Consultation on petition P-04-341 Waste and Incineration
Response from Chartered Institute of Wastes Management

The Chartered Institution of Wastes Management (CIWM) is the professional body which represents around 7,000 waste and resource management professionals, predominantly in the UK but also overseas. The CIWM sets the professional standards for individuals working in the waste management industry and has various grades of membership determined by education, qualification and experience.

The CIWM Cymru Wales Centre represents Chartered Waste Managers in Wales and provides the following response from the CIWM members in Wales and the technical staff of the CIWM National Head Office:

## Providing Evidence to National Assembly for Wales Petitions Committee

The CIWM the CIWM and Cymru Wales Centre welcomes the opportunity to respond to the Petitions Committee on the questions you have invited us to consider responding within your letter dated the 16 November 2011.

### Question 1

There are many and various methods and technologies within the waste management industry which will effectively dispose of non-recyclable wastes, however, the determination of 'best' is a difficult and complex question to answer. Wastes are generally a heterogeneous mix and the best method or technology to treat any particular waste will depend on its composition, level of contamination, physical and chemical properties, as well as some less obvious issues such as markets and capacity.

To achieve a truly balanced answer the Petitions Committee should consider all waste treatment technologies given that the Welsh Government (WG) wants to achieve overall zero waste in Wales. Given that the focus of the petition relates to municipal solid waste (MSW), and apparently to a single one local authority collaborative procurement for residual municipal waste treatment.

Whilst doing so would limited the response to that off appropriately 10% of the total waste in Wales requiring future treatment consequently the CIWM Cymru comments have tried to reflect that focus although given the more generic issues that Wales

must face in achieving sustainable management of its future wastes does provide comments on the wider considerations that the petition also raises.

Considering the present proven municipal waste treatment and disposal options available there are a number that would provide best value depending on tonnage needing treatment and/or disposal, the waste, the composition of the waste and the costs of treatment and/or disposal.

Generally, the following technologies could all be viable options for the treatment and/or disposal of non-recyclable municipal wastes depending on the above criteria, operational experience and performance:

- Energy from Waste;
- Advanced Thermal Treatment (Pyrolysis/Gasifcation/Plasma);
- Mechanical Heat Treatment (Autoclave);
- Mechanical Biological Treatment (MBT);
- Biological Treatment. (Biogas) AD and composing

NB: *Although it needs to be noted all these technologies will also treat and/or dispose of recyclable wastes may in certain cases be reliant on other technologies including those listed above. Similarly some of these technologies will only treat a proportion of the municipal waste stream and that any option may be a combination of those shown above.*

Considering the range of technical, environment and financial factors that need to be taken into account by those procuring any of the above methods and the considerable work involved in the evaluation and selection process. It is likely that the procurement process itself will ultimately determine the best method of disposing of non-recyclable waste.

This in itself does mean that a similar but not exact procurement by a difficult single or collaborative body would ultimately have the exact same solution as their best method.

It is clear therefore, that no single solution will always be the appropriate one and the market itself will ultimately determine the best method in respect to individual procurements.

Given the long delivery times for new waste management infrastructure and the significant negative impact of changes in Government policy during the procurement process, we would urge the National Assembly for Wales to encourage the Welsh Government to adhere to its already stated policy position supporting the use of thermal treatment use for up to 30 per cent residual municipal waste.

Failure to provide a clear policy steer on thermal treatment will critically endanger the successful completion of existing waste treatment and/or disposal procurements and leave Wales exposed to the risk of failing to meet its EU Landfill Directive Targets and Welsh local authorities unable to meet Welsh Government Landfill Allowance Targets.

**Question 2**

All energy from waste facilities, designed in the last ten years or more, operate in a highly regulated environment and independent research has concluded that they have little or no negative health impacts on the local communities. They operate within strict EU and UK legislation ensuring environmental and health effects are minimised. Such plants are far more stringently regulated than most other industrial processes. Like any industrial facility, there are likely to be transport and amenity impacts.

Energy from waste and certain other thermal treatment technologies must comply with the Waste Incineration Directive which ensures that the gasses produced and released into the atmosphere are thoroughly cleaned and constantly monitored. This level of regulation far exceeds other combustion processes such as coal fired power stations or other industrial combustion processes.

Energy from waste plants similar to that proposed by the Prosiect Gwyrdd procurement, export electricity to the grid and some also export the heat output (combined heat and power (CHP) technology). Energy from waste currently contributes around 1.5% of the UK's electricity demand but it is predicted that renewable electricity from thermal combustion of waste could grow from 1.2 TWh to between 3.1 and 3.6 TWh by 2020. This contributes to the UK's target, set under the 2009 Renewable Energy Directive, to achieve 15% of energy consumption from renewable sources, compared to 3% in 2009.

The UK has also become increasingly dependant on 'energy imports'. Energy security for the future is a key concern and diversity of supply is an important factor in ensuring a high quality, reliable and affordable supply for the UK. The energy recovered from the thermal treatment of wastes contributes to the base load electricity generation and will contribute to the decarbonisation of the energy sector.

In terms of Welsh security of energy supply, especially for industry, we believe Welsh Government should exploit the energy value of waste before disposal whenever possible using appropriate scaled combined heat and power technology. Generating both power and heat from waste is typically up to 2-3 times as efficient (over 80%) as generating only electricity (approximately 25%).

Therefore, CIWM Cymru Wales believes that Welsh Government should increase its support for CHP in general and particularly for the future development of district heating networks to provide a platform for the development of a competitive "heat supply" industry in which waste and other forms of biomass may compete as local providers

Welsh Government should also provide further support for the development of district heating via the planning system for new developments and substantial community regenerations by giving suitable incentives to provide district heating

The public perception and understanding of energy recovery from waste is poor and Welsh Government has a role to play in addressing this through more visible policy and leadership than has been evident to date in Towards Zero Waste and Waste Sector Plans. Indeed future waste strategies alongside Welsh energy review would be an ideal opportunity to do this. As suggested above, Welsh Government policy and support for district heating may also need to be clarified and published.

CIWM Cymru Wales supports and encourages the manufacture of "clean" waste derived fuels and their efficient use. We understand that the UK Government is actively considering clarification of the ROC System and this would be welcomed.

There are numinous published studies and reports with varying conclusions relating to the health impacts of the health of communities in proximity to Energy from waste Plants. In 2004 Defra published a report entitled "*Review of Environmental and Health Effects of Waste Management: Municipal Solid Waste and Similar Wastes*" This report concluded that such published studies have failed to establish any convincing links between emissions and adverse effects on public health.

The WG Regional Waste Plans "1$^{st}$ *Review Final Strategic Health Impact Assessment March 2008*" concluded that the positive health impacts from energy from waste included employment, stimulated economy, reducing climate change through reductions in greenhouse gases by offsetting the use of fossil fuels and methane reduction from landfill. While negative impacts were likely to be quality of life, annoyance and nuisance impacts from noise, litter and increase vehicle traffic.

While Ennomia research & consulting in their "*A changing Climate fro Energy from Waste Final Report for Friends of the Earth May 2006*" state that their report challenges 'conventional wisdom' that energy from waste is bound to generate climate change benefits. It does not argue that such benefits may not be possible to derive. Indeed it states that the report need not necessarily imply that energy from waste is bad for climate changes and that it could after all be true that incinerating waste and generating energy from it is the best way of dealing with waste.

The e-Digest of Environment Statistics, published February 2006 Department for Environment, Food and Rural Affairs would also appear to show that high levels of recycling can be compatible with high levels of incineration with the Netherlands thermally treating 32.9% of it municipal waste recycling and composting 64.4% with only 2.7 % going to landfill the best example.

**Question 3**

CIWM would agree with Welsh Government that there are considerable advantages both for the local authorities and the Welsh Tax payer in local authorities working in collaboration to provide 'best value' solutions to future residual municipal waste treatment and/or disposal. It is generally accepted that economies of scale and

partnership working in procurement result in major cost saving to those Tax payers. Money that can then be used in providing the day to day environmental services such as street cleansing, recycling and composting to those tax payers.

It is our opinion that there was no direct requirement from the Welsh Government forcing local authorities to form collaborative partnerships in respect to residual waste and that for those local authorities presently carrying out residual waste procurement that these partnerships were formed by partner authorities to achieve best value for their Council tax payers. Certainly the Prosiect Gwyrdd Partnership was initially instigated informally as long ago as 2006/7. Well before the Welsh Government's present Regional Procurement Programmes and without direct prescription from Welsh Government and before Welsh Government Regional capital Allocation (RCAF) grant support of the Prosiect Gwyrdd procurement.

Obviously for this partnership, the economies of scale and the efficiency savings for carrying out a joint procurement were the driving factors and not Welsh Government policies and it would appear to us that they would have formed this partnership irrespective of any Government direction. Furthermore, it is our belief that Prosiect Gwyrdd did choose their waste technology and waste procurement exactly as the petition suggests should be done.

Given that many Welsh local authorities are current transporting their residual waste significant distances to deposit it in the ever decreasing number of landfill sites in Wales. It is apparent that many have not been able to find the most appropriate local solution to dispose of their existing non recyclable residual waste let alone their future non recyclable waste.

CIWM Cymru Wales have concerns that local Planning Consent system may also prove problematic should there be any change by Government to a more 'localised' policy for waste treatment and/or disposal facilities given that the Welsh Government Technical Advise Note (Wales) 21. Waste (TAN 21) promotes a regional approach to land use waste planning when considering such facilities and regional co-ordination.

We would draw the Petitions Committee to paragraph 2.2 and 2.3 of TAN 21 which states that:

2.2 *To satisfy Article 5 of the Waste Framework Directive and to implement the Waste Strategy, it is necessary to consider the role of regional arrangements within Wales.*

2.3 *Welsh local authorities in conjunction with the National Assembly for Wales are expected to establish joint arrangements to prepare plans.*

2.4 *Joint arrangements will help local authorities to meet sustainable waste management commitments.*

We would suggest, that while this material advice specifically relates to land use issues it is still valid for joint local authority working, not only in land use terms, but also in respect to overall sustainable waste management, best value and environmental common sense.

It would also appear to us that with many Welsh local authorities having already spent considerable sums of public money (both the local authorities and Welsh Government's) carrying out long and complex procurement exercises over the last few years. Any change in Welsh Government policy at this late stage could jeopardise or leave these existing waste treatment procurements under any threat of challenge that would result in either partnering authorities being unable to meet their Landfill Allowances or subject to fines or intervention as failing Councils through no fault of their own, or possible investigation by the Wales Audit Office mismanagement of public money.

Furthermore, whilst not in direct response to the question asked of us in your letter, but in considering of those matters the petition calls on the National Assembly for Wales to consider. CIWM Cymru Wales would also like to offer the following comments for the Petition Committee's information:

Whilst accepting that it would be a more efficient use of recyclable waste, CIWM Cymru Wales urge that no serious consideration of any legislative ban should be considered at this time or until there is sufficient reprocessing capacity to recycling all the recyclable elements of household, commercial or industrial waste generated in Wales.

It should be noted that although the Scottish Government have determined to have landfill bans to include food waste they have put back any implementation date until they consider that alternative technologies (mainly AD) will be in place to treat the food waste banned from landfill.

Before any consideration of such an important and far reaching a 'Measure', careful consideration needs to be given as to whether such a proposal is enforceable. CIWM Cymru Wales would have doubt should such legislation be made that it could be enforced and as such it would be ineffective and worthless legislation.

However, CIWM Cymru Wales also believe that Welsh Government should consider, in the longer term, diversion of waste from landfill other than biodegradable municipal waste as significant energy-rich fractions still exist in non-municipal and non-biodegradable wastes which are presently not permitted to be landfilled in many EU member states.

CIWM Cymru Wales are slightly confused by the suggestion within the petition that the Wales Waste Survey (without clarification as to whether this relates to any specific survey not stated in your letter) only give a 2 technology options on waste disposal was flawed. This would appear to be inaccurate, considering The Regional Waste Plan Consultation Document; First Review '*Our Waste Our Challenge'* which consulted extensively between the15 October 2007 to the 24 December 2007 included many possible combinations of different types of waste management facilities.

CIWM Cymru Wales believe that 4 main options were developed, with 19 sub-options for the management of residual waste in each of the three Welsh Regions.

These included the following:

Option 1 – A Landfill-led strategy for residual waste;
Option 2 – An Energy from Waste- Led strategy for residual waste;
Option 3 - A MBT/BMT –Led strategy for residual waste;
Option 4 – An Autoclave – Led strategy for residual waste.

Consultation, we understand, was widespread throughout Wales. Whereby consultees were asked to comment on the rationale for using these Technology Options and whether additional factors should be used in assessing the technology option. It is not our understanding that there was any suggestion that this consultation was flawed or biased until the Petitions Committee received this petition.

CIWM Cymru Wales having consulted with its senior Welsh professional Waste Managers and its CIWM technical officers confirm that their comments have helped form this response.

Friday 30 December 2011