WASTE MANAGEMENT ASSOCIATION OF AUSTRALIA

Energy from Waste Division

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SUBMISSION TO PRODUCTIVITY COMMISSION

Waste Generation & Resource Efficiency Inquiry

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Introduction

The Waste Management Association of Australia (WMAA) (http://www.wmaa.asn.au/) is recognised as Australia's leading Association for waste management professionals. WMAA represents people from many disciplines, including physical & social sciences, engineering, law, government, management, OH&S, as well as people on the ground implementing recycling & waste management systems.

WMAA operates in every State & with over 1000 members it is ideally placed to provide a national forum to foster the necessary structural & cultural changes within its membership. This will enable the waste management industry to respond to the demands for integrated resource management services.

Through our Members, WMAA will be a key agent for change as the managers of waste position themselves to meet new demands in a global market requiring both economically & environmentally sustainable solutions.

Within the overarching national framework of WMAA the diversity of skills, interests and views are catered for through a structure of:

- State Branches – giving geographic representation

- National Divisions – giving specific topic / discipline representation

- State based Working Groups – giving specific topic / discipline representation within an individual jurisdictional context

The Energy from Waste (EfW) Division of WMAA is a national, specific topic (EfW) division with EfW Working Groups in four states. All active participants are interested volunteers with a clear desire to organise and collaborate with others of similar interest or motivation.

As the structure of WMAA specifically facilitates, the EfW Division had its origin in 2002 when a group of waste management / sustainable resource use practitioners and experts gathered to consider the prospect of organising to address a specific fraction of the Urban Solid Waste (USW) that was initially defined as those materials that:

a) Had no further practical value or market for reuse, recycling or reprocessing to recover their inherent resource value, and

b) Had a net calorific value that could be recovered and would otherwise be lost through disposal to landfill

The early work of the EfW Division sought to identify the full range of barriers that existed to prevent the orderly energy recovery from such materials.

At that time the work of the EfW Division came to the attention of State and Federal Governments and a broad cross section of Industry, and a specific project emerged. This was broadly sponsored to develop a definitive Sustainability Guide and Code of Practice for EfW projects and proposals.

Some two years later the EfW Division published the Sustainability Guide and Code of Practice (attached A) which is a self contained and self explanatory document providing not only the details of who was involved, who were the sponsors and why the project was undertaken, but also a summary of the consultative and collaborative process itself. The finished product has the enthusiastic support of all those parties involved including Commonwealth agencies, jurisdictional regulators and policy agencies, environmental NGOs and the broad sweep of industry interest.

The final documents have been available as free downloads from the web for the last 18 months and are still downloaded by interested practitioners in this area, at an average of 6-10 per week.

Following the successful completion of the Sustainability Guide project, the EfW Division turned its attention to the type and nature of the systems, facilities and infrastructure that might reasonably be required, as installed capabilities, to allow the concepts contained in the Sustainability Guide and Code of Practice to be realised. What might a strategic planner or policy developer or infrastructure provider reasonably consider the material streams will consist of as inputs into such facilities? How much USW sourced material might present for optimum energy (embodied and inherent) recovery, with what contaminant streams?

Through the EfW Division's membership of Bioenergy Australia (http://www.bioenergyaustralia.org/) the EfW Division undertook the National leadership for involvement in IEA Bioenergy Task 36 (http://www.ieabioenergytask36.org/) and was appointed by that group to head up Topic 1 – "The Role of Product Stewardship/Extended Producer Responsibility Schemes in Affecting the Properties and Values in Residual USW".

The project brief (attached B) is self explanatory and Stage 1 and 2 reports are freely available from (http://www.wmaa.asn.au/efw/task36.pdf)

The following responses to certain of the specific questions raised by this Inquiry rely on both the EfW Sustainability Guide and Code of Practice and the Task 36 Stage 1 & 2 reports having been absorbed **in detail** and **in full**.

Question 1

What are the economic, environmental and social costs and benefits of waste and waste-related activities?

Waste is a completely unacceptable economic, social or environmental outcome. The laws of thermodynamics confirm that there will be losses in the productive economy and that entrophy will be increased, but the "biomimicry"[1] or the consequential reapplication of energy and resources to subsequent reuse applications in continuous cycles is not **wasting** energy or resources. In natural cycles the net energy consumed by a system is replaced from renewable sources (solar), but the original natural capital is not consumed in one off irrevocable applications, especially not to make "waste".

[1] Reducing the wasteful throughput of materials enabling the constant reuse of materials in continuous closed cycles

Question 2

What are the market failures (including externalities) associated with the generation and disposal of waste?

The full cost or impact (the externalities) of providing virgin resources and fossil fuel based energy are not translated into the market or transparent. Simultaneously, the sources of alternative resources and energy, which have many more of the externalities of their production included in their eventual price back to the market, are obliged to compete with such undervalued virgin resources.

Question 3

What strategies should be adopted by government and industry to improve economic, environmental and social outcomes in regard to waste and its management?

Development of a coordinated and systematic national plan to eliminate waste and optimise resource and energy use as a major driver for sustained economic growth and development and the creation of a sustainable competitive advantage internationally.

Question 5

Your views on the need for additional data are sought.

Improved data is always important if not essential, and certain currently available data sets are incomplete, **but** available data is **no impediment** to immediate action including policy and strategy development and implementation planning.

Question 12

How has the waste hierarchy influenced waste management policy?

The waste hierarchy is a blunt and simplistic tool. The EfW Sustainability Guide (Section 3) provides a much more targeted and practical decision making framework for establishing an appropriate course of action for any given waste arisings.

Questions 16

Are there any other interpretations of resource efficiency that should be taken into consideration when considering policy in the waste management area?

EfW Sustainability Guide (Section 3) is a very useful tool in this regard.

Question 20

How large are the external costs of properly constructed and managed landfills and other types of waste disposal in Australia? What types of costs are involved? How do these costs vary according to the type of waste?

One of the main costs relates to the (lost) opportunity cost for the 50,000 t/**day** of materials in landfills. Disposal and landfill enshrine the concept and inevitability of "waste" which should not exist.

Question 21

What externalities are associated with other waste disposal options, such as incineration and composting?

Incineration is disposal and waste by another name – even with token energy recovery.

The EfW Sustainability Guide addresses this issue in detail and provides alternative solutions.

Question 22

Do these externalities warrant a government policy response?

Every major paradigm shift or development of new industrial sectors requires or is optimised by central Government planing and intervention, and the shift from an unsustainable waste paradigm to a biomimicry, continuous cycle, sustainable resource will be no exception.

The transition to resource conservation and continuous material cycles will support increased investment and jobs growth etc. based on the realised resource value from the materials themselves. A value which is currently lost and squandered to disposal outcomes.

Question 26

To what extent do negative externalities associated with resource extraction and materials processing (and other stages of the product life-cycle) result in non-optimal levels of waste?

Waste issues are often quantified in terms of **landfill avoidance**. Landfill or disposal is not part of the solution. The focus must be to recover resources from USW streams for presentation back into the productive economy benchmarked for quality, price and reliability of supply against the virgin alternatives **that themselves must reflect the full cost of their extraction and conversion**.

If this can not be readily achieved in the current global markets for products and resources without detrimentally affecting the economy in the short to medium term, then a system of MBIs presented as benefits for the recovered resources may be the most effective transitional strategy.

Question 29

Are institutional or regulatory barriers preventing the uptake of better waste management practices and how?

Sustainable resource management outcomes are currently constrained by jurisdictional issues that are a legacy or hang over from the time when "wastes" were predominantly organic only and a public health issue. For wholesale change to support and stimulate the transition to a systematic (no waste) optimum resource recovery paradigm:

a) Central planning, policy making and implementation plan coordination must be at a National level

b) Local Government must regionalise into "supply" groups – responsible for coordinated collection and streaming of MSW materials for presentation to first-point-of-receival-facilities that themselves were scoped and coordinated through the national planning process.

   Local Government to work with the national planning process to make sites available for the suite of reverse logistics and reprocessing facilities that must be available as an essential service.

c) State jurisdictions might play a useful role as regulators – interpreting local conditions and aspirations within the national policy context.

Question 32

What case is there for using waste management policies to improve the sustainability of 'resource use?

See Q22 above.

Question 34

How are targets being set? What consideration is given to the social, environmental and economic costs of achieving these targets? How should targets be set to optimise social, environmental and economic outcomes?

Current targets seem to be created in an ad hoc fashion with little or no rational methodology to support them.

"No waste" can be adopted as the objective. Continuous cycle, sustainable resource application as the replacement approach.

Question 40

What are the economic, environmental and social benefits and costs of recovering energy from waste?

See EfW Sustainability Guide and Code of Practice.

Question 41

What is hindering the greater use of recovering energy from waste in Australia?

No current hindrances seem apparent for project proponents that adopt the EfW Sustainability Guide other than suitable sites and access to USW streams currently contracted to waste / disposal outcomes. However, the broader market for energy recovery seems to be distinguished by confusion, obfuscation and misunderstandings which it was an objective of the EfW Sustainability Guide process to address.

Question 42

Are there particular products or locations for which recovering energy from waste would be the most efficient approach to waste management?

EfW Sustainability Guide helps to identify materials suitable for inherent (CV) realisation.

Question 45

What is the purpose of landfill levies? How should they be set?

Landfill levies and more general MBIs will be necessary to internalise the uncosted externalities of virgin materials and energy into the productive economy and the collateral impacts and opportunity costs of the current waste / disposal paradigm.

Question 48

What are the advantages and disadvantages of extended producer responsibility and product stewardship schemes?

The product of the Task 36 Topic 1 project seeks to identify the benefits of product designers fully understanding the collateral impacts of their activities and linking the design process to the availability of the post consumer options for collection, streaming and resource value recovery. The energy recovery options are a vital ingredient in such a mix.

Question 70

Are there any significant regulatory differences between the states and territories in waste management? What are the costs of these differences?

Each State jurisdiction is at a completely different level of understanding on the issue of sustainable resource use versus current waste and disposal.

Question 71

How could national coordination be further improved?

National coordination is vital if national objectives or obligations are to be met. This is especially so where the link is made between GHG and climate change policy and the current resource use profligacy (see http://www.thecarbontrust.co.uk/carbontrust/about/publications/CTC603_Supply_chainfinal.pdf and http://www.ice.org.uk/downloads//ICE_Resource%20Management%20Strategy.pdf).

Question 72

When is it appropriate to implement uniform national approaches and when is it appropriate for the jurisdictions to pursue their own agendas?

Now – as part of a systematic approach to climate change and unsustainable resource use.

Question 73

What role should the Australian government play in pursuing uniform national approaches when this is the appropriate course of action to take?

Either by coordinating the Stage jurisdictions via the EPHC or going it alone if the EPHC route is frustrated or ultimately too inefficient.

We thank the Inquiry for the opportunity to make this submission and remain available to provide further more detailed input if required.

Attachment A

Sustainability Guide for Energy form Waste (EfW) projects and Proposals

Attachment B

IEA Bioenergy Task 36 Project Brief & Work Plan