

SAWT Process

Performance and Fit for a Large Metropolitan Region

1 December 2009

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Agenda

- 1 Introduction to SITA and the GDF SUEZ Group
- 2 Factors Influencing AWT
- 3 SAWT Overview
- 4 AWT Procurement Considerations and Timelines
- 5 Q & A

SECTION 1

Introduction to SITA and the GDF SUEZ Group



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Operations – SUEZ Environnement (Waste)

- 3,000 municipalities serviced daily
- 400,000 commercial and industrial customers
- 42 million tpa of waste treated:
 - **312** waste transfer stations
 - **252** materials recovery facilities
 - **116** organics recycling facilities (AWT)
 - **59** waste incineration facilities (AWT)
 - **142** specialised treatment facilities
 - **146** landfills



SITA Australia is a market leader in collection, recycling, organics recovery, Advanced Waste Treatment, specialised waste treatment and landfill

- SITA Australia has revenue of A\$445 million (2008)
- 900 employees
- 800,000 household collections each week
- 43,000 commercial and industrial customers
- 3.1 million tpa of waste treated:
 - **4** waste transfer stations
 - **5** materials recovery facilities
 - **6** advanced waste treatment facilities (plus 3 windrow composting facilities)
 - **5** engineered landfills



SITA is part of the global GDF SUEZ Group. Globally the Group collects and treats 48 million tonnes of waste per annum



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SITA has access to the Group's resources and know how with SUEZ Environnement operating 1,700 sites for waste treatment and operation, including in excess of 100 AWTs globally

- Suez Environnement invested €65 million in technological R&D in 2008 through its Department of Operations, Research and the Environment (DORE)
 - more than 400 researchers and experts globally
- Suez Environnement's Terralys division provides technical support across the group



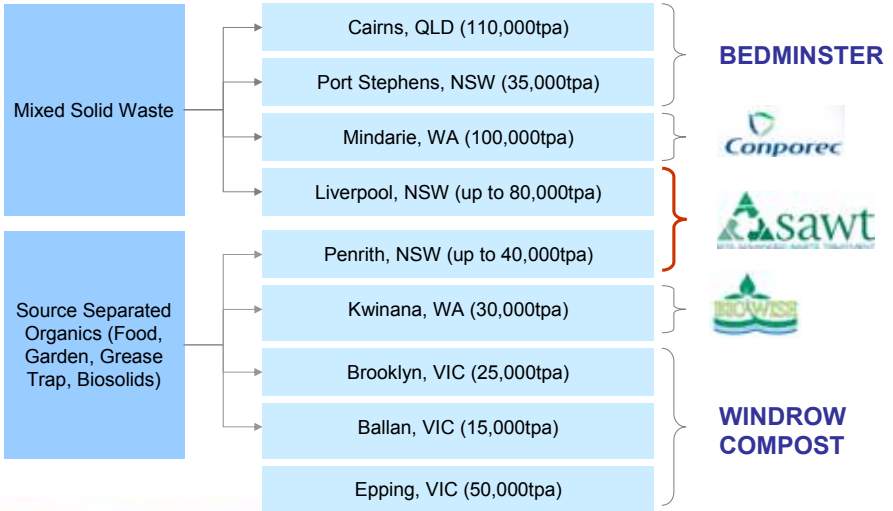
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SITA has a flexible technology offering to suit Council requirements

Waste type

Client & volume

Technology



Other SITA technologies



Organic Waste Systems

- SITA also has the exclusive right to the DRANCO Anaerobic Digestion technology in Australia via SITA's partnership with Organic Waste Systems (OWS) of Belgium
- 20 commercially operational facilities utilising the DRANCO process worldwide



- SITA owns and operates a fuel engineering facility in South Australia (SITA-Resourceco)
- Facility produces engineered fuel product from mixed C&I as well as C&D waste streams
- 80,000 tpa Engineered fuel product is utilised by Adelaide Brighton's cement kiln for energy generation

C&I Sorting Facility

- SITA owns and operates C&I waste recycling and transfer facilities within NSW, Victoria and South Australia

SECTION 2

Factors Influencing AWT

CPRS alone is likely to add at least \$10 / tonne to landfill disposal costs at a 50% gas capture rate or \$5 / tonne for a 75% gas capture rate

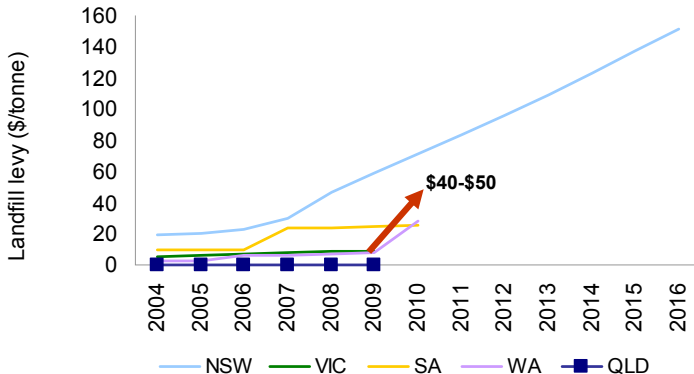
- As a rule of thumb, one tonne of MSW is expected to generate one tonne of CO_{2-e}
- Treasury modelling conducted in December 2008 predicts an initial emission price of around A\$23/t CO_{2-e} for a 5% reduction in Australian emissions by 2020
 - accords with recent international carbon trading levels
 - could be 40% higher if CPRS has an emissions target reduction of 15% by 2020
- In this discussion we assume landfills implement systems to achieve 75% gas capture (ie, \$5 / tonne increase to the gate rate)
- SITA have 5 landfills across Australia and are faced with the same issues

Carbon Price	Gas capture		
	25%	50%	75%
\$10.00	\$7.50	\$5.00	\$2.50
\$20.00	\$15.00	\$10.00	\$5.00
\$30.00	\$22.50	\$15.00	\$7.50
\$40.00	\$30.00	\$20.00	\$10.00

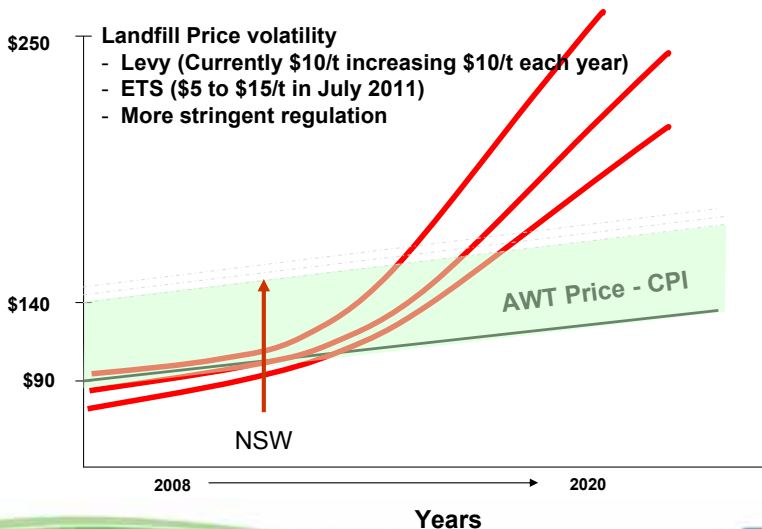
High landfill levies have been introduced in NSW to incentivise landfill diversion. Other States are considering their positions...

In NSW, landfill levies are currently at \$58.80 / tonne, increasing at \$10 / tonne per year
Victoria is considering an increase from \$9 / tonne to \$40-50 / tonne


Chart: Landfill levies



Landfill price is a key driver for AWT:
different pace in states but same trend



SECTION 3 SAWT Overview



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SAWT Snapshot

Facility

- 9 hectares adjacent to Elizabeth Drive Landfill (86 hectares)
- \$50 million investment - MBT + Aerobic composting

Planning & Approvals

- Rezoning required – 12 months
- Part 3a required Dept of Planning Ministerial approval – 14 months

Processing Capacity

- Materials handling specification >250,000 tonnes per annum
- Licence capacity is 134,000 tonnes per annum

Feedstock

- Source Separated Organics (SSO)
- Municipal Solid Waste (MSW)

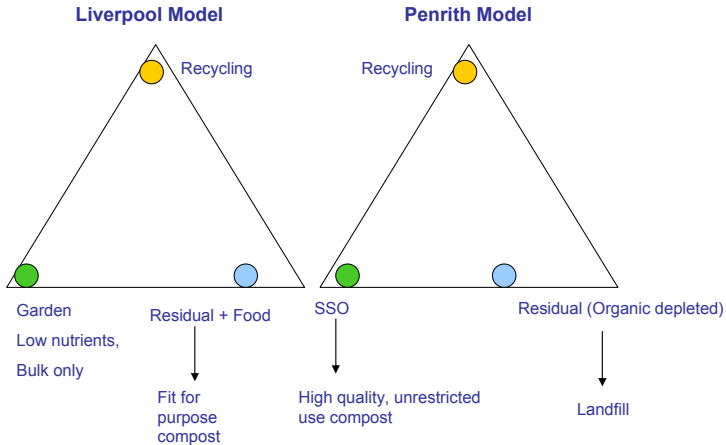
Bin configurations

- 3 bin - RMSW, Recycling and SSO (Penrith)
- 3 bin - MSW, Recycling and Green (Liverpool)

End products

- ~23,000 tonnes per annum unrestricted use compost
- ~27,000 tonnes per annum fit for purpose compost
- Closed loop, compost from SAWT Penrith line is utilised in local Government parks & gardens projects to allow return to urban amenity

A key decision for Councils is whether to implement an AWT for processing of MSW (Liverpool SAWT model) or SSO (Penrith SAWT model) or both



The SAWT provides a reference point for AWT processes

SAWT Liverpool technology (MSW)



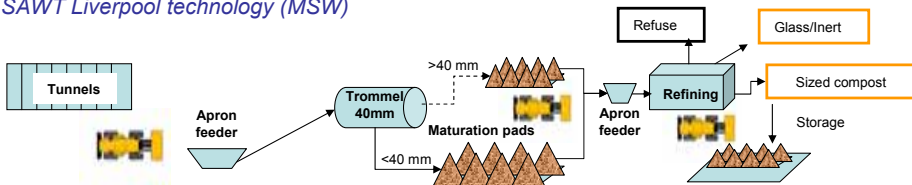
SAWT Penrith technology (SSO – Garden & Food waste)



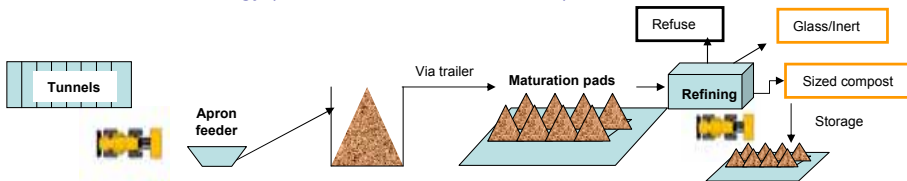
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The outputs are refined into a compost product suitable for specific use projects (MSW) or unrestricted use (SSO)

SAWT Liverpool technology (MSW)



SAWT Penrith technology (SSO – Garden & Food waste)



Development of end product markets

- SITA uses established commodity purchase channels for the commodity streams recovered from the processes:
 - ferrous & non ferrous metals
 - paper and cardboard
 - mixed plastics (developing)
 - RDF
- SITA uses both internal resources and external marketing arrangements to develop compost product markets
 - high quality AS4454 compost from SSO has established marketing channels (garden centres, landscapers etc)
 - compost from MSW is suitable for mine site rehabilitation, forestry, broad acre agriculture
 - Sugar cane markets established in QLD
 - SITA founding member and active participant in AWTDORF, 3F regulation development in NSW
 - SITA supports a general exemption
 - SITA has Organics Sales & Marketing managers in NSW and Victoria



SITA AWT solutions are scalable, low risk and are globally proven

Scalability

- SITA technologies are scalable and modular
- Suitable from 15,000 tonnes per annum to in excess of 300,000 tonnes per annum

Waste stream processing

- Both SSO and MSW streams can be processed

Technology range

- MBT & Aerobic composting
- Anaerobic Digestion (partial)
- Energy from Waste

End products

- Unrestricted and fit for purpose compost
- Power generation to grid

SECTION 4

Procurement Considerations & Timelines

AWT procurement considerations

Procurement model

- Build, Own, Operate (BOO)
- Build, Own, Operate, Transfer (BOOT)
- Alliance

Financial analysis

- Generally the largest contract Council will sign off
- What is the whole of life cost of the AWT solution?
- What is the price threshold for Council and ratepayers?

End products

- What product outputs does Council require?

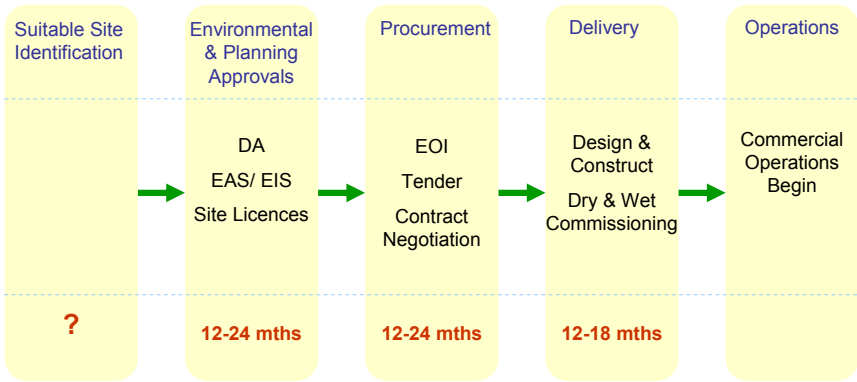
Collection system

- Which kerbside collection configuration is required to deliver the feedstock characteristic required to produce the desired end products?
- Will having the same collector and processor lower the project risk profile?

Technology

- Is the technology commercially proven locally and/or globally for the specified feedstock and end product expectations?

AWT procurement timeline



3 - 6 years

Thank you for your attention



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