



# **Waste Markets – Post National Sword and moving towards a circular economy**

9 July 2019

# Key Agency Liaison Group

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- **DPIEs Planning and Environment representatives, Fire and Rescue NSW and may include a representative from the local government.**
- **Coordinated and ongoing strategic and technical advice from site selection, project design and EIS phases, during the assessment of a development application, and after a development application has been determined.**

# NSW Circular Economy Policy

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- **Consultation during 2018, publication in February 2019**
- **Ambition and approach for a circular economy in NSW, and provides principles to guide resource use and management.**
- **The Policy Statement will help guide NSW Government decision making as in transitioning to a circular economy.**



# Looking ahead

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- **Energy, Climate Change and Sustainability** directorate, in close collaboration with the EPA, is leading the development of a **20-year Waste and Resource Recovery Strategy**
- **Collaboration with the Commonwealth and other jurisdictions to develop a National Action Plan to implement the 2018 National Waste Policy, which is based on circular economy principles.**



# **Glass Recycling - Opportunities to strengthen local markets and move towards a circular economy**

9 July 2019

# **Importance of Glass Recycling**

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- **Glass recycling minimises waste and keeps materials circulating in the economy**
- **Recycled glass can be remanufactured into new packaging or used as a sand substitute in construction and infrastructure projects**
- **Information and financial support are available for local government and industry to encourage glass recycling and to support local end markets**



# Sources of glass

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In the 2017-18 financial year NSW recovered **219,000 tonnes** of glass. This figure is expected to increase as the container deposit scheme (CDS) grows in popularity.

Glass is predominantly recovered from two sources:

- **Kerbside glass** recovered from municipal and commercial commingled recycling at Material Recovery Facilities.
- **CDS glass** recovered from the Container Deposit Scheme/Return and Earn, through reverse vending machines and collection points. This glass is source-separated.

# Current options for glass in NSW

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## Remanufacture

- High quality, low contamination glass cullet is suitable for re-manufacturing into packaging.
- Typical requirements are:
  - >8mm particle size, colour-sorted and <15ppm of contaminants (e.g. ceramic, stoneware, porcelain or pyroceramic materials).
  - Detailed specifications should be requested from the remanufacturer.

# Current options for glass in NSW

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## Civil works

- Lower quality glass of smaller particle size is often suitable for use as a sand replacement in construction projects.
- Typical requirements are:
  - <5mm particle size and odourless.
  - The NSW Roads and Maritime Service (RMS) requires glass fines to be washed for use in roads.
  - Glass fines used in asphalt also need to be free of paper residue to reduce explosive risks.
  - Glass fines are also used in concrete as a sand replacement, and the general requirements are similar.
  - Detailed specifications should be requested from concrete suppliers.

# Use of glass in roads

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- The RMS recently updated its asphalt specifications (R116, R117, R118 or R121) to increase the allowable concentration of **recycled crushed glass from 2.5% to 10%** in base layers. The specification also allows a concentration of 2.5% recycled crushed glass in the wearing surface.
- RMS specifications R82 and R83 also allow for recycled crushed glass in concrete base and subbase.

**For more information, search for “RMS QA specifications”**

# EPA Resource Recovery Requirements

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- Resource recovery orders (Orders) and resource recovery exemptions (Exemptions) allow some wastes to be beneficially and safely re-used independent of the usual NSW laws that control applying waste to land.
- **Orders** apply to suppliers, and
- **Exemptions** apply to consumers.
- Recovered glass fines require an Order/Exemption if being applied to land (e.g. road-making).
- There is an existing Order/Exemption covering the common uses of recovered glass fines but other uses may require a new one.
- If recovered glass fines are beneficially used without being applied to land (e.g. as a pool filtering medium or for sand blasting), an Order/Exemption is not required.

**If you are uncertain, it's always better to contact the EPA.**



# The Recovered Glass Sand Order 2014

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- This covers glass that is applied to land for pipe bedding, drainage and road making.
- The material should be  $\geq 98\%$  recovered glass and generally less than 5mm in diameter.
- The order sets out sampling and testing requirements and record-keeping requirements.
- The consumer and end-user must keep written records of the following records for a period of six years:
  - the quantity of recovered glass sand received and
  - the name and address of the supplier of recovered glass sand

**For more information, search for “NSW EPA current orders and exemptions”.**

# EPL thresholds

## ***Under Protection of The Environment Operations Act 1997 (Schedule 1)***

Facilities require a licence if they reach listed thresholds.

EPL thresholds are limited by volumes permitted by planning approval



Activity	Thresholds
<b>Resource recovery</b>	1,000 tonnes or 1,000 m <sup>3</sup> on-site at any one time, processing more than 6,000 tonnes a year (Regulated Area) 2,500 tonnes or 2,500 m <sup>3</sup> on-site at any time, processing more than 12,000 tonnes a year (Outside the Regulated Area)
<b>Waste processing (non-thermal treatment)</b>	1,000 tonnes or 1,000 m <sup>3</sup> on-site at any one time, processing more than 6,000 tonnes a year (Regulated Area) 2,500 tonnes or 2,500 m <sup>3</sup> on-site at any time, processing more than 12,000 tonnes a year (Outside the Regulated Area)
<b>Waste storage</b>	1,000 tonnes or 1,000 m <sup>3</sup> stored on-site at any one time, storing more than 6,000 tonnes a year (Regulated Area) 2,500 tonnes or 2,500 m <sup>3</sup> stored on-site at any time, storing more than 12,000 tonnes a year (Outside the regulated Area)

# What support is there for using recycled glass?

The NSW Government offers a range of grants designed to encourage innovation, increase processing capacity in NSW and drive end-markets. Grant programs include:

- Circulate Program (up to \$150,000)
- Civil Construction Market Program (up to \$250,000)
- Product Improvement Program (up to \$1,000,000)
- Resource Recovery Facility Expansion and Enhancement Program (up to \$1,000,000)
- Major Resource Recovery Infrastructure Program (up to \$10,000,000)

**For more information on grants, search for “NSW EPA Grants”**





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