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ENVIRONMENT & PLANNING

Strategic Planning to Boost Capacity of Existing Resource Recovery Facilities

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Overview of Presentation

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Introduction

About Us

JEP Environment & Planning is a specialist infrastructure planning firm with expertise in environmental planning and business operations efficiencies for major projects in waste, recycling, commercial developments, industrial developments, advanced manufacturing, energy and sustainability infrastructure.

What we do

- Environmental Strategies
- Environmental Impacts Assessments
- Resource Recovery Orders and Exemptions
- Planning Approvals
- Compliance Audits
- Environmental Management Plans

The Need for Waste Infrastructure

Waste Disposal

Residual MSW, C&I and C&D to landfill is expected to increase to:

- 5 million tonnes by 2030; and
- 6 million tonnes by 2040,

Assuming new organics diversion policies are implemented and are achieving targeted results.

Table: Additional RRFs required to recover resources from waste streams @2022, assuming business as usual in waste generation.

Select Waste Streams	Ideal Scenario Capacity Gap 2030[1]	Ideal Scenario Capacity Gap 2040[2]
Organics[3]	-1.1 million tpa	-233,000 tpa
Materials Recycling Facility	+10,000[4] tpa	-99,000 tpa
Tyres	-100,000 tpa	-50,000 tpa
Plastics	-47,000 tpa	-20,000 tpa

Note: Refer to the Guide for criteria and scenario settings.

1. Assumes all existing pipeline facilities are brought online
2. Assumes all infrastructure needs to meet capacity gap 2030 are brought online
3. To process source separated organics only.
4. Assumes Shoalhaven MRF is operational with processing capacity of 168,000 tpa.

Reference: DPIE (2021). NSW Waste and Sustainable Materials Strategy – A guide to future infrastructure needs.

NSW Policy Drivers: Waste Infrastructure

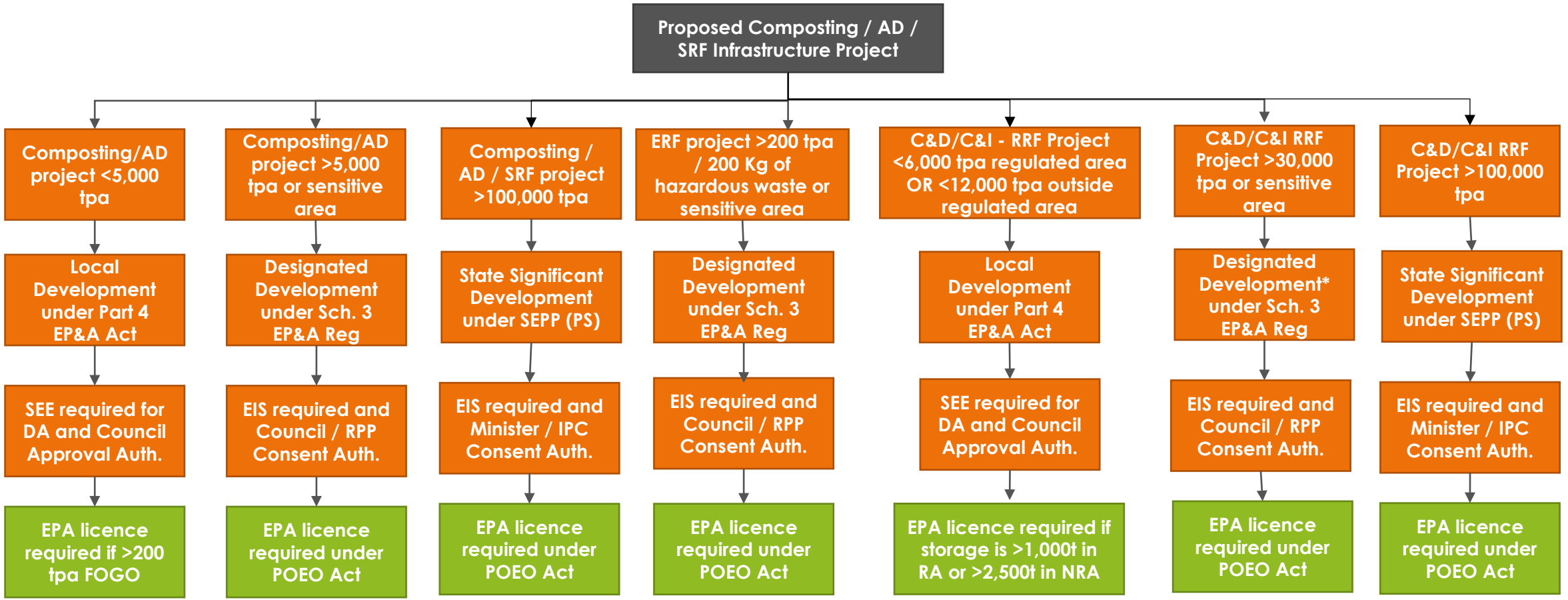
Key NSW Government policies driving investment and new infrastructure

- NSW Waste and Sustainable Materials Strategy 2041 Stage 1 plan: 2021–2027 (the Strategy)
- NSW Waste and Sustainable Materials Strategy: A guide to future infrastructure needs (the Guide)
- NSW Circular Economy Policy
- NSW Net Zero Plan – mandates FOGO by 2030

Reference: https://www.epa.nsw.gov.au/Your-environment/Recycling-and-reuse/Strategic-direction-for-waste-in-NSW

Planning and Regulatory System in NSW

Composting/Anaerobic Digestion, Energy Recovery Facilities, Resource Recovery Facilities (C&D & C&I)



* Designated Development can also be Integrated Development, when two or more consent authorities are responsible for approvals

Challenges in developing waste and recycling infrastructure

Some of the challenges include:

- Limited industrial sites available in and surrounding Metropolitan areas that are affordable;
- Strong competition for industrial properties with other commercial forms of landuse (eg: bulky goods warehousing, transport and logistic centres, shopping centres);
- Diverse community views on waste and recycling facilities;
- Availability of industrial properties with reasonable buffer to residential areas and sensitive receptors; and
- Resistance from consent authorities in approving new and additional waste and recycling infrastructure.

Strategies to develop new and upgrade waste and recycling infrastructure

Some of the strategies to better manage the throughputs are:

- Expanding and enhancing existing waste and recycling facilities:
  - ✓ Enclosed operations;
  - ✓ Increase in operating hours; and
  - ✓ Improve efficiency of the operations.
- Better site utilisation:
  - ✓ Increasing gross floor areas of the operation; and
  - ✓ Re-locating truck parking off-site or to lower cost sites.
- Improved environmental management and performance;
- Re-purposing RRFs as Waste Transfer Stations with processing carried out at other specialised sites; and
- Acquiring neighbouring lots & expanding the footprint of the facility.

RR Facility – Expansion & Enhancements

- **Grima Recycling:** Existing paper and cardboard transfer station, Wetherill Park
  - ✓ Originally approved for 27,000 tpa (enclosed facility);
  - ✓ Paper and cardboard baling line installed;
  - ✓ Area of warehouse extended to maximise unused land on site;
  - ✓ Dedicated undercover storage facility for baled product;
  - ✓ Waste types expanded to accept plastic; and
  - ✓ Approved for receiving upto 75,000 tpa.

- **A1 Skips:** Existing C&D waste transfer station, Tweed
  - ✓ Originally approved for 6,000 tpa (enclosed facility);
  - ✓ More efficient internal operations and increased operating hours;
  - ✓ Additional environmental controls for the outdoor storage of sorted concrete and timber; and
  - ✓ Approved for sorting C&D wastes of up to 15,000 tpa.

RR Facility – 24 X 7 Operations

- **Bingo Industries, Revesby:** Existing enclosed RRF
  - ✓ Original operating hours: Mon-Fri – 7am to 6pm & Sat – 7am to 2pm, Sun closed.
- **Bingo Industries, Kembla Grange:** Existing outdoor RRF
  - ✓ Original operating hours: Mon-Fri – 7am to 4pm & Sat – 7am to 1pm, Sun closed.
- **Bingo Industries, Greenacre:** Existing enclosed RRF (open front)
  - ✓ Original operating hours: Mon-Fri – 7am to 4pm, Sat-Sun closed.

- **Bingo Industries – Common Operations:**
  - ✓ Bulk load out of residual waste during night-time; and
  - ✓ Transfer to other facilities for further processing.

Overall Environmental Benefits of Upgrading an Existing RRF

Traffic Management

- Distribution of traffic flows; and
- Operational efficiency assists in better management of throughput materials and storage, reducing the costs associated with the transport of materials.

Stormwater Management

- Improved discharge water quality to stormwater drainage system; and
- Protection from wash water due to fire incident.

Visual Impacts / Aesthetics

- Landscaping; and
- Storage of materials at the rear of the site.

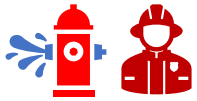
Overall Environmental Benefits of Upgrading an Existing RRF

Dust Mitigation Measures

- Installation of Sprinklers and Misting systems to minimise dust; and
- Provides a safe and healthy workplace for staff.

Noise Control Measures

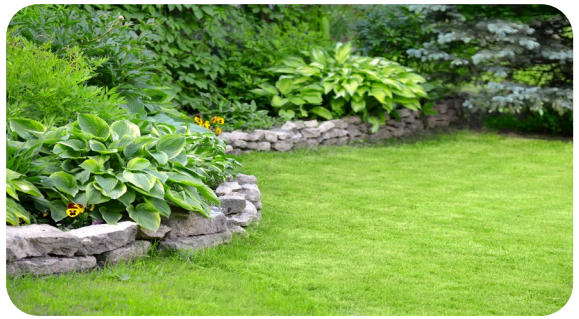
- Provides a safe and quiet working place for staff; and
- Manage disturbances to the neighbours due to operations.



Fire Safety & Management

- Installation of firefighting equipment to manage fires.

Broader Benefits of Upgrading an Existing RRF



Environmental

- Reduces the environmental footprint of the resource recovery activities;
- Reduces the need for VENM;
- Reduces carbon emissions associated with new development; and
- Promotes Circular Economy.

Economic

- Reduces the need for new land and improving productivity of the operations; and
- Job creation in local area.

Social

- Provides local solutions for recycling;
- Promotes environmental/recycling behaviours as norm.

From JEP Environment & Planning Team

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