

# **SOUTHERN COUNCILS GROUP**

## **Regional Collaboration and AWT Case Studies**

Mr George Coward  
Waste Opportunities  
Coordinator



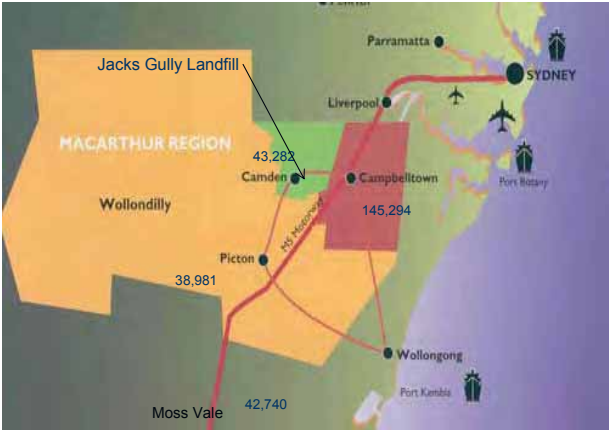
# Waste Experience

● Auburn Council	6 years
● Campbelltown Council	8 years
● Grenfell	6 Years
● Wingecarribee	10 Years
● Wollongong	4 Years
● Blacktown	10 Years
● Wollondilly	2.5 Years
● Southern Councils Group	2.5 Years
TOTAL YEARS	49 Years

# Presentation Outline

- Macarthur Process – Macarthur Resource Recovery Park
- Southern Councils Group Process
  - Background
  - Needs Analysis / Risk Analysis
  - Waste Processing Industry Inquiry
  - Transportation and Economic Studies
  - Landfill Full Cost Accounting Calculator
  - Regional Shared Values and Staged Approach
  - Business Case Preparation for Phase1
  - Future Regional Issues Identified

# MACARTHUR PROCESS



# DRIVING FACTORS

- Closure of Jacks Gully putrescible landfill used by four Councils and operated by WSN
- No alternative facility in region
- Increasing landfill costs
- State Government diversion target for the Municipal Sector of 66% by 2014

# PROCESS UNDERTAKEN

- Representative high level project working group with GM Reference Group oversight
- ACCC Authorisation obtained
- Two step tender process (2004-2006)
- Joint procurement managed by Campelltown Council
- Four identical individual Council contracts – Councils not jointly liable

# OUTCOME

(Director – General Dept. Planning Environmental Assessment Report)

- Macarthur Resource Recovery Park on site of Jacks Gully Landfill
- \$39 Million Capital Facility with 40 operations staff
- 90,000 t/a MSW treatment in ArrowBio AWT, 30,000 t/a organics by Tunnel Composting

# SCG PROCESS





FIGURE 1: Study Area (Source: SGO, 2007)

## Participating Councils

- **Wollongong City 193,590**
  - **Shellharbour City 63,790**
  - **Kiama 20,480**
  
  - **Shoalhaven City 94,640**
  
  - **Eurobodalla Shire 37,190**
  
  - **Bega Valley Shire 32,890**
- TOTAL 442,580**
- Section 88 applies to four Northern Councils only.**
- \* Population growth projections based on DIPNR 2005 release*

# BACKGROUND

- Regional Waste and Recycling Background Report and Opportunities Paper 2006
- SCG Resource Recovery Network operating with the support of the Department of Environment and Climate Change
- Appointment of Waste Opportunities Coordinator for two year period
- Previous experience Macarthur Regional Project
- Regional Resource Recovery Advisory Group Formed 2007

## NEEDS ANALYSIS/RISK ANALYSIS

- Needs Questionnaire prepared
- Visit to each Council for completion
- Analysis of individual Council needs by Advisory Group to determine regional needs
- Development of draft objectives, outcomes and critical success factors
- Risk workshop to document risks and risk reduction actions

# WASTE PROCESSING INDUSTRY INQUIRY

- Information paper and series of questions relating to:
  - Site area, infrastructure and treatment process locations
  - Technology / process
  - Contract and procurement systems
- Advertised nationally and through WMAA
- 14 Responses received
- 9 respondents interviewed

# WASTE PROCESSING INDUSTRY INQUIRY

## Common Themes from Responses

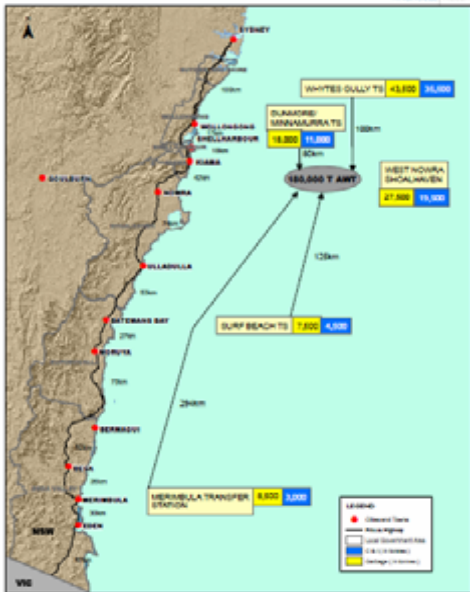
- Industry prefers to have early contractor involvement / alliances in regards to the contract documentation and options
- The larger the AWT and the longer the contract length the lower the per tonne processing costs
- Composts from MSW have a higher risk of contamination.
- Future beneficial products should include Refuse Derived Fuels

# DEMOGRAPHIC ISSUES (TRANSPORTATION ANALYSIS)

- Waste Bulking and Transportation Study
- Seven options investigated for MSW processing
- Four bulk transport vehicles options
- One, two, three and four AWTs
- Includes treatable C&I and size of Transfer Stations includes future growth
- Includes transfer station construction and operation as well as environmental costs
- Change to fuel costs modelled (\$1.84 to \$8.00 per litre by 2018)

# WASTE BULKING AND TRANSPORTATION STUDY ONLY

MINIPOSEL | ARCONA



NPV \$64  
Million  
Transport  
Only

FIGURE 6. OPTION 4 - One ART with four Transfer Stations

# WASTE BULKING AND TRANSPORTATION STUDY ONLY

MINUPREL | ACCORD



NPV \$32 Million  
Transport Only

FIGURE 5: OPTION 3 - Two AWTs with three Waste Transfer Stations (Northerly Transfer)

# TRANSPORTATION AND AWT OPERATIONS MSW & ORGANICS

Transport &  
Operations



NPV \$219M  
(Transport Fuel  
\$1.80L)

NPV \$219M  
(Transport Fuel  
\$8.00 by 2018 )

Figure 11: Case 2- Option 8 MSW and Treatable C & I plus Green Organics  
Four AWTs.



## STUDY CONCLUSIONS

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- Regional savings for waste processing not significant when transport fuel cost volatility factored in.
- Sub-regional grouping of the three northern councils may be attractive.

## STUDY CONCLUSIONS

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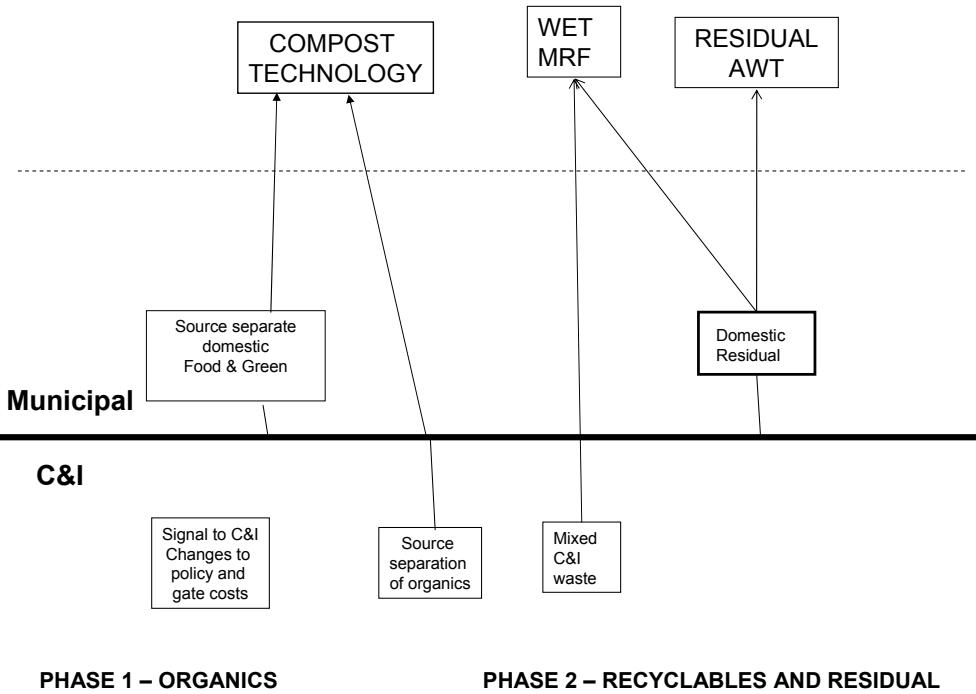
- Eurobodalla and Bega Valley Councils' quantity of waste not presently large enough to justify the utilisation of an AWT for processing the residual garbage waste stream
- Shoalhaven Council has two options for consideration for the residual garbage waste stream

# LANDFILL FULLCOST ACCOUNTING CALCULATOR

- Full cost accounting of waste disposal to putrescible landfills in NSW study and calculator development (DECCW part funding)
- Calculator used to provide true cost of landfilling for small and large putrescible landfills
- Calculator includes direct operating costs, overheads, capital costs, post operating costs, current volume costs and environmental costs

# REGIONAL SHARED VALUES & STAGED APPROACH

- Shared values documented
- Preference for garden and food organics to be processed to produce high grade compost
- Both MSW and C&I waste to be included
- Incremental roll out with a number of diversion phases:
  - Phase 1a Organics fraction (green and food) from domestic
  - Phase 1b Organics fraction (green and food) from C&I
  - Phase 2a Recyclables from C&I sector
  - Phase 2b Domestic residual stream processing



COMPOST  
TECHNOLOGY

WET  
MRF

RESIDUAL  
AWT

Source separate  
domestic  
Food & Green

Domestic  
Residual

**Municipal**

**C&I**

Signal to C&I  
Changes to  
policy and  
gate costs

Source  
separation  
of organics

Mixed  
C&I  
waste

**PHASE 1 – ORGANICS**

**PHASE 2 – RECYCLABLES AND RESIDUAL**

# BUSINESS CASE PREPARATION FOR PHASE 1

- Prepare a business case for each Council based on the an analysis of the do nothing and selected collection and processing options for the organics (food and green) wastestream.
- Business cases to utilise costs based on robust financial analysis.
- Do nothing case utilises the Full Cost Accounting Calculator for existing landfill costs.

## Future Potential Regional Issue

- Contractor funding of infrastructure
- Stakeholder communication and consultation strategy and implementation plan
- Procurement methodology
- ACCC approval for a contract period of up to twenty years AWT operations
- Method of obtaining early Contractor involvement while complying with NSW Local Government Act, Probity Plan and protecting Contractor intellectual property

## Lessons learned to date

- Communicate, consult and listen
- Expect to change direction as new information comes to light
- Remain positive but realistic
- Small step option helpful
- Expect the unexpected