortnightly collection have further enhanced the service.

In 2006 the rollout of a separate collection for organic materials commenced to householders and it is currently estimated that over 135,000 householders have a brown bin collection service. The expansion of this service will continue over the next 12 months with the aim to provide the majority of single dwelling householders with this collection service.

The provisions of regional infrastructure for the treatment of wastes generated in the region is well advanced as outlined below:

- Planning and Licensing permissions are currently in place for 2 centralised biological treatment facilities. The facilities will be operated under a Public Private Partnership (PPP) arrangement and are due to be operational by end of 2009.
- A regional Materials Recovery Facility (MRF) for the processing of dry recyclables has been built and when operational will have the capacity to process up to 100,000 tonnes of materials. Commissioning is on-going and the facility is due to commence processing in early 2009.
- Planning permission and a Draft Licence are in place for the regional Waste-to-Energy facility which has a capacity to process 600,000 tonnes per annum of non-hazardous waste. Site clearance works are underway and the facility is due to be operational in 2012. Energy in the form of electricity and heat will be recovered from the thermal process. Electricity will feed into the national grid while heat recovered will be distributed to an estimated 60,000 homes through a district heating network.
- The development of a regional landfill is progressing with application for planning and licensing permissions well advanced. The facility is due to provide long-term disposal capacity for the region for non-combustibles and similar materials.

By 2103 it is estimated that the region will have a well developed 3-bin collection system for householders and appropriate businesses, with materials collected diverted to the appropriate treatment facilities and markets. The regional municipal recovery rate is expected to have increase further and 100% diversion of BMW material (collected by the local authorities) from landfill will be achieved through the WtE facility. **The proposed obligations of the EPA should support the progress of the region, acknowledge the treatment capacity under development, and not require additional pre-treatment of mixed residual waste prior to the operation of the Biological and WtE facilities**

1.3 COMMENTS ON CONTENT OF DRAFT TECHNICAL GUIDANCE

RPS have prepared the following comments on the EPA document as set out although certain aspects of the proposal which are unclear have been interpreted.

1. RPS consider that the proposals for minimum pre-treatment to landfill will primarily lead to the development of MBT type facilities in most regions in preference to the provision of separate collections for biowaste (which is national and regional policy), where these collections do not currently exist. This scenario will only serve to undermine the composting and biological treatment industry and products and also local authority areas where biowaste collections are underway.
2. RPS is concerned that the development of widespread MBT capacity will lead to a regression in recycling performance and a subsequent increase in landfill requirement as collectors and facility operators implement 2-bin collection systems and not introduce a separate collection service for organics collection.

MBT as an alternative to source segregated biowaste treatment must comply with the Animal by-products Regulation. However, many mixed commercial and industrial waste streams containing animal by-products will require shredding to 12mm particle size in order to neutralise risk of disease transmission. Shredding mixed waste, which contains glass, metals, and plastics to a 12mm particle size, is not practicable. Thus, in the current interpretation of the Animal by-products Regulation, MBT cannot deliver the in-depth diversion of biowaste from landfill that is required.

A significant amount of further research is required into the marketability of all outputs from MBT systems before it could be recommended as an approach for Ireland to take. Existing configurations in Ireland typically generate low quality outputs which are only suitable for landfill. MBT facilities generate Organic fines produced from MBT as currently practised in Ireland, although possibly stabilized (though it is not clear that the material is stabilised at present) will most likely not meet the quality standards required by markets and will most likely be destined to landfill in regions where waste to energy is not available.

The compost like outputs from MBT facilities are typically of low quality with limited destination options and there is concern that the widespread generation of this material will undermine the development of higher quality compost products from source separated collections.

3. As stated 'Section 40(4) of the *WMA 1996-2008* requires that appropriate controls be identified for specified waste activities in order to prevent emissions and to protect human health and the environment from pollution. The essence of BAT is that the selection of techniques to protect the environment should achieve an appropriate balance between realising environmental benefits and the costs incurred by the person carrying on the activity.' RPS suggests that the use of MBT as a pre-treatment method of black bin waste destined to waste to energy facility may not necessarily be deemed to be BAT as the quantity of recyclables remaining in the black bin should be minimal and the cost associated with incorporating MBT for the waste fraction may be incurring excessive costs to the operator.
4. The cornerstone of National waste policy is and has always been waste prevention and maximum recycling using a three bin system supplemented by waste recycling centres. This policy should be further emphasized throughout the report. RPS suggests that the report should place further emphasis on increasing the level of waste prevention awareness, education, research, and development of prevention methods, reuse, and recycling of separately collected recyclables and organics – particularly the EIA guidance and statistics section

The Regional Waste Management Plans are a key element of legislative infrastructure that

has not been referenced in the consultation document despite having been through 2 iterations in their 10 years of successful application.

The regional waste management plans document the Best Practicable Environmental Option (BPEO's) for various regions and waste licence applicants should have regard to the recommendations documented. RPS notes that all waste management plans highlight the need for source separated collection systems for both dry recyclables and organic material and it is the RPS view that this policy should continue to be the primary form of pre-treatment.

5. The Department of Environment, Heritage and Local Government have issued a Circular WPPR 17/08, in July 2008 entitled *Implementation of Segregated Brown Bin Collection for Biowaste and Home Composting*. This document gives clear direction to local authorities to implement source-segregated collection for organic wastes from households in urban areas with a population of 1,500 or more. The Department have stated 61% of the population are residing in urban areas and these households are to be provided with separate collections for biowaste. The Department favours this approach for urban areas rather than alternatives such as 2-bin systems with MBT type processing of the black bin. The EPA document does not recognise this preference for the treatment of biowastes rather requiring biological diversion by any pre-treatment means. This is at odds with well established national and regional policy where a hierarchical approach to managing waste has been in place. The EPA document should recognise these preferences rather than ignoring preferred regional strategies. Future conditions for operators should recognise a regional waste strategy to managing biodegradable waste and this should be translated into the revised conditions for landfill.
6. The stabilisation standard tests proposed (DRI and AT4) in the Technical Guidance Document are relatively costly to conduct. Consideration should be given to adoption of a stabilisation standard that is cheaper to conduct. An example of one such standard is the "Oxitop method" which has been proposed for the ERTDI study that is developing an industry/national standard for compost. Consideration should be given to aligning stabilisation tests between the compost standard and the waste licences.
7. Ireland has already gone some way towards implementing a 3-bin system, a fact not acknowledged in the consultation document. Actions conducted include:
 - There are 40+ facilities that are operating in the source segregated biowaste market with significant waste diversion from landfill, and significant employment
 - Development of a quality standard and inception of a Quality Assurance Scheme for compost
 - Implementation of a Market Development Group programme – initiated 1 October 2008. A key objective of the Market Development Group is to develop markets for organics from source segregated organic wastes.
 - Rollout of brown bin schemes in Dublin City Council, Fingal County Council, Galway County and City Council, Waterford City and County Council, Wexford County Council, Kerry County Council, Westmeath County Council and by Greenstar, Ozo, Thorntons. Further planned rollout from 2009 in the Limerick/Clare/Kerry Region.

It is also worth noting that existing merchant compost facilities across the country have a strong preference for source separated organic waste rather than residues from initial processing of residual black bin waste.

8. The consultation paper does not clearly differentiate between composting, anaerobic digestion, and biological treatment by MBT, considering all three as merely differing means of achieving stability with effectively equal impact. This does not make sense environmentally. Outputs from composting and anaerobic digestion processes can achieve very high quality uses including onto lands in the food chain. MBT outputs usually require disposal or at most

may be used for low grade recovery that avoids the food chain. We note that the 2nd draft of the Biowaste directive 2001 indicates "*Member States may authorise the use of stabilised biowaste fulfilling the requirements of Annex III as a component in artificial soils or in those land applications that are not destined to food and fodder crop production [such as final landfill cover with a view to restoring the landscape, landscape restoration in old and disused quarries and mines, anti-noise barriers, road construction, golf courses, ski slopes, football pitches and the likes].*" Thus, it is incorrect to view composting, anaerobic digestion, and biological treatment by MBT as achieving the same result.

9. RPS suggests that regions that have not progressed on developing waste to energy facilities should still place primary focus on separate collection followed by the rationalization of MBT facilities followed by the rationalization of landfills.
10. RPS suggests that where a local authority has rolled out a 3-bin collection system that this will meet diversion targets for 2010 and possibly 2013 (depending on collection and participation rates). This should be stated as it will encourage the rollout of brown bin systems and allow local authorities to decide on the most appropriate method to reach the 2016 targets e.g. develop a regional WtE or MBT or alternative pre-treatments. This approach will also provide local authorities the time to develop a more widespread home composting strategy, thus minimising the amount of waste being treated at the lowest level of the hierarchy.
11. The EPA facility targets should not encourage a bottom up waste strategy for Ireland with operators and local authorities forced to provide pre-treatment facilities only to meet short-term targets. RPS considers that the EPA should set out a preferred hierarchy for managing BMW to ensure that a more sustainable long-term approach, based on resource use and resource recovery, is favoured over a short-term compliance solution.
12. RPS suggest that the wording of the BMW targets for facilities for the years 2010, 2013 and 2016 is reconsidered as it is open to misinterpretation. It currently suggests that all mixed residual waste material requires further treatment prior to landfilling. It does not state that if the mixed residual waste type material is part of a 3-bin collection scheme that diversion has already taken place and will achieve the targets for certain years. If this is the case the diversion calculation needs to be applied to the total waste collected rather than the amount specifically accepted at the facility. Clarification on this point is required and it may be useful to illustrate the calculations through a worked example.
13. RPS suggests that regions progressing Waste to Energy facilities do not require front end mechanical biological treatment of black bin waste where a separate three bin system is in place as there should be minimal BMW waste remaining suitable for recycling. This should be stated.
14. Figure 6 of the consultation document indicates that SRF is a possible output of mechanical treatment of the black bin. RPS considers that RDF is a more likely product in Ireland as SRF is a product that "*is made to tighter specifications*"². We also note that the Waste-to-Energy facilities planned in Ireland are designed to an RDF input specification.
15. The relationship or hierarchy between the consultation document and other policy or discussion documents and legislation is unclear. This lack of clarity makes it difficult to

² Juniper Report 'MBT: A Guide for Decision Makers - Processes, Policies and Markets' section C2.9

understand how apparent contradictions will be resolved. In particular, the proposals in the consultation document appear to be at odds with documents including;

- National Policy Statements
- Regional Waste Plans
- EPA discussion paper *Hitting the Targets for Biodegradable Municipal Waste: Ten Options for Change*.
- Circular WPPR 17/08 from the Minister of Environment, Heritage and Local Government to each City and County Manager
- The EU Soil Strategy

16. The data presented in Figures 2 and 3 of the consultation document appears to differ from BMW facility diversion targets presented in Figure 6 of and it is unclear how to reconcile the two sets of data. It appears that the proposed EPA target are requiring additional diversion of BMW over and above the agreed European Landfill Directive targets. It is also unclear how the "BMW landfilled" data in figure 3 was calculated as the data line presents both actual and projected data.

1.4 CONCLUDING REMARKS

RPS recognises there is a pressing need to divert BMW from landfill nationally and broadly supports the EPA proposals. However RPS are concerned that the Technical Guidance Document if implemented in its current form could have a seriously negative impact on the management of biodegradable wastes in Ireland.

Ireland has over 10 years set out clear policy at a national and regional level where collected waste should be segregated at source. Three distinct fractions of municipal waste have been targeted; these being dry recyclables, biowaste and residual waste. The 3 bin collection system delivers clean and valuable resources and products for readily available markets. The overarching strategy for residual type wastes has been to minimise the amount of waste to landfill and develop alternative treatment options; with WtE type facilities (providing complete diversion) preferred to MBT (whose by-products are often of poor quality and have limited end destination markets).

RPS considers that the draft proposals for landfills as set down by the EPA will discourage the rollout of separate organic collections as local authorities and operators aim to meet facility based targets. This bottom up approach will effectively undermine the existing regional waste strategies and support a pre-treatment by any means approach. The policy of implementing a structured hierarchy for managing wastes will be abandoned in favour of piece meal pre-treatment to achieve the strict targets.

RPS suggest that the EPA provide more comprehensive guidance to facility operators and local authorities promoting the rollout of separate organic collections and stating that such a system will achieve 2010 and 2013 targets. This approach would compliment the recent direction provided by the DEHLG in a recent circular on biowaste management as issued to all local authorities.

RPS suggest future landfill obligations issued of the EPA support the progress of the waste regions, acknowledging treatment capacity under development, and not require additional pre-treatment of mixed residual waste prior to the operation of the Biological and WtE facilities where this is relevant.

The current structure of the document and the minimum landfill requirements (Figure 6) needs to be revised and restructured so it is not open to misinterpretation and does not indirectly promote the widespread rollout of MBT type technologies ahead of preferred regional recycling and collection strategies. MBT in its current form in Ireland is primarily generating low grade compost like output which is only suitable for landfill. Managing wastes in this manner does not represent best practice.

RPS welcomes the opportunity to comment on the Draft EPA Technical Note and hopes the comments provided will contribute to the final document. RPS are available for additional consultations or input if required.