

# LGIS - AWT FORUM

AWT – “What have we learnt?”

December 2009

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## AWT - what's in a name?

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- **A**lternate **W**aste **T**reatment
- **A**lternative **W**aste **T**reatment
- **A**dvanced **W**aste **T**reatment
- **A**dvanced **R**esource **R**ecovery **T**echnologies - AARTs
- **M**echanical **B**iological **T**reatment - MBTs

## AWT - in essence

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Processing facilities and processing technologies applied to:



Residual MSW - Garbage

and/or



Separated Organics – Garden &/or Food

# Australian AWTs

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- Past 10 years have seen 13-14 AWT facilities constructed
- Just over 1 million tonnes of installed capacity
- Over \$600m of capital
- Some plants have struggled to tick all the boxes
  - Diversion targets
  - Quality of outputs
  - Quantity of outputs
  - Engineering performance
  - Environmental performance
  - Financial performance
- Around \$300m of investor funds have been written off
- Some continue to incur significant operating losses

# Common Problems

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- Number of immature or first generation technologies
  - Rarely work the first time the way you expect
  - Waste feed-stocks vary significantly – difficult raw material
  - Technology transfer is not easy
- Odour problems encountered
  - Enclosed facilities can still have problems
- Sustainable use of MSW composts
  - European restrictions on its use
  - AWT DORF (AWT Derived Organic Rich Fraction) work
  - DECC reluctance to give green light
  - 3F regulations in NSW
- Financial losses
  - Not good for council reputations
  - Not good for industry - mostly affected new players to the industry

## Australian AWTs (cont)

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### Summary

- Mixed bag for the AWT owners
- Queensland – opportunity to stand on shoulders

## Lessons for AWT providers

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- Safer to use proven approaches and proven technologies
  - Greater certainty of outcome
- Important to select the technology appropriate to the task & right for the location
  - Note: Plant operating practices are just as critical to success
- Maximise the amount of source –separated organics;  
Minimise the amount of MSW composts produced
  - Use of the 3rd bin wherever practicable provides greater certainty of markets for end products ⇨ lower costs

## Other observations

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- For energy projects, review the NET energy produced
  - People tend to quote GROSS energy output, not the NET output
  - Some systems struggle to break even with energy
- Gate fees were initially unrealistic/optimistic
  - driven down to be close to ruling landfill prices
  - some gate fees have “doubled” over the past few years to reflect real costs
  - should not under-estimate the community’s willingness to pay
- Sydney – tipping point for AWT has been reached
- Perth – AWT capital of Australia
- Melbourne – new integrated city-wide strategy
  - well thought through
  - recognition of cost differences – working to close the gap

## Other observations (cont)

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- Incineration (Energy from Waste) to handle residuals?
  - Build in flexibility to prepare for it
  - NIMBY & some group resistance
- Diversion targets need to be realistic
  - 60%+ of garbage (MSW) stream should be readily achievable
  - 70% + is more expensive but achievable cf market for dirty recyclables
- Be cautious of pure Design & Construct contracts
  - Breaks link between the Builder and the Operator
  - Leads to potential for short- term savings but increases long-term costs

# Transpacific Cleanaway Approach

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1. Promote Alliance/partnership contracts
  - Creates flexibility to cater for long term contracts of 15-25 years  
(Changes in demographics, waste generation habits, regulations, encroaching development)
2. Use proven technologies
  - The technology is operating elsewhere on a similar waste stream
  - The technology is operating elsewhere in similar regulatory environments & climate
  - The technology is operating elsewhere at a similar scale
  - Its performance can be genuinely independently verified and checked
3. Tailor technology to suit the project, not the reverse
  - Projects have different drivers & different outcomes  
(Energy, compost markets, recyclables markets, facility location, 2 bin &/or 3 bin)

# Transpacific technologies – Gore Cover Composting



200,000 tpa plant in Seattle

- Proven at >150 sites in 20 countries
- Certified as enclosed system
- High quality process
- Excellent odour control
- Transpacific runs small plant in Timaru, NZ

# Transpacific technologies – Tunnel Composting



- Fully enclosed operations
- Examples in 3 other sites in Australia
- Good all round control of process
- Weather proof

70,000 tpa tunnel composting in Christchurch

# Transpacific technologies – “Wet” AD (energy)

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- Ideal for clean food-rich wastes & sludges
- Small footprint
- Green energy
- Fertiliser

70,000 tpa anaerobic digesters – Camellia, Sydney

# Transpacific technologies – “Dry” AD

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(25,000 tpa BEKON Munich plant)

- Medium level, modular technology, simple & robust, no moving parts
- Especially suited to household wastes – MSW & Organics
- Green energy and composts

# Invitation

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“Transpacific Cleanaway would be happy to discuss AWT strategies and the options you might consider”

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