

ENERGY FROM WASTE SUSTAINABILITY PROJECT MELBOURNE AFTERNOON WORKSHOP SESSION NOTES

Held: Tuesday 8 October 2002

Time: 2.00 pm – 5.00 pm

Venue: City of Banyule Rethink Centre,
Cnr Waterdale Road and Banksia Street, Bellfield

For more information on the Energy from Waste Sustainability Project please visit the project website:

www.wmaa.asn.au/efw/home.html

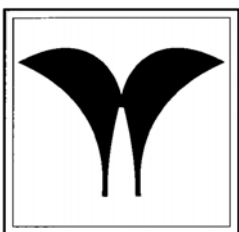
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This project is an initiative of the:

***Energy from Waste Division of the
WASTE MANAGEMENT
ASSOCIATION OF AUSTRALIA***

*Commonwealth Government funding through the
Australian Greenhouse Office supports this project.*



Introduction

There are a number of issues and concerns associated with energy from waste projects. On the positive side, recovering energy from waste can generate renewable electricity, reduce the amount of waste disposed of to landfill and reduce greenhouse gas emissions. However, there are also potential negative environmental and human health effects associated with energy from waste projects.

The Energy from Waste Division of the Waste Management Association of Australia, with assistance from Commonwealth funding through the Australian Greenhouse Office, initiated the process of developing a Sustainability Guide to resolve these issues. Part of this process was a national series of eleven stakeholder workshops.

The purpose of the stakeholder workshops was to ensure that all of the positive and negative factors associated with Energy from Waste (EfW) projects were identified and then incorporated and resolved within a Sustainability Guide for EfW. It is intended that the Guide will be used to ensure that Energy from Waste projects maximise benefits and minimise negative impacts in a way that supports the sustainable development of Australian society.

After the Melbourne Workshop a smaller group was invited to discuss and debate these issues in light of the draft Sustainability Project Scoping Principles that had previously been prepared by the Working Group of the EfW Sustainability Project. A list of the participants in this afternoon session can be found in Appendix 1. Another focus of discussion was the potential requirements for an EfW Industry Code of Practice.

The results of this discussion are presented below. The information is presented exactly as scribed by the facilitators in the afternoon session, and as grouped by the participants of the afternoon session.

The information will be used by the Working Group of the EfW Sustainability project in the preparation of the Sustainability Guide and an Industry Code of Practice.

Project Scoping Principles

The issues that were identified at the Melbourne Stakeholder Workshop were discussed and, where possible, grouped under the relevant project scoping principle. This indicated that in the Sustainability Guide the discussion related to that principle should adequately identify and resolve the issue. In some instances the same issue was grouped under more than one principle.

Issues that were not covered by a project scoping principle were grouped and either a new principle was suggested or a recommendation as to how those issues should be dealt with in the Sustainability Guide was made.

Note: 'xxx' denotes an unreadable word in the workshop materials, the superscript is for archival purposes to aid the project managers to track these items.

Project Scoping Principle # 0

Very early in the discussion it was suggested that a new principle covering community aspects should be incorporated. The purpose of the new principle revolves around:

“Measures to ensure a communication and consultation plan that demonstrates ongoing accountability, transparency”

Below are the issues that need to be covered by PSP 0.

SOCIAL

- Need for education
 - Perception
- Location
 - Buffer zones
- “the key issue” * *
- Transparency/accountability
- Credibility of proponent and process

COMMUNITY ENGAGEMENT

IMPACT ON RECYCLING

HISTORICAL CONTEXT (PAST TECHNOLOGY)

UNDERSTANDING ISSUES

- Getting message out
- Perceptions
- Lack of informed knowledge

COMMUNITY PERCEPTIONS

- Concerns
- NIMBY/Location
- Education

LEVEL OF ENTRY

- LCA
 - Of products
 - Of energy systems
 - Need coordination of efforts

COMMUNITY ISSUES – SITING

- Buffers
- Community consultation and buying

AVOIDANCE / REUSE / RECYCLING MARKETS

- Public perception a driver
 - What comes out of kerbside collection
- Life cycle information
 - C.f. ERV process

ENVIRONMENTAL

- Emissions
 - Beyond statutory requirements

IMPACTS

- Waste segregation
 - Minimum impacts
 - More control of input
 - Community education
 - Sorting waste
 - Helps support wastes hierarchy

Project Scoping Principle #1 - Best Use of Available Materials

Aim: To demonstrate that use of the available residual materials for conversion to energy represents the most sustainable use in both the short and long term.

COSTS

- Strategic approach
 - Waste segregation suit circumstances

IMPACTS

- Waste segregation
 - Community education
 - Sorting waste
 - Helps support waste hierarchy
 - Sort garbage – xxx¹ recyclables

POLICY -> OUTCOME (include in discussion)

- Drivers?
 - Government role – producer responsibility
 - Packaging

WASTES HIERARCHY

- Collection systems
 - Can undermine
 - Mixed waste
 - One bin
 - Bad!
- Segregation of wastes
- Prioritising waste streams
- Organics?
 - eg. anaerobic digestion

RESOURCE EFFICIENCY (LAND, MATERIALS)

OPERATING COSTS (TRANSPORT)

- Totality of emissions
 - Distance

LEVEL OF ENTRY

- Questioning waste hierarchy
- Creating conflict with recycling systems

- LCA
 - Of products
 - Of energy systems
 - Need coordination of efforts

AVOIDANCE / REUSE / RECYCLING MARKETS

- High value of plastics such as HDPE
- Life cycle information
 - C.f. ERV process

BROADER ISSUES

- EfW and waste hierarchy
 - Aim for highest resource value.
- Need tools and criteria to assess value of resources
 - Long term
 - Commercial versus calorific value versus earth's finite resources

ENVIRONMENTAL

- Total environmental aspects must be considered

Project Scoping Principle #2 - Selection of Optimum Conversion Technology

Aim: To demonstrate that the selected EfW process is the most efficient conversion technology for the available fuel source(s) in the circumstances. Conversion inefficiency means wasted resource value.

Below are the issues that need to be covered by PSP 2.

COSTS

- High capital costs
- Viability

- Strategic approach
 - Integrate in existing infrastructure?
 - Spread out
 - Logistics
 - Integrated infrastructure

SOCIAL

- Need for education
 - Perception
- Location
 - Buffer zones

WASTES HIERARCHY

- Segregation of wastes
- Organics?
 - eg. anaerobic digestion

INTERGENERATIONAL ISSUES

- Management of residues
- Potential for disposal / treatment of waste within one generation (i.e. generates) - discussion

ENVIRONMENTAL IMPACT

- Discharges
 - Solid, liquid, gas etc.
- Proactive choose least impact technology

GREENHOUSE

MAGIC BULLET TECHNOLOGY; TECHNOLOGY IN FLUX

RESIDUES AND EMISSIONS

STRATEGIC PLANNING; LOCAL SYSTEMS

- Outcome of projects

HISTORICAL CONTEXT (PAST TECHNOLOGY)

FUTURE

- Increase risk
 - (plant shutdown) - procedure
 - High technology / problems

ENVIRONMENT

- Choose best technology
 - Need recovery of hazardous
 - Education and action to community
 - Over engineering of scrubbers
 - Drop off hazardous

ENVIRONMENTAL

- Emissions
 - Being a step ahead
 - Need for national standards
- Total environmental aspects must be considered
- Residuals from EfW must be appropriately addressed

Project Scoping Principle #3 - Systems Quality Control for Assurance of Optimum Environmental Outcomes

Aim: To demonstrate that where the available residuals cannot be presented entirely fit-for-purpose, that the selected conversion processes and management systems can control unacceptable by-products or pollutants or unintended environmental impacts.

Below are the issues that need to be covered by PSP 3.

IMPACTS

- Waste segregation
 - Minimum impacts
 - More control at input
 - Community education
 - Sorting waste
 - Helps support wastes hierarchy

INTERGENERATIONAL ISSUES

- Management of residues
- Potential for disposal / treatment of waste within one generation (i.e. generates) - discussion

ENVIRONMENTAL IMPACT

- Discharges
 - Solid, liquid, gas etc.
- Proactive choose least impact technology

LANDFILLS

- Impact on local amenity
 - Odour, gas and litter
 - Find alternatives to this

RESIDUES AND EMISSIONS

STRATEGIC PLANNING; LOCAL SYSTEMS

- Outcome of projects

OPERATING COSTS (TRANSPORT)

- Totality of emissions
 - Distance

HISTORICAL CONTEXT (PAST TECHNOLOGY)

AVOIDANCE / REUSE / RECYCLING MARKETS

- Need solution for residuals, but some of these are chlorinated.

FUTURE

- Increase risk
 - Operations management

ENVIRONMENT

- Affects on environment uncertain (emissions)

ENVIRONMENTAL

- Emissions
 - Beyond statutory requirements
- Residuals from EfW must be appropriately addressed

Project Scoping Principle #4 - Management of the Commercial Interface between Waste Generation and Energy Requirements

Aim: To ensure that energy demand cannot stimulate waste generation, and that conversely, waste availability will not unsustainably stimulate energy consumption.

Below are the issues that need to be covered by PSP 4.

GREENHOUSE

RENEWABLE ENERGY (discussion);

ENERGY EFFICIENCY

ENVIRONMENT

- Reduction in green house gases
 - Design
 - Minimum energy parasitic load
 - Energy balance of plant

Project Scoping Principle #5 - Measures to Compensate for the Inadequacies of the Prevailing Market Conditions

Aim: To oblige proponents to quantify any required normalisation of market conditions to meet ESD objectives - which may include impact of landfill levies, incentives or subsidies - to demonstrate an internalisation of the environmental externalities.

COSTS

- High capital costs
- Strategic approach
 - Holistic approach

POLICY -> OUTCOME (include in discussion)

- Drivers?
 - Landfill levy (high!) -> outside scope
 - Government role – producer responsibility

RENEWABLE ENERGY (discussion); ENERGY EFFICIENCY

INVESTMENT SCALE/FUNDING

MARKET ECONOMICS

ENERGY

- Where we get it from
- Whole systems approach
 - Compare versus brown coal and distribution losses

LEVEL OF ENTRY

- Creating conflict with recycling systems

AVOIDANCE / REUSE / RECYCLING MARKETS

- Let economics drive this

BROADER ISSUES

- Capitalism can't drive sustainability values
 - (comment)

Suggestions for New Project Scoping Principles

As was highlighted above, a new principle covering community aspects – “PSP 0”, was suggested.

- SUGGESTED PSP 0: community example of info provided to communities on windfarms.
- Community based PSP should be at the top
 - “0”th PSP
 - “ Measures to ensure communication and consultation plan demonstrating ongoing accountability, transparency”

Conclusions on the Project Scoping Principles

Below are suggested changes to project scoping principles.

- PSP 2: GHG balance
 - Net of transport etc.
 - Carbon trading (REC) benefits
- PSP3: Need contingency plans eg. for plant down-time. Stock build-up
 - Could be re-directed to another plant?

- Residue
 - eg. bed-ash disposal
 - eg. cementations products.
 - Management of residue disposal -> PSP 2 and 3
- Lags in info on detecting eg. heavy metals, dioxins. Up to 6 weeks!
 - Set high standards PSP 2,3,0.
 - Communities must be given confidence.

Other Suggestions for the Sustainability Guide

Below are comments and suggestions regarding the overall sustainability guide, including issues to be addressed in a general discussion.

- Contracts \geq 10 years may be feasible. (minimum likely period for capital payback)
- Should sustainability guide cover contract details eg. duration?
 - Complexity of needs for eg. securing venture capital versus need to encourage increased resource recovery.
- Also consider contractual/system needs for C&I/C&D. Importance of timing.
- Need for level playing field eg. risk of below-cost landfill pricing threatening EfW.
- Future of landfills
 - Leave out of EfW discussion
- !!! Difficulty of comparing systems, policing, setting boundaries in the right place.
 - Transport is an example of how you can end up with distortions.
- Product Stewardship
 - !!! EfW outcomes/markets are not sufficient EPR. i.e. brandowners etc. will be expected to provide a more comprehensive response.

POLICY -> OUTCOME (include in discussion)

- Technology
 - Strategic/integrated
- Participation
 - Who/how

- Drivers?
 - Landfill bans (Europe)
 - Government role – producer responsibility
 - “take back” – Europe versus Japan compulsory recycling
 - Government strong leadership role? -> change
 - + discussion positive ERP negative EPR

ENERGY PRODUCTION (discussion)

- Alternative to fossil fuels
- Consistent with ESD?
 - Whole project
- Utilisation of a potential resource (discussion)

LANDFILLS

- Fate of existing quarry holes?
 - Should not impact EfW decision – nor EfW issue
- Impact on local amenity
 - Odour, gas and litter
 - Find alternatives to this

FUTURE OF LANDFILLS

COMMUNITY ISSUES – SITING

- No landfills policies
 - No landfill in EfW
- Overall solution (comment on ideal outcome)
 - Transfer station
 - Large regular landfills
 - Some energy from waste

FUTURE

- Eliminate future options
 - (negative)
 - flexibility of market query analogy with landfill

- Provide long term solution
 - (discussion)

ENVIRONMENT

- No landfill
 - Query possibility/achievability
- Nothing gets wasted
- Include discussion on Kyoto protocol and impact of carbon credit trading on EfW
- Sewerage and waste discharge discussion
- Reference EfW against current forms of energy generation
- Will social be included as PSP?
- Fuel- wordage – residuals should be recovered
 - Definitions fuel => residuals
 - Define what is waste – recyclables
 - Take into account C&I, C&D
- Look at resources – irrelevant whether waste or not – neutral use of language
- Implementation of technologies => call for funding, need for R&D => needs to be right first time

Suggestions for an Industry Code of Practice

- Should meet EPA (all state EPA's) works approval requirements
- Should demonstrate community consultation
- Who should "own" the code?
 - WMAA?
 - AGO?
- Codes of practice can obtain statutory underpinning
- Industry document managed by WMAA would be pragmatic
- Regional underpinning may make changes difficult
- Consider accreditation options...but perhaps not initially
- COP should be a strategic rather than "nuts and bolts" document (leave that to EPA works approval guidelines)
- More operational focus in COP than sustainability guide?
- !!! How to best incorporate eg. PSP 1 in COP? Too difficult to demonstrate
 - Role of government?
- Market forces will play a policing role (as well as EPA works approval processes)
- Role of supply contracts too.
- Later social aspects
- Formal training and information
- Preamble to state guidelines for proponents and state government and legislation.
- Disclaimers – legal requirements
 - Do not use without making own assessment.
- Procedural recipe book.
- Scales of EfW projects
 - Small scale "backyard" operations.
- Schedule of sized facilities
- (Contractual realities eg. 10 years will provide no change)
- Limits the xxx¹ eg. pollution

- Do not want to put up barriers to development
 - Not want to give guidelines on safety, environment etc.
- Operational issues
 - More a guide
- Guide to implement sustainability guide
- Impacts of project upgrading
 - Taking up more size
- Issue about use of “best”
 - Need to be more prescriptive
- Compliance can be policed by a number of agencies, including market forces.
- Level of operational detail.
- Have operational plans that cover eg....
- Definitional issues
- Should help get through statutory approval
- Need to be detailed
- Need for community input
 - Draft for consultation
- Who would own code?
 - Industry ownership -> WMAA
- Could be source document
 - Guide to industry through WMAA
- Implications of non-compliance
 - Knocked off as a signatory
- Regulator to police?
- Need nationwide policy
- Accreditation
 - Compliance but non legislative
- Keeping it up to date
- Purely referee document

Appendix 1 – Melbourne Workshop Participants

<i>Name</i>	<i>Organisation</i>
Rebecca Andersen	Soil Power
Enzo Bruscella	Barwon Regional Waste Management Group
Denis James	Visy Recycling
Kevin Hince	Northern Regional Waste Management Group
John Hutchinson	SEAV
Sally Lock	EPA Victoria
Ron Mendelsohn	EarthPower
Jenny Pickles	EcoRecycle Victoria
David Rako	EcoRecycle Victoria
Graeme Stewart	Least Waste
Michael Strickland	Soil Power
Cathy Van der Zee	EcoRecycle Victoria
Matthew Warnken	Warnken I.S.E. P/L - Project Manager and Workshop Facilitator