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SOUTH WEST DEVON WASTE PARTNERSHIP

DATE: THURSDAY 28 OCTOBER 2010
TIME: 10AM
PLACE: BOARD ROOM, TOWN HALL, TORBAY

Members –

Councillor Butt, Chair
Councillor Michael Leaves, Vice Chair
Councillors Bowyer, Carroll, Croad, Hart

Observers –

Councillors Doggett and Vincent

Members are invited to attend the above meeting to consider the items of business overleaf

BARRY KEEL
CHIEF EXECUTIVE

SOUTH WEST DEVON WASTE PARTNERSHIP

1. INTRODUCTIONS AND APOLOGIES

To introduce attendees and receive apologies for non-attendance submitted by Members.

2. DECLARATIONS OF INTEREST

Members will be asked to make any declarations of interest in respect to items on this agenda.

3. MINUTES

To sign and confirm as a correct record the minutes of the meeting held on the 22 July 2010.

4. CHAIR'S URGENT BUSINESS

To receive reports on business which, in the opinion of the Chair, should be brought forward for urgent consideration.

5. PROJECT UPDATE

Members will receive an update on the project from Mark Turner, Project Director.

6. OVERVIEW OF PROJECT COMMUNICATIONS (Pages 1 - 2)

Members to receive a report on communication activity from July to October 2010 and a summary of the general questions received in the last three months from members of the public, including the partnership responses.

7. COMPARISON OF IMPACTS OF EFW, LANDFILL AND OTHER TECHNOLOGIES (Pages 3 - 12)

Members to receive a report comparing impacts of EfW technology against landfill and other technologies.

8. JOINT SCRUTINY REVIEW (Pages 13 - 34)

Members will be presented with the report dated September 2010 from a Joint Scrutiny Review panel for their consideration.

9. DATE AND LOCATION OF NEXT MEETING

The next Committee meeting is proposed for 16 December 2010 in Plymouth at the Council House, Armada Way, Plymouth.

10. EXEMPT BUSINESS

To consider passing a resolution under Section 100A(4) of the Local Government Act 1972 to exclude the press and public from the meeting for the following item(s) of business on the grounds that it (they) involve the likely disclosure of exempt information as defined in paragraph 3 of Part 3 of Schedule 12A of the Act, as amended by the Freedom of Information Act 2000.

PART II (PRIVATE COMMITTEE)

AGENDA

MEMBERS OF THE PUBLIC TO NOTE

that under the law, the Panel is entitled to consider certain items in private. Members of the public will be asked to leave the meeting when such items are discussed.

11. JOINT SCRUTINY REVIEW - RESPONSE TO RECOMMENDATIONS (Pages 35 - 44)

Members will be asked to consider and agree responses to the eight recommendations made within the Joint Scrutiny Review report dated 2010, three of which are specifically for the Partnership and five for each of the Partnership Authorities.

12. PROJECT PROCUREMENT AND CONTRACT SIGN-OFF PROGRAMME (Pages 45 - 46)

Members will receive the latest proposed project procurement and contract sign-off programme from Mark Turner, Project Director.

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South West Devon Waste Partnership
Community Engagement Report – October 2010

This report provides a summary of project related communication activities, written queries and responses made between July 2010 and October 2010.

1. Communication activities

Environment Agency Surgery – 26th July 2010:

The Environment Agency (EA) held a surgery in Ivybridge on the New England Quarry Environmental Permit Application. The EA requested for the Partnership support as questions on the Partnership were expected.

Joint Working Committee site visits – 23rd August 2010:

The Joint Working Committee (JWC) Councillors attended site visits for North Yard, Devonport and New England Quarry, Lee Mill.

Section 151 Officers briefing - 6th September 2010:

The Section 151 Officers for Devon County Council, Plymouth City Council and Torbay Council received an update presentation on the project.

Meeting with Paul Connett and CAVIL – 10th September 2010:

Mark Turner, SWDWP Project Director and Martin Pollard, SWDWP Project Manager met with Paul Connett and a member of CAVIL to discuss the SWDWP proposals and to listen to Paul Connett's alternative waste management solution. Paul Connett lectures around the world detailing alternative waste management solutions to energy from waste technology.

Presentation to Plymouth City Council's Corporate Management Team – 21st September 2010:

Mark Turner, SWDWP Project Director and Martin Pollard, SWDWP Project Manager provided a project update to Plymouth City Councils Corporate Management Team.

Future events

Presentation to Plymouth City Council's Cabinet Planning – 19th October 2010:

Mark Turner, SWDWP Project Director and Martin Pollard, SWDWP Project Manager will provide a project update to Plymouth City Council's Cabinet.

Monitoring Officers Briefing 22nd October 2010:

The Monitoring Officers for Devon County Council, Plymouth City Council and Torbay Council received an update on the project from Mark Turner, SWDWP Project Director, Martin Pollard, SWDWP Project Manager and Alwyn Thomas SWDWP specialist legal advisor.

Presentation to Torbay's Joint Executive Team – 26th October 2010:

Mark Turner, SWDWP Project Director will provide a project update to Torbay Councils Joint Executive Team.

All Councillor Briefing – 27th October 2010:

Councillors from Devon County Council, Plymouth City Council and Torbay Council are invited to a briefing to provide an update on the project.

Presentation to Devon County Council CMT and Cabinet -29th November 2010

Mark Turner, SWDWP Project Director will provide a project update to Devon County Councils

Corporate Management Team and Cabinet.

2. News coverage

26th July 2010 – Public invited to have their say on waste incinerator at Ivybridge

This was as a result of the Environment Agencies surgery at Ivybridge regarding the Environmental Permit application/consultation.

29th September 2010 - Incinerators: good or bad?

This was an article in the Evening Herald which focused on EfW technology and heard local resident's opinions on the proposals. The article was balanced and contained a piece from the SWDWP and a piece detailing the arguments for and against the technology.

15th October - BBC Radio Devon – Incinerator debate.

BBC Radio Devon held a debate on energy from waste technology. Interviews were held with members of opposition groups, Viridor and MVV.

3. Summary of written queries received

Over the last three months, the partnership has been asked to respond to two letters (received in October 2010).

Dartmoor Circle

The Dartmoor Circle wrote to Senior Officers within Devon County Council, Plymouth City Council and Torbay Council. The letter detailed the Dartmoor Circle's concerns surrounding the energy from waste proposals and asked three questions:

1. Whether your authority is proposing to enter into an agreement under which it might become liable to pay compensation where incinerator feedstock declines.
2. If so, whether you are satisfied that entering into such an agreement complies with any duty on the authority to manage its assets prudently.
3. If you are so satisfied, the grounds for this view.

The SWDWP responded to this letter on behalf of the three authorities addressing the Dartmoor Circle's concerns.

Devon Alliance for Incineration Alternatives (DAIA)

The DAIA wrote to all Councillors and Chief Executive Officers within the Partnership area suggesting an alternative proposal to incineration. The SWDWP responded on behalf of the three authorities.



An evaluation of the environmental and health impacts of residual waste treatments

1. Introduction

The South West Devon Waste Partnership (SWDWP) is a partnership between Devon County Council, Plymouth City Council and Torbay Council. It has been established to deliver a sustainable long-term waste treatment solution for the communities of Plymouth, West Devon, South Hams, Teignbridge and Torbay.

Currently, two bidders remain in the process, each proposing a single treatment facility based on a Mass Burn Incineration (MBI) technology.

Understandably, there is an element of public concern and uncertainty about the effects that such a facility will have on both their local environment and on public health. This often provides a thrust for local groups who are opposed to Energy from Waste technology.

2. Aim

The aim of this report is to consolidate research that has been published regarding the environmental and health effects of waste treatment technologies. Specifically, it is intended to compare other waste treatment technologies to mass burn incineration (MBI), and to place all treatments in the context of total emissions released within the UK.

This report will be divided into an analysis of the main waste treatment technologies in the UK, including comparison of specific releases in tabular form where possible. The main sources for this document are the Department for Environment, Food and Rural Affairs (DEFRA) and also the Health Protection Agency, both of whom are referenced at the end of the report. Unfortunately, due to the lack of credible data for alternative thermal treatment technologies (Gasification, Pyrolysis and Plasma), it has not been possible to directly compare emissions from each technology.

It is important to note that there are no residual waste treatment technologies that do not have any impact on the environment. This message was clearly expressed in the Health Protection Agency's presentation to the Joint Working Committee in July 2010. One impact being traffic movements required to service such a facility. In addition, emissions will occur in some form from all current treatment technologies. However, the size of risk this presents has to be set in context.

3.0 Technology Evaluation

The technology evaluation is divided into three sections; i) landfill, the present residual waste disposal method in the Partnership area, ii) evaluating the conventional EfW solutions as proposed by the bidders and iii) alternative technologies that are comparable to incineration (see sections 3.3 and 3.4).

3.1 Landfill

The predominant method of residual waste disposal in the SWDWP area is landfilling or land raising operations. Waste is put into landfill 'cells' which are fully lined with a non-permeable lining. Liquid generated by the waste, known as 'leachate', is collected in lagoons and treated. Decomposing waste in landfill produces a significant quantity of emissions to air. Following the completion of a 'cell', that part of the landfill site is capped with an impermeable membrane and the gases given off are collected by a network of tubes throughout the landfill and used to feed either a flare or a gas engine to create

electricity. It is not practically possible to capture all of the gases and some will leak into the atmosphere.

Landfilling has a significant environmental impact which occurs in many forms. Turning to emissions to the air in the first instance, this occurs through three primary methods;

1. Fugitive gas emissions through uncapped areas of the site, cracks or purpose built vents,
2. Emissions resulting from the combustion of gas via a flare and
3. Emissions resulting from the use of an energy recovery plant which uses a gas turbine to generate power.

Environmentally, the first element is by far the most damaging. DEFRA (2004) claim that 700,000 tonnes of methane are released from landfill sites every year, representing some 27% of total UK methane emissions. Due to methane's Global Warming Potential rating, this is one of the reasons why landfilling consistently compares poorly when considered against other residual waste treatments. Such comparisons are often made using tools such as the Environment Agency's 'Waste and Resources Assessment Tool for the Environment' (WRATE) analysis. Gas that is recovered from the majority of modern landfill sites is combusted and passed through an engine to produce electricity. This produces a variety of emissions to air. Emissions from each aspect of the landfill process are summarised in table 1:

Table 1: Landfill emissions			
Substance	Best estimate (g/tonne waste)		
	Component 1 – Fugitive releases	Component 2 - Flaring	Component 3 - Engine
Nitrogen Oxides	Not emitted	100	900
Total Particulate Matter	No data	8	No data
Sulphur Oxides	Not emitted	120	70
Hydrogen Chloride	0.2	19	4
Hydrogen Fluoride	0.04	4	4
Total VOCs	25	1.7	No data
NMVOOC	No data	1.9	30
1,1- dichloroethane	2.7	No data	No data
Chloroethane	1.0	No data	No data
Chloroethene	1.1	No data	No data
Chlorobenzene	2.4	No data	No data
Tetrachloroethene	3.3	0.008	0.2
Methane	75,000	400	2,000
Cadmium	Likely to be similar to engine	Likely to be similar to engine	0.1
Nickel	Likely to be similar to engine	Likely to be similar to engine	0.013
Arsenic	Likely to be similar to engine	Likely to be similar to engine	0.0016
Mercury	Likely to be	Likely to be	0.0016

	similar to engine	similar to engine	
Dioxins and furans	No data	74ng TEQ/T	190ng TEQ/T
Polychlorinated biphenyls	No data	No data	No data
Carbon Dioxide	130,000	220,000	350,000
Benzene	0.24	No data	No data

Source: DEFRA (2004) – compiled from a variety of sources within the report.

Detailed studies about the impacts that these emissions have on human health are limited. Instead, many studies appear to focus on emissions from hazardous landfill sites, often where no energy has been recovered. One study that is frequently referenced is by Elliott et al (2001) which explores the relationships between proximity to landfill sites and birth defects. Although a positive relationship was found, the study has been criticised for not taking into account any other factors, for example socio-economic variations.

The second impact that landfilling municipal waste has is on groundwater. Today, landfill sites are well contained with active leachate extraction which prevents the vast majority of contamination to groundwater and water courses. However, some seepage, especially during the landfill site's active period, is inevitable. Furthermore, when leachate is collected and sent to a sewage treatment works, this has its own environmental impact. The direct impact of seepage has been studied, but with no degree of conviction due to the unavailability of data which relates to quantity of leachate released.

3.2 Energy from waste

Energy from Waste facilities are seen as an effective method of diverting waste from landfill, as required by the Landfill Directive. Waste is combusted in controlled conditions with a surplus of air in order to ensure temperatures of over 850⁰C. The HPA (2010) state this process causes three potential sources of exposure; via emissions, solid ash and cooling water. However, with proper management of the latter sources, the environmental impact of such a facility is almost entirely derived from its emissions to air. This is supported by DEFRA (2004) whose report offers just two paragraphs regarding any release to the sewer or surface water. This is because a facility discharges any liquid into the foul sewer network where it is later treated. This will have an environmental impact, but is insignificant compared with that resulting from a landfill site.

The EfW process also generates process residues, typically between 20% and 25% of input material. Much of this is 'Incinerator Bottom Ash' (IBA) which has a reuse value. However, the DEFRA (2004) report suggests that this inert material does produce a small further release when reused, although it has not been possible to validate this claim from other sources.

3.2.1 Air emissions

Energy from Waste technology during the 1980's and 1990's was not subject to as tight control as it is today. EfW technology has rapidly developed since the Waste Incineration Directive (WID) requirements came into force in the year 2000. Meeting the requirements of this directive requires more control on the combustion conditions maintained, combined with advancements in Air Pollution Control (APC) technology. Progress made improving emissions to air are clearly evidenced in the following table:

Table 2: Comparison of MBI emissions between 1980 and 2000			
Estimated Emissions to air (g/T of waste except where otherwise stated)			
Substance	1980	1990	2000
Nitrogen Oxides	1878	1580	1600
Total Particulates	313	264	38
Sulphur Dioxide	1421	1196	42
Hydrogen Chloride	3791	20	58
Hydrogen Fluoride	No data	No data	1
Volatile Organic Compounds	25	20	8
Cadmium	2.6	16	0.005
Nickel	2.8	28	0.05
Arsenic	0.40	0.33	0.005
Mercury	1.8	2.2	0.05
Dioxins and Furans	No data	0.00018g TEQ/T	4 x 10 ⁻⁷ g TEQ/T
Dioxin-like polychlorinated biphenyls	No data	0.0035g TEQ/T	0.0001g TEQ/T

Source: DEFRA (2004)

However, this is not to say that the EfW does not still have an environmental impact. In the first instance, EfW produces a substantial amount of carbon dioxide. DEFRA (2004) estimated that EfW facilities at the time produced around 2.4 million tonnes of CO₂ per year, 1 million of which resulted from fossil origins. As a result of the CO₂ emissions produced, EfW generally ranks lower on a WRATE analysis than alternatives such as MBT and AD, where a decreased proportion of waste is combusted. The WRATE analysis undertaken for the SWDWP only assessed an MBT solution with heat recovery, and compared to an EfW solution with heat recovery, produces approximately 15-20% less CO₂ per tonne.

However, despite this seemingly large figure, it only represented 1.6% of all UK CO₂ emissions. The CO₂ impact can also be set in context against the substantial methane release from a landfill site, and this makes the solution more attractive when using a WRATE analysis. Emissions levels in general are also offset by power generation, particularly if a solution provides Combined Heat and Power (CHP). CHP solutions reduce the need for individual heat generation by end users which have a significant environmental impact. As illustrated by the WRATE analysis conducted for the SWDWP's outline business case in April 2008 (figure 1, over), a CHP solution can even result in an overall net reduction in CO₂.

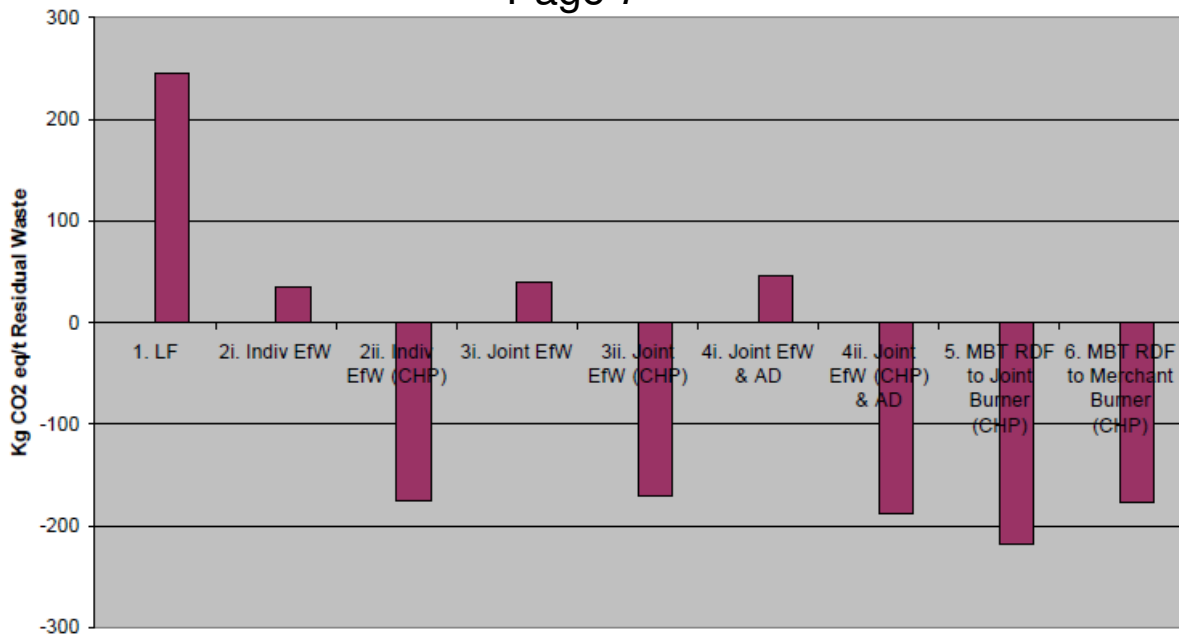


Figure 1: Extract from the SWDWP WRATE analysis showing CO₂ emissions from each evaluated technology.

Facilities which combust waste must meet the following WID limits:

Pollutant	Maximum Allowance (per m³ of release)
Particulates	10mg
Volatile Organic Carbon Compounds	10mg
NO	200mg
HCl	10mg
HF	1mg
SO ₂	50mg
CO	50mg
Cd and Ti	0.05mg
Mercury	0.05mg
Lead (Pb), chromium (Cr) Copper (Cu), Manganese (Mn) Nickel (Ni), Arsenic (As), Antimony (Sb), Cobalt (Co), Vanadium (V), Tin (Sn)	0.5mg
N ₂ O	30mg
NH ₃	10mg
Dioxins	0.1ng (TEQ)

In reality, most modern EfW facilities run well below most of these limits on a day to day basis. Many substances in the stack release are measured for the purposes of WID compliance and are measured on a continuous basis (daily or half hourly average). This allows operators to monitor the plant's performance in real time.

The health impacts of Energy from Waste have been extensively researched in recent years. At the time of their report publication in 2004, DEFRA acknowledged that "*Whilst incinerators generate a considerable amount of public concern, there have been few published epidemiological studies that examine the health of communities living in close proximity to them*" (pg. 139). Instead, the majority of studies at the time focused on pre-WID compliant facilities. However, since 2004 a substantial amount of work has been

carried out. The Health Protection Agency have compiled and reviewed these studies in a recently published report. Published in September 2009 and entitled "*The Impact on Health of Emissions to Air from Municipal Waste Incinerators*", the review concludes that "*While it is not possible to rule out adverse health effects from modern, well regulated municipal waste incinerators with complete certainty, any potential damage to the health of those living close-by is likely to be very small, if detectable.*"

3.2.2 Setting emissions in context

It is difficult to conceive how significant emissions from an Energy from Waste plant are. Tonne, gram, milligram or nanogram (TEQ) measures of different substances are intangible and cannot easily be equated into meaningful measures or direct impacts on human health which the public can understand. However, because emissions levels from EfW plants are so well documented, they can be broadly compared to those of other everyday activities. Some of the most frequently cited comparisons are sourced from a DEFRA paper (2007), entitled "Incineration of Municipal Solid Waste" which is intended to give a readable digest for the public. These include the following for a reference case of a facility processing 230,000 tonnes of MSW (not dissimilar to the solutions being considered by the SWDWP)

a. Oxides of Nitrogen – Equivalent to the production from a 7km length of UK Motorway (Data sourced from the DfT Design manual for roads and bridges). This measure is on an hourly basis, and is based on a measurement at the point of emission (i.e. taking no account of any dispersion to the atmosphere after release)..

b. Particulate matter – Equivalent to the production from a 5km length of UK motorway. (Data sourced from the DfT Design manual for roads and bridges). This measure is based on hourly production.

When one considers that the UK has in excess of 3,500km of motorway (Source: DfT, 2005), this is a good indicator of just how insignificant such a development is. Bridges (2008) claims that the development of a further 100,000 tonnes of capacity at the existing incineration plant in Nottingham will contribute a maximum of $0.05\mu\text{g}/\text{m}^3$ of particulate into localised air with a concentration of between $44.9\text{-}51.3\mu\text{g}/\text{m}^3$, and between $28\text{-}133\mu\text{g}/\text{m}^3$ in typical office environments.

c. Cadmium – One twentieth of the emissions from a medium sized coal-fired power station in the UK. (Source: Environment Agency Pollution Inventory)

This statistic does not specify what constitutes a 'medium sized power station', but it is a useful statistic because it provides some indication about the effect on the environment and health that our existing energy infrastructure has.

d. Dioxins and Furans – Equivalent production to that of accidental fires a town with a population of around 200,000. The referenced town is Milton Keynes, which has a population smaller than Plymouth. (Source: National Atmospheric Emissions Inventory)

Dioxin and Furan releases are often referenced by concerned members of the public because there is technically 'no safe limit' for their release. However, it should be emphasised that they are produced in many everyday practices such as cooking, and that Municipal Solid Waste management accounts for just 1% of total UK dioxin and furan emissions (DEFRA, 2004). In turn, dioxins in the atmosphere (to which MSW incineration

contributes 1%) are an insignificant form of human exposure, compared to some 97-99% of exposure caused by diet (Bridges, 2008).

3.3 Mechanical-Biological Treatment (MBT)

MBT is a hybrid disposal method which includes partial segregation of incoming waste into different fractions and some composting of organic material or processing by Anaerobic Digestion. Remaining material is landfilled or turned into a Refuse Derived Fuel (RDF) which is combusted.

a. Composting

Composting is a comparatively acceptable process to the public because it diverts waste from landfill to be processed for reuse. However, it does carry an environmental impact and may have an impact on human health. Composting produces Carbon Dioxide and small quantities of methane, both of which contribute to global warming. In addition, bioaerosols such as *Aspergillus Fumigatus* can be released when compost is agitated. Such microbes are known to have adverse effects on those who have conditions such as respiratory problems. Composting can also produce inhalable dust and Volatile Organic Compounds (VOCs) in low quantities. As a result of this, composting operations usually have to be sited over 250 metres from the nearest sensitive receptor (eg people) to satisfy Environment Agency requirements.

b. Anaerobic Digestion

Anaerobic Digestion has a comparatively low environmental impact. This is due to a) The completely airtight conditions in which the process occurs and b) The offset from power generated by the methane that is produced. As a consequence, its main impact is via emissions released when the methane is combusted. However, DEFRA (2004) have published very little detail about the effects of the AD process because, at the time of writing, there were no full sized AD plants in the UK using a municipal waste feedstock. Furthermore, AD cannot be classed as a residual waste treatment because it only addresses the organic fraction, leaving other material which still requires disposal.

c. Refuse Derived Fuel (RDF)

Unfortunately, the DEFRA study conducted in 2004 does not fully address the environmental and health impacts of an MBT system because there were no operations that addressed the whole residual waste stream in the UK at the time of publication. As a consequence, no data beyond 'Total Emissions per Tonne' was published. This appears to be a vague measure which takes no account of the combustion of an RDF fraction. It is therefore not surprising that this report is often used as a reference for groups who support MBT. The reality seems to be that very little information was available on the process at the time, and therefore the total impact of such a process is not documented adequately and has not been done so since.

3.4 Other residual treatment technologies

In addition to landfill, incineration and Mechanical Biological Treatment, there are a host of other technologies which are less established in the UK which are outlined below. The impact of these technologies has not been the subject of credible research to date. They are not adequately addressed in the 2004 DEFRA report, and subsequent work resulting from the 2010 DEFRA new technologies programme was inconclusive due to the failure of a new RDF pyrolysis plant at the point of commissioning.

3.4.1 Fluidised bed combustion

Fluidised bed combustion is an alternative to moving grate MBI, which provide the basis of the content for section 3.2. Waste is initially pre treated to remove metals, other recyclables and non combustible items. It is then shredded to produce an RDF product. Rather than a moving grate, shredded waste is passed over a moving 'sand' (or fluidised) bed which has air pumped through it.

3.4.2 Gasification

A gasification process can occur in either a low (700⁰C – 1,000⁰C) or high temperature (1,200⁰C – 1,600⁰C) system and uses a low oxygen environment. Gasification uses oxygen, but does not burn with a flame. The resulting ash is known as 'char'.

Both low and high temperature systems produce a mix of gasses (syngas) which are suitable for power generation when used as a fuel for an engine or turbine. The high temperature system can produce a 'biofuel' product

3.4.3 Pyrolysis

This process treats MSW in the absence of oxygen (similar to smouldering wood to make charcoal) but sometimes uses steam.

Waste is crushed and loaded into a chamber where temperatures reach around 1,200⁰C. This heat breaks down the waste to produce syngas (for power) and ash (char).

3.4.4 Plasma

Plasma processes ultimately 'melt' waste and convert small amounts of residue into a stable glass like substance. The process claims to recover 99% of the input into clean gas (syngas) for energy generation and aggregate for use in industry.

Initially, waste is pre sorted to remove any recyclable or oversized material (such as mattresses). Waste is then gassified (fluid bed) at approximately 800⁰C to produce gas and char.

The plasma process then uses very high temperatures and UV to break this gas and char down further to leave a small amount of residue requiring disposal, clean gas and aggregate.

Because of the thermal element involved with each of these technologies and their consequential emissions, they all need to meet the requirements of the WID. However, due to lack of research at present, their level of compliance is unknown with any degree of certainty. DEFRA's data in this instance is acknowledged to be of moderate quality at best, and poor at worst. Indeed, the data provided is generic to gasification, pyrolysis and plasma technology. In reality the emissions release from each process are likely to vary considerably.

4. Conclusion

Mass Burn Incineration is a residual waste treatment technology which has very accurately been assessed for both impacts on the environment and on human health – it presents a known quantity. As a consequence, it is well documented that it could have an impact, no

matter how small. It is unsurprising that this was the conclusion that the Health Protection Agency presented to Committee in July 2010. Despite a lack of information relating to alternative thermal treatments, modern EfW plants can be compared directly to landfill, and this has been done in the table below.

Table 4: Comparison of the emissions released from a landfill site (with gas engine) and a modern EfW plant		
g/T unless otherwise stated		
	Landfill (with engine)	EfW (modern)
Nitrogen Oxides	900	1600
Total Particulates	No data	38
Sulphur Dioxide	70	42
Hydrogen Chloride	4.2	58
Hydrogen Fluoride	4.04	1
Volatile Organic Compounds	25	8
Cadmium	0.1	0.005
Nickel	0.013	0.05
Arsenic	0.0016	0.005
Mercury	0.0016	0.05
Dioxins and Furans	190ng	400ng
Methane	77,000	19

However, when set in the context of the infrastructure that are encountered in everyday life, it can be seen that the effects and risks are comparatively small. An EfW plant approximately the size of that proposed to the partnership will have an environmental impact that can be equated to 0.2% of the UK motorway network (for Oxides of Nitrogen) or accidental fires from 0.3% of the UK population (for Dioxins and Furans).

As a known and well documented quantity, incineration can be made to appear to be a poorer option in comparison to other technologies. However, as this report has shown, this is often because very little is known, quantified or proven from these comparatively fledgling technologies. Simply reading the DEFRA review in 2004, the most recent study of this type, one could be persuaded that MBT offers a less damaging solution to residual waste management. The reality is that the report offers an incomplete picture of the process, which in operational terms varies considerably from that portrayed.

Reference list:

Bridges, J (2008). *Health impact assessment for the proposed third line extension of the eastcroft energy from waste plant*

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Department for Transport (DfT) (2005). *Transport Statistics* [Online] Available from <http://www.dft.gov.uk/pgr/statistics/> [Accessed 21/09/2010]

The Health Protection Agency (2010). *The Impact on Health of Emissions to Air from Municipal Waste Incinerators*. HPA, London.

South West Devon Waste Partnership

A joint scrutiny report on the proposals to procure an energy from waste plant to serve South West Devon

REPORT TO THE SOUTH WEST DEVON WASTE PARTNERSHIP JOINT COMMITTEE

SEPTEMBER 2010



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Further copies of this report can be obtained from:

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1. Executive Summary

- 1.1 This report provides details of the Joint Scrutiny Review of the South West Devon Waste Partnership and the ongoing procurement of a long term solution to treat and dispose of residual waste from Plymouth, Torbay, South Hams, West Devon and parts of Teignbridge.
- 1.2 Given the sensitivities and legalities surrounding the procurement process of the proposed energy from waste plant, the timing and scope of the review was limited. However, scrutiny was seen as part of the quality assurance mechanism of the project and questions about the validity of the Outline Business Case given the recent changes in the political and economic climate should rightly be asked.
- 1.3 The Joint Review Panel focussed on four areas of questioning:
 - Funding and affordability
 - Population and waste stream projections
 - Lessons learnt elsewhere
 - Contingency plans
- 1.4 From the information it received, the Joint Review Panel is satisfied that the Outline Business Case remains valid at this time. The Panel is, however, aware of the continually changing national picture, in terms of changes in Central Government policy, legislation and guidance and the still uncertain economic situation. Equally the Panel is aware of the advances in technology in relation to residual waste solutions.
- 1.5 The Panel is clear that the main focus of each partner authority (and the associated district councils) is that the waste hierarchy should continue to be strictly adhered to and, in particular, re-use and recycling should be prioritised. Local authorities have a role to play in ensuring that legislators are lobbied to make waste prevention a priority. Each council also needs to ensure that focus continues on increasing re-use and the recycling of waste. Raising public awareness of the need to implement the waste hierarchy and the reasons behind it also needs to take place. In addition, the contract for the proposed plant needs to ensure that it provides every opportunity to allow for increased recycling.
- 1.6 The Panel's main recommendations are around flexibility in the 25 year contract, waste reduction and the continued improvement in recycling across the Partnership area.
- 1.7 The Joint Review Panel will meet again to provide challenge once the Joint Committee makes recommendations through to each Council's Executive. This will mean that duplication of effort across each partner authority can be avoided. The Panel will also consider a continued role as the contract is implemented in policy development, performance management and ensuring that lessons are learnt.

2. Introduction

- 2.1 Devon County Council, Plymouth City Council and Torbay Council each have a Municipal Waste Strategy with a preferred option to dispose of residual waste which is not recycled or composted via a new thermal treatment process.
- 2.2 In April 2008, all three councils approved a Joint Working Agreement and Outline Business Case to procure a long term (25 year) solution to treat and dispose of residual waste from Plymouth and Torbay, the districts of West Devon and South Hams and most of Teignbridge.
- 2.3 The South West Devon Waste Partnership Joint Committee (including at least one councillor from the Executives of the three councils together with an observer member from the main opposition party on each council) was established to oversee and make decisions relating to the joint procurement and subsequent management of the services procured under a Private Finance Initiative (PFI) arrangement for the long term solution. A Project Executive consisting of senior officers from each council was also established to ensure that the project is delivered in line with the agreed Business Case.
- 2.4 The procurement process commenced in late 2008 following its acceptance by the Department of the Environment, Food and Rural Affairs (Defra) for £95 million of PFI credits. As at April 2010, the procurement had two bidders remaining both of whom are proposing a single energy from waste solution, either at a site within Plymouth at North Yard HM Naval Base Devonport or just outside Plymouth at Lee Mill near Ivybridge. The Partnership aims to select a Preferred Bidder in early 2011.
- 2.5 Scrutiny of the procurement process and the wider project is seen as a vital third strand, together with the Devon Audit Partnership and Defra, of the Quality Assurance mechanism for the project.
- 2.6 To this end, a Joint Review Panel was established, made up of three overview and scrutiny councillors from each of the three Councils, namely:

Councillor Black	Councillor Berrow	Councillor Addis (Chair)
Councillor Hook	Councillor Coker	Councillor Horne
Councillor Radford ¹ (Devon County Council)	Councillor Nicholson (Plymouth City Council)	Councillor Stocks (Torbay Council)

- 2.7 The Joint Review Panel's objective was:

To provide an overview of the procurement process being followed to secure a long-term waste treatment solution for the South West Devon Waste Partnership partner councils and to assess how the project will achieve its aims.

¹ Councillor Radford withdrew from the Joint Review Panel following the first meeting due to a conflict of interest.

2.8 The Joint Review Panel was mindful that the need for a residual waste treatment solution with a thermal element had previously been agreed through each authority's Municipal Waste Management Strategy and that the Outline Business Case had been approved by each authority. However, given the change in the economic and political climate since these documents were agreed, the Panel determined that the scope of the review was:

1. *To review the validity of the Outline Business Case of the South West Devon Waste Partnership given the political and economic changes since it was first agreed.*
2. *To ensure that the lessons learnt from other authorities undertaking similar procurement processes are incorporated into the work of the Partnership.*
3. *To review the contingencies associated with the project.*

2.9 The Joint Review Panel met four times during July and August 2010 and received reports and heard presentations from members of, and advisors to, the South West Devon Waste Partnership Project Executive and Joint Committee. The Panel received written reports from two local authorities – one of which had procured energy from waste plants and one which had decided not to pursue this option.

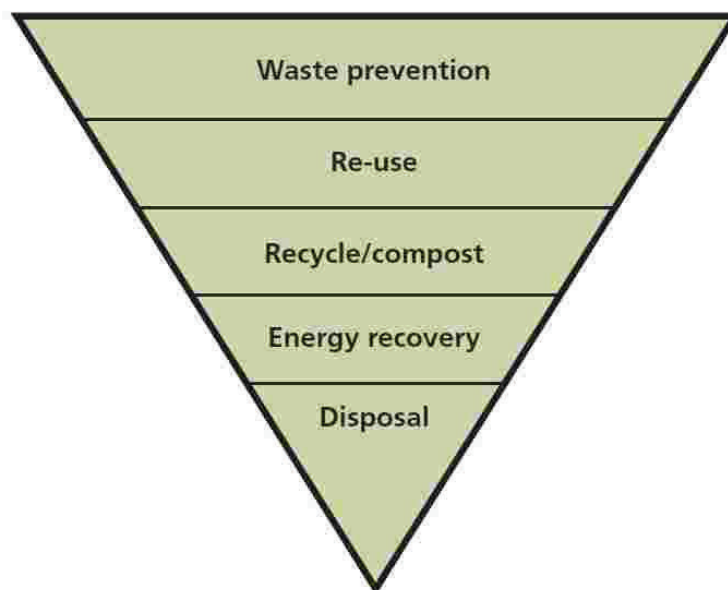
2.10 The Panel was advised that some information about the Partnership's ongoing procurement was commercially sensitive and therefore it could not always receive the depth of information requested. This did not hinder the questioning process, but some answers received were generalised as the detail of the bids are confidential.

3. The Current Situation

3.1 Background

3.1.1 There are a number of waste management challenges facing councils across the Country. As a rural peninsula, Devon and Cornwall arguably have a greater challenge to face in balancing the needs of their communities. The issues to consider include the environmental impact of waste and the associated carbon footprint. There is a public and political will to do more to satisfy the waste hierarchy in Figure 1.

Figure 1: Waste Hierarchy



3.1.2 The financial cost of disposing of household waste to landfill is significantly increasing in line with environmental concerns. The European Union and Central Government is using the penalty of fines and increased cost as a driver to reduce landfill and stimulate a more efficient use of waste.² Landfill Tax has increased in recent years from its inception at £7 a tonne in 1996 and to a projected £80 a tonne in 2018. Local authorities will also have to meet stringent fines at £150 per tonne if they exceed their Landfill Allowance Trading Scheme biodegradable municipal waste tonnage allocations.

3.1.3 There is diminishing landfill void space available to serve the communities in Torbay, Plymouth, South Hams, West Devon and Teignbridge with Heathfield Landfill Site near Newton Abbot scheduled to be at capacity in 2016. Chelson Meadow in Plymouth was at capacity in 2008 and as a result was closed. The reducing capacity means that commercial gate fees for landfill are increasing in addition to increasing landfill tax.

² Waste Strategy – Annual Progress Report 2008/2009 – Defra (October 2009)

- 3.1.4 To meet this clear directive of a move away from landfill, local authorities have to find waste solutions now for the long term future. The South West Devon Waste Partnership was formed against this backdrop to respond to the increasing waste challenge. The Partnership authorities entered into a legally binding Joint Working Agreement in April 2008.
- 3.1.5 The subsequent change in Government in May 2010 has led to a national review of waste policies that is due to report preliminary findings in April 2011. The first line of the terms of reference states: 'The Government is committed to working towards a zero waste economy'³. The document goes on to identify areas to be considered:
- Do more on waste prevention and reuse
 - Continue to increase recycling rates when it's the best option
 - Maximise the cost-effective generation of renewable energy from waste
 - Move towards zero waste to landfill⁴
- 3.1.6 It is assumed that the current core policies on recycling and composting levels and compliance with European Union Landfill Directives will continue to apply (or be enhanced). The work of the South West Devon Waste Partnership is in line with these policies.
- 3.1.7 Each of the authorities within the Partnership had previously independently prepared their own Waste Management Strategies which identified that, having increased recycling and minimised waste, a thermal treatment solution was appropriate to deal with residual waste. By working together, the three councils are able to benefit from economies of scale and attract central government support in the form of PFI credits.
- 3.1.8 Having identified the common need for a new residual waste treatment solution and the potential for a jointly procured approach, the South West Devon Waste Partnership began by modelling various options incorporating a range of solutions and scoring them against a range of criteria, including planning, technical, environmental, financial and economic considerations. The optimum solution was identified as a single shared facility using a tried and tested thermal technology.
- 3.1.9 The legal procurement process is complex and began in 2008 when companies were invited to bid for the contract. The tender invitation is output based and hence was not prescriptive of the required solution (i.e. the procurement did not specifically request an energy from waste plant; the most appropriate solution was left to the market to propose). Whilst a 'thermal element' was required there are alternatives to energy from waste

³ Review of Waste Policies – Terms of Reference, Defra (2010)

⁴ Ibid

that could have met this condition. Significantly all of the bidders chose to identify and propose an energy from waste plant, albeit at different locations.

3.1.10 Initially the project started with six bidders and nine outline solutions and, following a series of negotiations and assessments, at the current stage there are two possible companies, each with a proposed solution:

- MVV Umwelt proposing solutions located at North Yard HM Naval Base Devonport, Plymouth
- Viridor proposing a solution located at New England Quarry, Lee Mill, near Ivybridge

3.2 Funding and Affordability

3.2.1 The successful private sector contractor will include within its bid a project specific financial model which will contain all of the project costs, running costs and expected income during the 25-year operational period.

3.2.2 The capital investment for a new facility probably costing between £100 million and £200 million will be provided by the contractor either through "project finance" (raising money from external banks that lend specifically to projects) or through "corporate finance" (from the contractor's own company reserves). Once operational the private contractor is responsible for all repair, maintenance and running costs for the life of the contract. The method of securing capital investment for the project would have little or no impact on the operational aspects of the contract.

3.2.3 The Partnership will pay a gate fee for each tonne of residual waste delivered to the contractor. The gate fee will include elements to cover all operating costs and the repayment of capital and interest on the initial borrowings. Third party revenues from the sale of any electricity, steam, renewable energy benefits and spare capacity also provide a revenue stream to the contractor. Where these are guaranteed by the contractor, they will reduce the gate fee paid by the Partnership and are an important component of the project.

3.2.4 In order for the contractor to ensure it can cover its upfront investment costs, the Partnership will agree either to provide a minimum tonnage of residual waste per year ("guaranteed minimum tonnage") or a guarantee to provide the contractor with all its residual waste after re-use or recycling has taken place ("exclusivity"). Discussions are currently ongoing with both bidders on the arrangement into which the Partnership will enter. If the final contract is based on a guaranteed minimum level of waste, this amount is across the whole Partnership (i.e. there would not be a guaranteed minimum per Authority within the contract). The penalties for the Partnership of not meeting the guaranteed minimum would only come into force if the overall minimum was not met. The risk of this occurring for the Partnership is

partially reduced as Devon County Council has a more flexible waste stream which is currently being processed in other facilities.

- 3.2.5 The onus would be on the Partnership to provide the contractor with the residual waste flows for the contract period. However, the contractor must make certain that the scale of the facility is appropriate to ensure the right balance of having sufficient capacity to deal with any increases in residual waste whilst recognising each authority's commitment to increase recycling levels. Currently forecast estimates indicate that, of the waste dealt with at the facility, 35% will be from Devon County Council, 47% from Plymouth City Council and 18% from Torbay Council although, as Partnership waste increases with the population, there will be diminishing excess capacity over the life of the facility to deal with third party waste.
- 3.2.6 The gate fee per tonne of residual waste has yet to be finalised as the procurement is ongoing. However, the principle that each constituent authority of the Partnership will pay the same gate fee has been agreed. The gate fee will be set at Day 1 with inflationary increases each year. The actual payment made by each authority to the contractor each month will be based on actual tonnages of residual waste delivered (plus or minus other agreed variations such as non-performance deductions and additional third party income). Original Outline Business Case projections indicate that an energy from waste solution looks to be in the region of £60million cheaper than landfill not including the additional benefit of the PFI credit support.
- 3.2.7 Once the facility has been commissioned, the partner councils will also receive a PFI grant which has been approved at £95 million (based on 2008 values). This grant is index-linked and will be provided through a quarterly Government grant for 25 years. The actual value of the grant will be determined by the final capital value of the facility with each authority receiving its share of the grant in a proportion to the tonnage of residual waste it delivers to the facility.
- 3.2.8 The support funding via the PFI is dependent on the relevant Department of Environment, Food and Rural Affairs (Defra) criteria including:
- The need to follow the standard form of contract with terms acceptable to Defra and HM Treasury
 - The credits to be used to fund a new residual waste treatment process build for the project needs
 - An expected close of contracts by March 2011⁵
- 3.2.9 A PFI credit promissory note will be provided by Defra following the approval of the Final Business Case which is expected in early 2011. This promissory

⁵ If the contract is closed after this date, the PFI approval is not lost but there are risks that changes will be put forward by Defra/HM Treasury.

note will confirm the PFI credit amount although any departure from the terms set out in the Final Business Case could affect the entitlement to PFI credits. The credits will contribute towards the expected capital cost of the facility (which was set in the Outline Business Case at £140 million (based on 2008 prices)). Regular information exchange between the Partnership and Defra minimises the risk of any changes to the PFI credit allocation.

3.2.10 At the final tender stage, the contractors will be instructed to use a particular Euro exchange rate for any capital costs denominated in Euros. This will be provided in order to standardise terms for evaluation purposes. Within the final tender documentation, contractors will be encouraged to submit proposals for mitigating foreign exchange risk to the Partnership to the point when the bidder will fully accept this risk. The foreign exchange relationship will be between the contractor and any of its sub-contractors although the final Contract will reflect any agreement to share this risk between the contractor and the Partnership.

3.2.11 Any potential increased costs for the project in terms of borrowing costs and construction inflation resulting from the global recession should have been offset by the revised (lower) contract tonnages from the Partnership (and the subsequent reduction in the size of the facility) and increased third party revenues (as a result of increased landfill taxes and energy costs). It is expected that the final contract value will be within the previously approved figures within the Outline Business Case.

3.2.12 The new Coalition Government is still entering into PFI contracts for waste facilities in summer 2010. There are currently 24 energy from waste⁶ plants operational throughout the Country with a further four under construction and one not operational. Of the 61 further proposed plants, 15 have been granted planning permission, eight have submitted planning applications with no decision yet reached, 15 are in the planning stage, 12 are currently PFI reference cases (including the one subject to this scrutiny review) and 10 have had a planning application rejected or withdrawn.⁷

3.3 Population and Waste Projections

3.3.1 The long term population and residual waste projections for each of the Partnership councils are included within the Outline Business Case for the project.

3.3.2 As part of the Outline Business Case, a detailed future waste flow model was developed for the Partnership area. This set a baseline for each council within the Partnership based on 2006/2007 audited waste statistics and then modelled different scenarios such as waste and population growth, demographic change, waste minimisation and increased reuse and recycling.

⁶ This definition follows the Waste Incineration Directive 2000 and includes gasification and pyrolysis as well as conventional energy from waste plants.

⁷ The World of Waste, Alan Metcalfe, The University of Sheffield, 2010

The model was then used to predict the amount of future residual waste that would need to be treated from the area served by the facility.

- 3.3.3 The modelling was based on the then latest 2004 Sub-National Population Projections. The model was refreshed in October 2009 to take account of the updated 2008/2009 waste statistics, the latest population predictions and the 2008 Sub-National Population Projections.
- 3.3.4 The refreshed modelling resulted in the Partnership reducing its likely annual total of residual contract waste at 2039 from approximately 259,000 tonnes to 203,000 tonnes per annum (a reduction of 22%). These predictions assume continued improvements in recycling and a permanent decline in waste per head of population.
- 3.3.5 Whilst the new Government had revoked the Regional Spatial Strategy (and with it the centralised house building targets), no further announcements had been made on planning policy or the growth agenda and therefore the Partnership was still working to the adopted strategies and plans and the growth level projections. In particular, the proposals for the Sherford New Community are contained within the adopted Local Development Frameworks for Plymouth and South Hams. A planning application is currently being considered and there are currently no indications that Sherford will not be developed. (The delay to the start of the development has been taken into account in the refreshed modelling discussed above.)
- 3.3.6 The housing allocations put forward for each district will be subject to review. Those put forward for the Plymouth area remain unchanged and, similarly the Core Strategies⁸ for West Devon and South Hams are adopted and include the same housing figures as the Regional Spatial Strategy. It is likely that the long term figures for Torbay will be reduced and the Core Strategy for Teignbridge is still undergoing consultation.
- 3.3.7 The refreshed waste modelling by the Partnership in 2009 included sensitivity testing which looked at the effects of both increased housing and population and decreased housing and population compared to the anticipated housing and population growth. This sensitivity modelling produced high, medium and low waste growth scenarios. The potential impacts on the project had been identified.
- 3.3.7.1 Increased growth could result in the plant's capacity being exceeded towards the end of the life of the contract. However, it was felt that, by that stage, other factors (such as more lightweight packaging, use of different materials and changing lifestyles) could all contribute to lower waste tonnages per household.

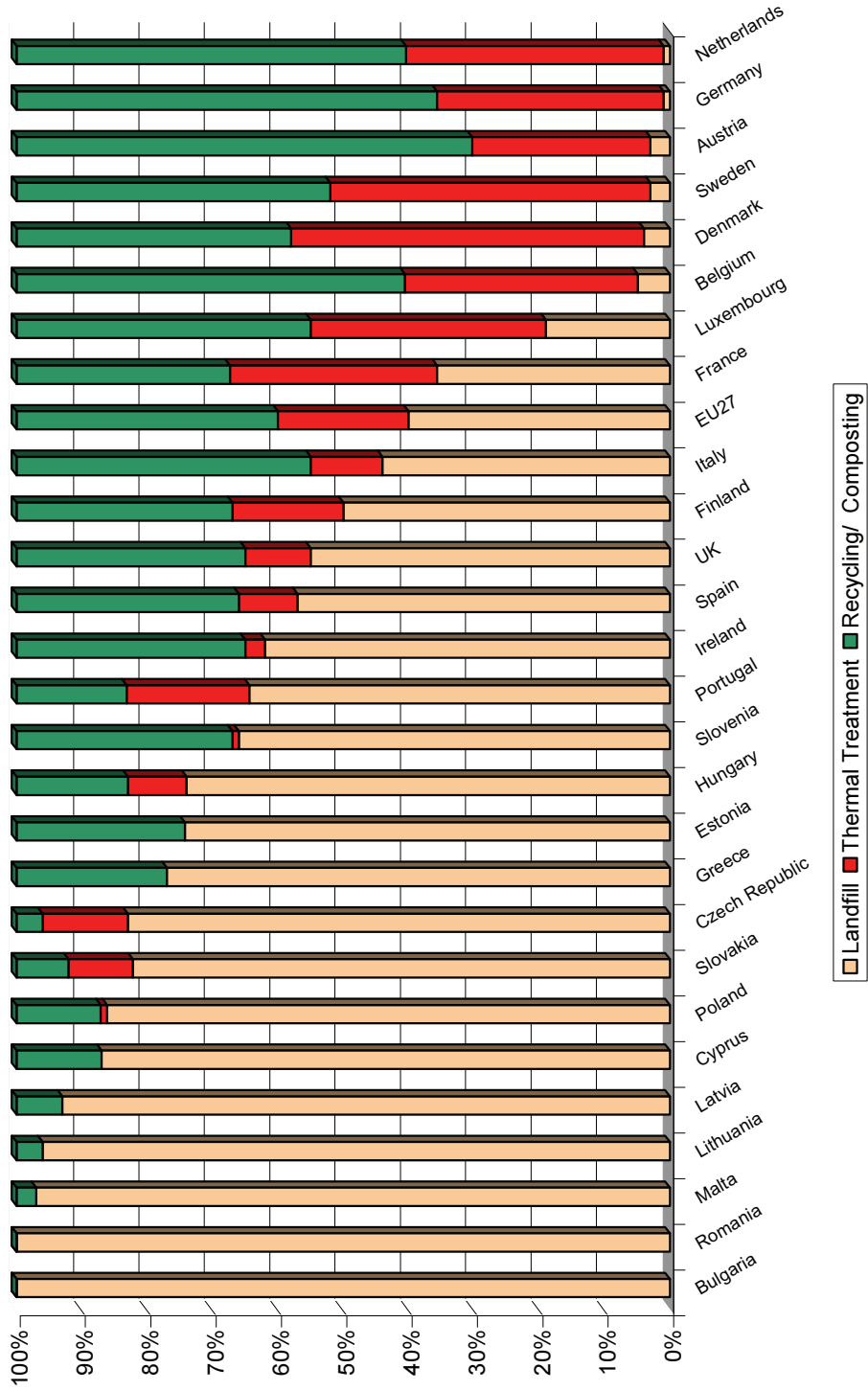
⁸ A compulsory local development document which sets out the principles relating to development and use of land in each local authority area.

- 3.3.7.2 Lower than expected growth could lead to under-capacity issues although it was anticipated that there would be sufficient demand locally for other waste streams to fill the capacity (such as business waste) and that the PFI contract would cater for this eventuality.
- 3.3.8 From an historical perspective, waste trends mirror economic trends. In the case of Devon, there was a near doubling of waste arising between 1991 and 2005 (following the recession of the late 1980s/early 1990s). However, residual waste only increased by 70% due to the increases in recycling at this time. It is probable that the current economic downturn has made a significant contribution to the reduction in waste in recent years. The Partnership have taken the view that increased waste minimisation will prevent a reoccurrence of a similar growth in waste following the current recession. The projections have assumed that waste growth will be broadly in line with population increase.

3.4 Impact on Recycling

- 3.4.1 The Partnership has stipulated that the PFI solution will only cater for residual waste after allowing for increased recycling across all partner councils. The contractor will only have access to the waste delivered by the councils and so the opportunity for increased recycling from this contract is limited. Notwithstanding this, the Partnership will assess each bidders' final solution and will score more highly those that offer any increased recycling benefits.
- 3.4.2 It is estimated that 2-3% of the residual waste stream processed by the facility will be metal and if this is all recovered then this could add around 1-2% to each council's recycling rate subject to proposed legislation. This would be in addition to the expected future recycling rates quoted in the Outline Business Case.
- 3.4.3 In addition, the Partnership is encouraging bidders to provide a solution to process the bottom ash for use as a secondary aggregate, which can be used productively in road construction or in concrete. Should this be secured then a further 20-25% of the contract waste could be deemed to be gainfully used albeit that this would not currently be permitted to be shown within Council recycling rates. However there is currently some concern over the classification of bottom ash due to the presence of zinc oxide. At the moment, this is classified as non-hazardous waste and is split between being used as aggregate and sent to landfill. If it were to be reclassified due to its potential ecotoxicity there could be significant financial implications as hazardous waste is far more expensive to dispose of, as well as undermining any potential increase in recycling.
- 3.4.4 Statistics from Europe (Figure 2) show that countries which use energy from waste technology also have high recycling rates indicating that the technology needs to form part of an effective, integrated waste management solution and needs to fit within the waste hierarchy.

Figure 2: Waste Disposal Methods in European Union 2008 (Source: Eurostat 2010)

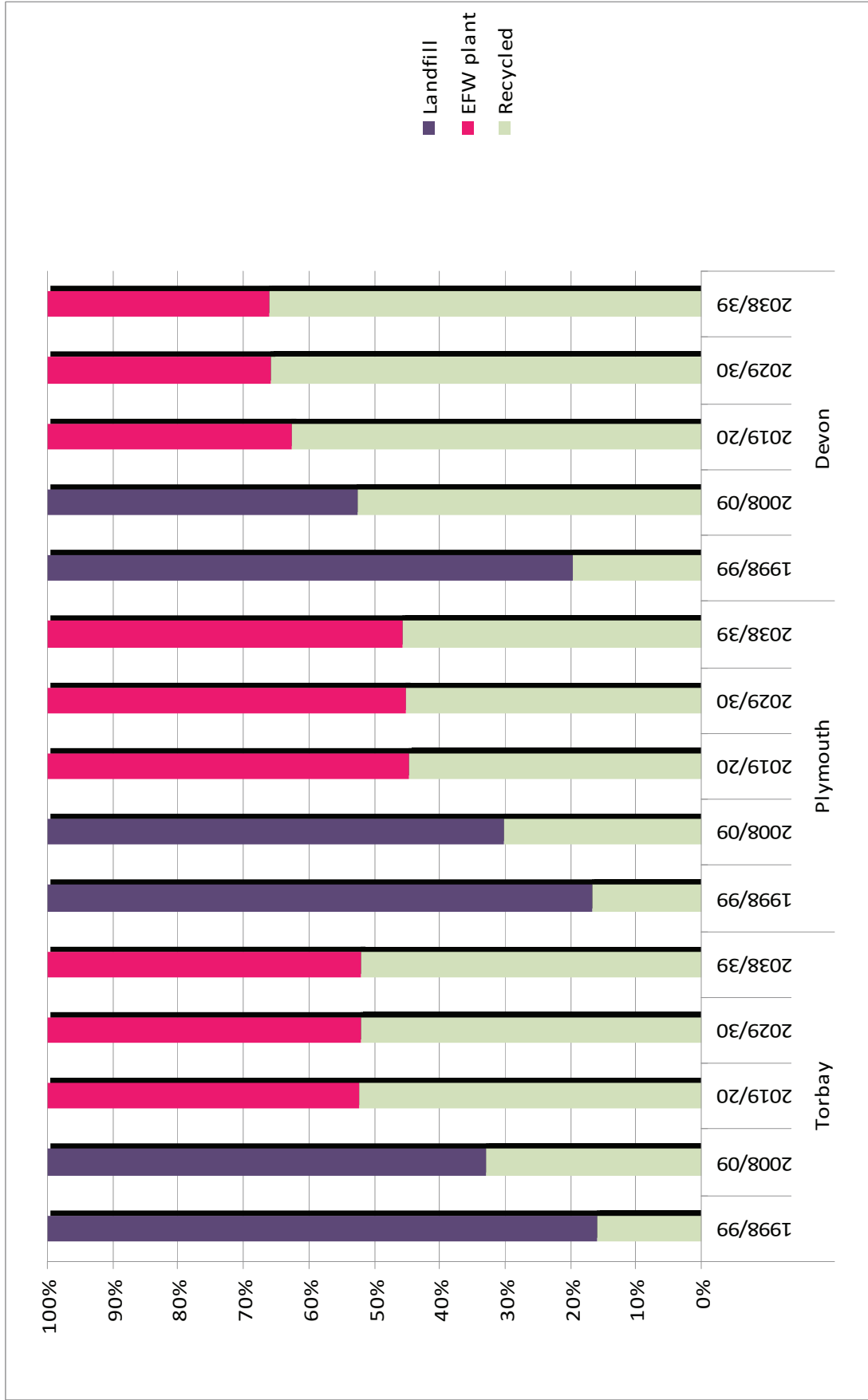


- 3.4.5 The forecasts for partner authorities' recycling rates continue to show a steady rise except in Torbay where a "step-change" is planned following the creation of TOR2, a joint venture company which has taken over delivery of the services previously delivered by the Direct Services and Waste division of the Council. From September 2010, changes are planned in the kerbside collection recycling scheme including an increased range of recyclable materials collected at the kerbside, collection of food waste and scraps, greater separation of waste (leading to purer materials for re-processing) and improved recycling for flats with shared facilities.
- 3.4.6 The change in Torbay are expected to lead to a 22% reduction in household residual waste tonnage in 2010 increasing to 40% in 2013, a reduction of 2,267 tonnes per annum in overall waste arisings due to the behavioural change caused by separate collection of food waste and kerbside collected recycling and composting rate increased from 35% to 45% in the first year and achievement of the 50% recycling target by 2012 (5 years early).
- 3.4.7 The new recycling regime in Torbay has been taken into account within the 2009 updated waste modelling for the South West Devon Waste Partnership.
- 3.4.8 The change in how waste has been and continues to be managed within the three partner authorities is shown in the chart in Figure 3.

3.5 Lessons Learnt Elsewhere

- 3.5.1 A number of waste treatment proposals and developments are at various stages of completion around the country. Each proposal and development is different and has often been developed to address a particular set of local requirements and policy objectives.
- 3.5.2 Examples put forward of developments around the Country included Cornwall Council where the proposed Energy from Waste plant is the subject of an ongoing planning appeal, Hampshire County Council who secured three Energy from Waste plants within built-up areas and Surrey County Council who could not secure planning permission for Energy from Waste plants and were subsequently pursuing alternative means of disposing of residual waste.
- 3.5.3 Three themes have emerged as the main "lessons learnt" from proposals and developments elsewhere in the Country.
- 3.5.3.1 The Partnership believes there is a need to provide continual and ongoing **communication and engagement** with all stakeholders throughout the development of the project. In the Partnership's case, this has involved liaison and consultation with councillors from each Partnership authority, key influencers and local communities on a regular basis. The objective has been to communicate facts through frequent engagement, even when there is little actual procurement progress to report.

Figure 3: Waste Disposal Methods in Devon, Plymouth and Torbay (Source: South West Devon Waste Partnership)



- 3.5.3.2 The need to achieve a **successful planning outcome** is critical and the bidders have been encouraged to, wherever possible, engage early with the planning authority and statutory consultees. This is to help ensure that the bidders take on board their requirements and issues before a planning application is submitted.
 - 3.5.3.3 It is also considered important that the planning committees have an appropriate understanding of what the planning applications will constitute and the context for the applications from both a national and local perspective, before they consider the proposal in the committee forum.
 - 3.5.3.4 With respect to the contractual lessons learnt, the need to allow sufficient time within the contract for the planning process (including any appeal) has been highlighted together with the need to have firm positions negotiated within the contract to cater for any potential delays and alternative contingency arrangements.
 - 3.5.3.5 It is important to have **clear and realistic procurement objectives** and that the bidders are kept aware of the requirements of the Partnership and any developments on the Partnership's side. There is a clear need to conduct the procurement in a manner which reduces the risk of legal challenge.
- 3.5.4 The Partnership was also drawing on lessons from other major procurements through both formal and informal networks. Nationally recognised consultant advisors have been appointed who are specialists in the waste and PFI sectors. Given that these advisors are working on numerous waste procurements simultaneously (and are often advising Defra and other Government bodies), this enables latest thinking and emerging problems and solutions to be considered quickly and directly within the Partnership.
- 3.5.5 Other learning and sharing opportunities have come from quarterly meeting with six other PFI procurements which were approved at the same time as the South West Devon Waste Partnership. Areas of learning and innovation are regularly discussed and shared.
- 3.5.6 The Project Manager for the Partnership is experienced in PFI projects with the Project Delivery Team having a mix of officers from each partner authority. The skills of the Project Delivery Team are a blend of project management, procurement, planning and waste specialists.
- 3.5.7 The Partnership is involved with the Defra Waste Infrastructure Delivery Programme (WIDP) which was established to support local authorities to accelerate investment in, and delivery of, the large-scale infrastructure required to treat residual waste. WIDP provides support through PFI credits, a dedicated "transactor" who provides guidance and support to individual projects and generic guidance on waste infrastructure projects and procurement. Throughout the process, liaison with WIDP has continually

alerted the Partnership to problems faced with other procurements and offered advice and learning on best practice solutions adopted elsewhere. The Joint Working Arrangement in place for the Partnership is now being provided to others as an example of good practice.

- 3.5.8 As a result of recent experience, the Environment Agency has changed the permitting system which ensures that the permit decision is more robust with less opportunity for challenge by either the contractor or opponents.

3.6 Community Engagement

3.6.1 The Partnership has been proactive in offering to provide information to communities and the concerns of local communities are being captured through a variety of means such as regular exhibitions, written and telephone enquiries and briefings with individuals and opposition groups. To date the Partnership have held 22 public road shows in the Partnership area, briefings held every three months for Councillors and Members of Parliament and a series of other presentations and communications.

3.6.2 All concerns and enquiries are investigated by the Partnership and every letter is responded to where possible. To date the Partnership has received 45 letters of enquiry about the project with around 1500 representations being received by the planning department of Devon County Council in response to the planning application for the Lee Mill site (paragraph 3.7.3). In many cases, the public feedback and issues are shared by the Partnership with the bidders for their consideration within the solutions being offered. In the selection process additional weighting has been given to bidders undertaking early engagement with the public.

3.6.3 There will be a formal opportunity for communities and groups to respond to the proposed solutions through the planning and permit approval processes. Any representations made at that stage will be fully considered by the relevant agency.

3.7 Contingency Plans

3.7.1 As explained earlier, the project started with six bidders and nine outline solutions. There are currently two bidders each with a proposed solution. It is considered very unlikely that either of the remaining bidders will withdraw from the procurement at this stage unless there is a fundamental reason why their solution cannot be delivered or be commercially viable. The process has been ongoing for over 18 months and is within two months of calling for final tenders and seven months of contract award. The remaining bidders have been determined through an ongoing process of assessment, review and shortlisting by the Partnership and many months of detailed negotiation. Both bidders will have probably invested around £1 million on the bids and have a commercial imperative to try to win the contract.

- 3.7.2 The main risks to the project associated with the planning process are in respect of planning failure or, more likely, a delay as a result of planning refusal, planning call-in, appeal or judicial review. These risks are being mitigated as much as possible by the Partnership encouraging the bidders to have early engagement with the Local Planning Authority and other statutory planning consultees, such as the Environment Agency.
- 3.7.3 Viridor have already submitted a planning application to Devon County Council for its proposed solution at New England Quarry at Lee Mill. This site is allocated within the Devon County Council's Waste Local Plan and has an existing permission as a mineral site. The initial two month consultation period for the application concluded in April 2010. Following the initial assessment of the statutory and technical consultees' responses, further information has been requested by Devon County Council planners in order to enable a proper assessment of the likely environmental effects of the proposal and the appropriate mitigation required. Until this additional information is provided, the determination of the application is on hold.
- 3.7.4 The Development Control Committee at Devon County Council have undertaken a range of training to gain an understanding of the issues they may need to consider when it comes to determine the planning application. The training has included presentations from both the Environment Agency and the Health Protection Agency.
- 3.7.5 The site proposed by MVV Umwelt at HM Naval Base Devonport is not an identified allocated waste site within the planning framework for the area. However, a policy is in place in relation to unallocated sites and this would come into force for the consideration of this site with the bidder being asked to provide evidence of how it meets this policy and other relevant policies.
- 3.7.6 Many planning scenarios have been considered by the Partnership and extensive legal and procurement advice has been taken to ensure that the Partnership adopts the optimum position within the contract to cater for such eventualities. Each planning application which is determined around the country is being reviewed and evaluated by the Project Team in terms of its implications for the South West Devon Waste Partnership.
- 3.7.7 The cost of a two year planning delay has been estimated at £66 million within the original Outline Business Case which has been included within the approved affordability envelope as contingency headroom.
- 3.7.8 The Partnership does not have a single "Plan B". A range of contingency plans would be needed and would depend on the type of failure experienced by the Project. A detailed revised project plan would only be prepared at the time of failure although various scenarios have been considered in advance. In procurement terms, an alternative solution cannot currently be developed in the market place as this would be against procurement law. If there were to be a delay in the medium term, each authority would continue to use landfill.

4. Conclusion

- 4.1 Given the advanced stage of the procurement process of the South West Devon Waste Partnership, the scope of the Joint Scrutiny Review was limited to challenging the validity of the Outline Business Case, ensuring that lessons have been learnt from elsewhere in the Country and reviewing the contingencies associated with the project. The Joint Review Panel felt that these were valid objectives given the economic and political changes which had taken place since the original Outline Business Case was agreed by each partner authority. The timescales imposed on the review (together with the procurement constraints) meant that a focussed approach needed to be taken.
- 4.2 The Joint Review Panel agreed a clear set of questions for the Project Executive and received detailed written and verbal answers, for which it is grateful. From the information it received, the Panel is satisfied that the Outline Business Case remains valid at this time. The Panel is, however, aware of the continually changing national picture, in terms of changes in Central Government policy, legislation and guidance and the still uncertain economic situation. Equally the Panel is aware of the advances in technology in relation to residual waste solutions.
- 4.3 The Panel sought assurances from the Project Team about the continued fluctuation in projected population growth and waste streams, together with changes in targets for both housing and waste. It was demonstrated to the Panel that the modelling which feeds into the Business Case has been amended during the process to reflect these changes and, indeed, the proposed facility has been downscaled as a result.
- 4.4 The Joint Review Panel gave examples of energy from waste plants in Europe where the heat and/or electricity generated from the plant was used by residents living near to the site. Whilst taking on board the responses to these questions by the Project Team (including the difficulties that can be encountered when the residential infrastructure is already in place), the Panel feels that it would appear that not using the heat from the plant (either commercially or as a community benefit) is a missed opportunity and that there is a possibility that this could be utilised in future.
- 4.5 The Panel is clear that the main focus of each partner authority (and the associated district councils) is that the waste hierarchy should continue to be strictly adhered to. Local authorities have a role to play in ensuring that legislators are lobbied to make waste prevention a priority. Each council also needs to ensure that focus continues on increasing re-use and the recycling of waste. Raising public awareness of the need to implement the waste hierarchy and the reasons behind it also needs to take place. In addition, the contract needs to ensure that it provides every opportunity to allow for increased recycling.

- 4.6 The member training that has been provided to the members of the Devon County Council planning committee is welcomed. However, changes in technology and legislation and the need to enforce the waste hierarchy would make further education of all councillors valuable.
- 4.7 Concern was expressed at the start of the review about the value that could be added to the procurement process by the Joint Review Panel given the timescales and commercially sensitive information. Throughout the review, the Panel has heard of the opportunities that were available within each partner council to challenge the different stages of the project (from the agreement of the Municipal Waste Management Strategy to the approval of the Outline Business Case and Joint Working Agreement). Given the knowledge gained during the course of the review, the Panel will meet again to provide challenge once the Joint Committee makes recommendations through to each Council's Executive. This will mean that duplication of effort across each partner authority can be avoided. The Panel will also consider a continued role as the contract is implemented in reviewing policy development, performance management and lessons learnt.

5. Recommendations

The Contract

- 5.1 That consideration be given to setting a review period within the contract to allow adjustment for possible changes in technology, waste streams and population, in particular given the large difference between projections and historical data for both waste and population.
- 5.2 That the contract be based on a guarantee from the Partnership to provide all its residual waste after re-use and recycling (i.e. "exclusivity") as this favours the promotion of recycling, rather than providing a minimum tonnage of residual waste per year (i.e. "guaranteed minimum tonnage") which could see the minimum made up by recyclable materials.
- 5.3 That the contract should have enough flexibility to ensure that, if the level of residual waste diminishes, the contractor is encouraged to develop its own waste streams in order to reduce gate fees and hence the cost to council tax payers.

Recycling and Waste Management

- 5.4 That each partner authority re-affirms its commitment to the waste hierarchy within each Municipal Waste Management Strategy with all authorities obliged to meet challenging recycling targets through shared learning across the Partnership.
- 5.5 That each partner authority makes representations to its local Members of Parliament and the European Parliament and the Local Government Association to prioritise legislation needed to minimise waste production (for example through reducing packaging).
- 5.6 That each partner authority be encouraged to respond to the current Government consultation on waste.

Increasing Awareness

- 5.7 That each partner authority work to encourage the ownership of waste by the public through communication and education in line with the waste hierarchy.
- 5.8 That wider member training be encouraged and continued in relation to waste management issues (including recycling and new technologies).

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