



BUSINESS PLANNING FOR RESOURCE RECOVERY

Lessons learnt from within the "engine room"

DR MARK JACKSON
JACKSON ENVIRONMENT AND PLANNING

OVERVIEW OF PRESENTATION

- New resource recovery infrastructure for NSW
- The new "pipeline" of projects coming online
- Business case and evaluation framework
- Key issues and challenges for specific types of projects
- Some strategies for maximizing co-investment



NEW RESOURCE RECOVERY INFRASTRUCTURE FOR NSW

- Since 2013, the NSW Government has been reforming the recycling infrastructure market through co-investment
- Waste Less Recycle More \$250M infrastructure package
- Largest in Australia's history
- Intervention known as "co-production"
- To date, ~60 significant infrastructure projects funded with an estimated capital value of more than \$208M
- Direct involvement in 25 projects to date



CONTRIBUTING TO STRATEGY TARGETS

- Significant gaps in infrastructure identified in the NSW EPA (2011) Infrastructure Needs Analysis
- 59 new facilities for municipal and C&I to reach 2014 targets
- Waste Less Recycle More designed to close the infrastructure gap to reach 2021 targets
- Actual gaps still left? – release of 2015 Infrastructure Needs Analysis by EPA needed
- Updated market intelligence needed to avoid market failures through 'over investment'



THE 'NEW' PIPELINE OF PROJECTS

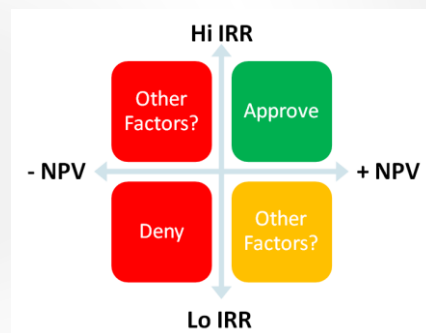
- Key projects:
- GRL's UR3R RDF circuit and expansion
- Veolia's C&I MRF at Camellia
- Resource Co's PEF plant at Wetherill Park
- Boral's Cement Kiln Upgrade, Berrima
- Dial-A-Dump Genesis Xero Waste C&I plant, Eastern Creek
- ANL's FOGO Transfer Station and Blayney processing
- RRA's Statewide Mattress Recycling Network



THE BUSINESS CASE AND EVALUATION FRAMEWORK

- NSW EPA and NSW Environmental Trust - robust business case and economic evaluation into the grant assessment process
- Informed by NSW Treasury
 - Guidelines for Capital Business Cases
 - NSW Government Guidelines for Economic Appraisal
- Some programs – 2 stage process
 - Stage 1 – preliminary business case
 - Stage 2 – full business case analysis

“...This level of business case analysis is what my bank ask for...”



KEY ISSUES AND CHALLENGES FOR SPECIFIC TYPES OF PROJECTS

- Municipal and C&I MRFs

Regulatory:

- Authorised Amounts and EPA licence limits
- Modifications to existing consent / licensing
- Lawful materials that can be received

Markets:

- Supply contracts with feedstock secured
- Increasing dependence on volatile o/s markets

Planning:

- Existing development consent constraints
- Re-consent needed as Designated Development if >30,000 tpa threshold



KEY ISSUES AND CHALLENGES FOR SPECIFIC TYPES OF PROJECTS

- Energy from Waste Plants

Regulatory:

- Compliance with EfW Policy
- Group 6 air emissions
- Resource Recovery Criteria (Table 1)
- Compliance with eligible waste fuels
- Non-standard fuels – emissions profiles in dedicated plants – proven?

Planning approvals

- Existing development consent constraints
- Lengthy approvals pathway, Designated (30,000 – 100,000 tpa) and State Significant Development (>100,000 tpa)



KEY ISSUES AND CHALLENGES FOR SPECIFIC TYPES OF PROJECTS

- Refuse Derived Fuel / Processed Engineered Fuel Plants

Regulatory:

- Compliance with EfW Policy
- Group 6 air emissions of receiving facility?
- Resource Recovery Criteria (Table 1)

Markets:

- Offtake agreements with EfW plants in Malaysia and China
- Currency fluctuations and price volatility

Business case:

- Negative product value
- Transport / shipping costs
- Low project BCR



KEY ISSUES AND CHALLENGES FOR SPECIFIC TYPES OF PROJECTS

- Organics processing facilities

Regulatory:

- Outdoor processing and air emissions in Sydney basin for FOGO

Planning:

- Early state of planning approvals for facilities – long lead times
- Acceptability of food waste under current consent and EPL licence

Markets:

- Dependant on winning contracts with councils

Business case:

- Value of compost outputs and markets key risk and impacts on BCR



KEY ISSUES AND CHALLENGES FOR SPECIFIC TYPES OF PROJECTS

- Glass, plastics processing facilities and other problem wastes

Technical:

- Technology maturity and reference sites
- Operations and maintenance issues

Planning and regulatory:

- Permissibility of upgrades under current consent
- Variations to EPA licences

Markets:

- Feedstock security and off-take market(s)

Business case:

- Volatility in export market pricing
- Links to commodity prices (crude oil) and impacts on BCR



SOME STRATEGIES FOR MAXIMISING CO-INVESTMENT

- Key strategies:
 - Thorough infrastructure, waste competitor and market analysis
 - Sensitivity analysis critical for projects dependent on export markets
 - Details financial analysis of project – focus on capital and O&M
 - Analyse the waste regulatory framework
 - Engage in planning process early
 - Analyse different business investment scenarios and select based on ROI and acceptable risk profile



THANKYOU

For more information, contact:

Dr Mark Jackson

T: 02 9956 3866

E: mark@jacksonenvironment.com.au

W: www.jacksonenvironment.com.au

