

ENERGY FROM WASTE SUSTAINABILITY PROJECT SYDNEY AFTERNOON WORKSHOP SESSION NOTES

Held: 24 September 2002

Time: 2.00 pm – 5.00 pm

Venue: The Mercure Hotel Sydney

818-820 George Street

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

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

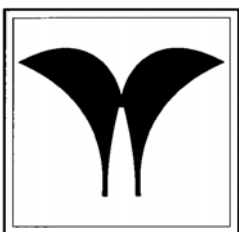
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This project is an initiative of the:

***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 Sydney 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 Sydney 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 #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.

Below are the issues that need to be covered by PSP 1.

USE OF LCA etc TO RATE RESIDUAL RESOURCE RECOVERY OPTIONS

- *How do you rate projects: need for criteria*

COST EFFECTIVE WASTE MANAGEMENT**LANDFILL VERSUS ALTERNATE TECHNOLOGY****RESIDUAL WASTE AS A RESOURCE****MAINTAIN WASTE HIERARCHY**

- Close the loop

RESOURCE ISSUES

- "God recycles, the Devil burns"
- Encourages waste generation – "pull strategy"

SUSTAINABILITY

- Is EfW really sustainable?
- Is it economical?
- Is it flexible?

MAINTAIN ORGANIC VALUES

- Don't burn them

FEEDSTOCK CONTROLS

- Types and volumes
- Toxicity
- Flexible
 - Can it cope with change

NOT TO COMPROMISE WASTE AVOIDANCE**WASTE HIERARCHY**

- Energy should not compete with higher order
- Maintain and establishing highest resource value

FIT FOR PURPOSE

- Optimised technology
- Identify resource value
- Complementary to organic options
- Acceptable level of energy recovery
- Resource security – continuity of resource
- Energy utilisation – cogeneration, derivatives
- Energy marketing strategies
- Commercial interest – ownership

COMMERCIAL

- Fuel supply, volumes, quality, value.

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.

USE OF LCA etc TO RATE RESIDUAL RESOURCE RECOVERY OPTIONS

BEST PRACTICE FOR EFW FUEL

- Don't burn 'wet' fuels

INFRASTRUCTURE OPERABILITY

- Utilise existing generating infrastructure
- Investment strategy – BOO, BOOT, JV
- Cost reflective pricing
- Contingency planning

TECHNOLOGICAL ISSUES

- Choice of technology
- Siting/scale

COMMERCIAL

- World's best practice
- Appropriate technology

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.

LANDFILL REDUCTION

- Need for discussion; positive; also in community education

POLLUTION EMISSIONS

- Air
- Residues

CONTROL ISSUES OF FACILITIES

- Human Error
- Little control (MBI eg.)
- Selection of optimum technology

HEALTH AND ENVIRONMENTAL ISSUES

- Technical/scientific
- Localised and long term legacy issues
- Air emissions
 - Dioxins
- Need for "clean" technologies eg. tyres

FEEDSTOCK CONTROLS

- Types and volumes
- Toxicity
- Flexible
 - Can it cope with change

PROPPING UP POOR INFRASTRUCTURE

ENVIRONMENTAL ISSUES

- Air emissions
 - Dioxin
- Contamination
 - CCA, lead
- Residue disposal
 - Ash

CONTROL OF INPUTS AND OUTPUTS

- Offgas management
- Feedstock quality control
- Pollution control technology
- Extended producer responsibility
 - Design
- Remove the mystery about outputs
- Verification and sampling of fuels
- Contamination removal

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.

REGULATORY ISSUES

- Adoption signifies eg. “green light” for waste generation
- Move away from “zero waste”
- Testing must be regulator controlled
- Comment on policy positive?
- May encourage uniform MSW waste management across cities
 - Improve control

- Federal/state involvement
 - Increased press

USE OF LCA etc TO RATE RESIDUAL RESOURCE RECOVERY OPTIONS

RESIDUAL WASTE AS A RESOURCE

MAINTAIN WASTE HIERARCHY

- Close the loop

RESOURCE ISSUES

- Cost resources value
- Moves away from source reduction

IMPACT ON KERBSIDE AND LANDFILLS

- Cost for community
- Cost for industry

PROPPING UP POOR INFRASTRUCTURE

COMMERCIAL

- Contract arrangements

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.

Below are the issues that need to be covered by PSP 5.

EFFECT OF LEVY ON ALTERNATIVE CHOICES

INTERNALISE THE EXTERNALITIES

POLLUTANTS

- No uniform standards in Australia
- What are they?
- By-products and residuals
- Are they better/worse than other forms of energy production?

MARKETS AND REGULATION

- Recognise market forces
- Reporting against regulatory framework
- Supply alternatives to waste
- Energy marketing strategies
- Demand management
- Solution to oversupply of organics
- Appropriate technology for all streams

ECONOMIC ISSUES

- Internalise the externalities
- LCA of alternative solutions
- OS solutions not economic in Australia

Issues Outside the Project Scoping Principles

Below are the issues that did not fit in the existing principle framework and that need to be incorporated under new or changed principles.

COMMUNITY EMPOWERMENT

- Community needs to be educated on projects and fate of wastes
 - Becomes their responsibility

COMMUNITY PERCEPTIONS AND ISSUES

DEALING WITH WASTE AT A LOCAL LEVEL

PUBLIC AWARENESS OF ENVIRONMENTAL INITIATIVES

LIFE CYCLE ANALYSIS OF PROJECT

- Net greenhouse benefit needs to be demonstrated (including transport)

COMMUNITY

- Stakeholder concerns/perceptions
- Availability of appropriate info
- Political influence
- Policy
- Need for new PSP community involvement

- Local government education
- T.B.L. terminology

Table compromised predominantly of local government representatives, highlighted the need for all processes to include a consideration of the values/preferences of the community

- Assessment methodology/framework
 - Resource NSW prioritisation of EfW
 - Definition of highest resource value
 - Inclusion of techno-economic, environmental and socio-political considerations
 - Equal opportunity for all options/alternatives
 - Prioritisation of indicators
- Technology
 - Don't reinvent the wheel
 - Don't be prescriptive, support innovation
 - Efficiencies and control improved significantly
- Indicators to support incentive
 - Tailored certification to encourage merit in 3 elements of SD
 - Flexible and complex
- End zone mentality
 - Potential for waste generation to be self perpetuating
 - Ensure highest resource value in achieved
 - Requires development of indicators
- How much energy is necessary
 - Not just a waste issue, also an energy issue
 - Decrease demand
 - Replace with renewables
 - Partnerships for change
 - Technology is not the only fix

- Policy
 - Energy
 - Waste
 - Education

Code is part of a wider framework; don't lose the big picture

EDUCATION

- Local community
- Council
- Public perception
 - NIMBY
 - Behavioural considerations
- Indicators must be easy to interpret
- Perception linked to terminology

WILL THE CODE HAVE TEETH

- To regulate or legislate?
- What is the integrity of the industry?

BIG PICTURE

- Triple bottom line

COMMUNITY

- Consumer education
- Risk communication
 - Emissions
- Concern over forestry depletion
- Debunking the myths about technology
- Dealing with emotion/environmental NGOs
- Community perception
- Concern over uncontrolled consumption

DISCUSSION

- Will it result in less materials to landfill
- Is there only one solution to EfW or alternate technology?

FOR COMMUNITY POLICY MAKERS AND PROPERTY

- Should the Sustainability Guide be a public policy making formula?
- Can it be done?
- Will it work?
- Will gasification work?

Conclusions on the Project Scoping Principles

Below are suggested changes to the project scoping principles, including suggestions for new principles.

- PSP 1 and 2
 - Should they be 2 separate principles OR
 - Should they be done iteratively?
- Question technology selection (PSP 2) should not be a separate PSP but should inform or be informed by other steps in decision process.
- PSP 2 should become review of available technologies for chosen feedstreams
- PSP 3
 - Add health outcomes
- Note that EfW should be discussed in relation to landfill
- Need for assessment, need for local government education
- 4 local government assessment criteria: (will country wear it?)
 - Affordable
 - Reliable
 - Does it work
 - Community acceptability
- Context: Iterative process of PSPs / feedback loops
- Need for policy framework which drives revision of legislation

- How to determine if this guideline is being used properly – integrity of industry.
 - Question incorporate into PSP 4 as subclause (or as 3 or as new principle)
 - Waste promote cheaper energy or prop up existing infrastructure
- Highlight: do we need the extra energy?
 - Are we producing more or are we just replacing primary resources?
- Extended producer responsibility
 - Needs to be addresses
 - Not necessarily a PSP
- Community Involvement
 - New PSP – question overlaps others
 - Or more place in code of practice
 - Valid and accepted community engagement policy/methodology
 - Community is homogeneous
 - Community engagement, involvement, acceptance, participation
- Need for tool/framework to gauge community input at each stage of process

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.

REDUCTION OF GREENHOUSE GAS EMISSIONS

- Positive

DIFFICULT TO EVALUATE ALTERNATIVE TECHNOLOGY

- Could use the Nolan ITU methodology developed for the NSW EPA

REGULATIONS NEED TO KEEP UP WITH TECHNOLOGY

STEWARDSHIP

- To be discussed in document
- EPR objectives not to be undermined by EfW

ENERGY

- Do we need it?
- Is it clean?
- Is it green?
- Does it compromise energy efficiency projects?
- *Flag complexity of argument!*
- *Include in discussion/preface also taking into account displacement of fossil fuel use*

COMMON ELEMENTS

- Indicators
- Life Cycle Costing. Life Cycle Assessments
- Policy
 - WMAA
 - Local governments
- Local focus
- Community values
- Potential to adversely affect community behaviour

LANDFILL – (DISCUSSION)

- Landfill avoidance
- Reduction of waste to landfill
- Hydrocarbon contaminated soil

FOSSIL FUELS – (NEED FOR REPLACEMENT PRE-FACE)

- Minimise transport – close to source
- Reduce dependency on fossil fuels
- Long term thinking on fuel use
- Fossil and alternative fuel use

LOCATION

- Sites of facilities
- Source of waste
- Type of waste
- Planning and licensing

BIG PICTURE (PREFACE)

- Whole of benefit/whole of concept
- Strategic balance
- Economic outcomes/objectives
- Community incentive/disincentive
- Analysis of impacts – lifecycle
- Planning process
- Comparison of alternatives
- Classification of potential of waste

PHILOSOPHICAL (PREFACE)

- What are the drivers?
- Are we really meeting the objectives we set out to achieve or is EfW a convenient solution?
- How does EfW encourage waste reduction/minimisation practices?
- How can we ensure we are aligned with global sustainability concepts?

LIFE CYCLE ANALYSIS - TOOL METHODOLOGY

- Of options currently used/available
- Best use of waste
- Inform
- Address sustainability

PHILOSOPHICAL ISSUES (PREFACE)

- What is waste?
- What is sustainability?
- What is “highest” value?

POLICY ISSUES

- Complexity of current legislation/regulation
- Uncertainty of future legislation/regulation
- Involve community
- Need cultural change
- Can't wait for new technologies

Suggestions for an Industry Code of Practice

A general discussion was held regarding an Industry Code of Practice (COP). Below are the suggestions and comments arising from that discussion.

- Any proposal to address issues of Sustainability Guide in a transparent manner
- Acceptance of PSPs
- Enforcement – Monitoring
- Recognition of signing COP
- Application Process – COP requirement
- Administering COP? Who and when?
- Role for WMAA?
- Independency
- Value of COP – who is reliant on COP?
- Issue of track record
- Requirement of contract eg. ISO 9000 series
- Must not stifle innovation
- For signatories (accreditation) to be worthwhile needs independent vetting – external of WMAA
- Australian Standards? (cf. building industry)
- Recognition of compliance with PSPs
- Initial value of going through PSP process - perhaps no need for accreditation
- List of responsibilities
- Difference with compliance with regulatory framework?
- Potential for PSPs to be called up under legislation?
- Creating level playing field across not only state but also nation
- Endorsement process for government?
- Best practice guidelines
- Uniform framework level of education/understanding within industry (conformity of documentation)
- Environmental reporting/performance link with economic performance

- What is government expectations for industry COP
- SEDA – assessment of funding applications – “are you signed up to COP” – have also covered issues transparently
- Planning NSW – criteria set out in Act for proposed development. If prepared under COP – more likely to be quality proposal – makes approval process efficient
- EPA – if signed up better defence of compliance with licence conditions
- Legal issues of zoning – if zoning change required – local government can stop project – no right of appeal – industrial area zoning
- COP assist in dealing with local governments
- Don’t want to raise community expectations and not be able to deliver eg. no odour.
- Noise, odour control
- Compliance or beyond compliance (=best practice)
- Reality is will only be compliance
- ISO 14,000 and 9,000 need to demonstrate continuous improvement
- Descriptive or prescriptive? Need for COP to be descriptive due to infancy and unknown technology
- Setting of regulatory agenda/licensing conditions through COP (as opposed to regulator)
- Local issues – traffic, litter, dust – COP to commit, not to produce
- Be a good neighbour

Appendix 1 – Sydney Workshop Participants

<i>Name</i>	<i>Organisation</i>
Erin Bennett	Mosman Council
Paul Coffey	C4ES
Brett Cohen	Warnken I.S.E. P/L
Sebastian Crawford	NCC
Duncan Gilchrist	SHOROC
Mark Glover	Renewed Fuels P/L & Chairman of the Energy from Waste Division
Graeme Jessup	SEDA
Nethan Kana	Breen Holding
Tony Kanak	Compost NSW
John Lawson	GRL
Michael Leggo	BORAL LIMITED
Lyndall McCormack	Waste Crisis Network
Ziggy Shlemon	Mosman Council
John Sparkes	Planning NSW
Matthew Warnken	Warnken I.S.E. P/L - Project Manager and Workshop Facilitator