

## Who should use this guide?

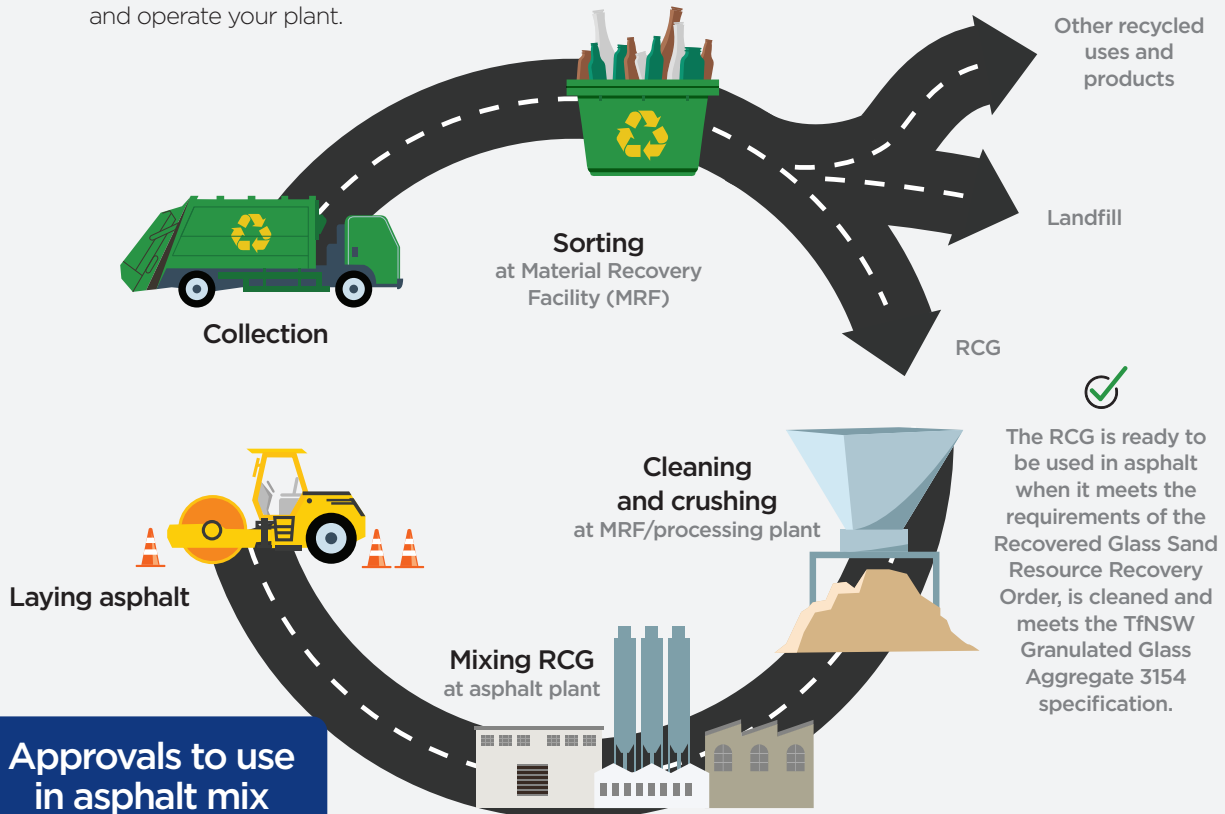
All levels of government are working together to increase opportunities to use recycled materials in construction. This promotes innovation and greater efficiency, enables our transition to a circular economy and leverages better environmental and economic outcomes. If you're in the glass recycling or asphalt business, these are the steps to follow when producing, supplying, purchasing and using recycled crushed glass (RCG) for use in asphalt.

### Approval for your plant

Obtain a Development Approval from the appropriate authority to build and operate your plant.

### Licence approvals to process

Determine whether you need an Environment Protection Licence and apply to the Environment Protection Authority if you need one.



### Approvals to use in asphalt mix

Supply approved asphalt mix in accordance with Transport for NSW or local council requirements.

### Receiving and handling

Purchase RCG that complies with the Recovered Glass Sand Resource Recovery Order.

Transport for NSW would like to acknowledge the Southern Sydney Regional Organisation of Councils and the NSW Environment Protection Authority for their valuable contribution to this guide.

# Frequently asked questions

### **Why does RCG need to be cleaned before using in asphalt?**

RCG needs to be cleaned to reduce odour and leachate, and remove glues, stickers and other contaminants that can affect the technical performance of asphalt and safety of workers. The asphalt will be recycled into new asphalt in future, which is another reason for it to be contamination free.

Following cleaning and crushing, the RCG needs to comply with the [TfNSW Granulated Glass Aggregate 3154 specification](#). Your testing can be performed by any laboratory certified by the National Association of Testing Authorities.

### **What is the waste levy and how does it apply to RCG?**

The waste levy is calculated on every tonne of waste entering certain recovery facilities. When waste is processed for lawful reuse under a resource recovery order and leaves the site, the levy is extinguished. If your site is managed well, no levy should actually be paid unless waste is stockpiled for over 12 months, your facility exceeds its stockpile limit or waste is illegally disposed. The purpose of the waste levy is to reduce the amount of waste being landfilled and promote recycling and resource recovery. The waste levy doesn't apply to RCG if it meets the requirements of the Environment Protection Authority's Recovered Glass Sand Resource Recovery Order and Exemption.

### **What do I need to know about the Recovered Glass Sand Resource Recovery Order?**

If you produce RCG, you must follow the requirements of the [Recovered Glass Sand Resource Recovery Order](#). When you sell the RCG it is exempt from the normal levy requirements as long as your customers use it in line with the exemption requirements. The order enables the exemption. A resource recovery order requires things like sampling, testing and record keeping. You can use the RCG as you would any other resource.

### **In which asphalt specifications is RCG allowed?**

Transport for NSW (TfNSW) allows you to use RCG in the following asphalt specifications for main roads: heavy and light duty dense graded asphalt ([R116](#) and [R117](#)), crumb rubber asphalt ([R118](#)), and stone mastic asphalt ([R121](#)). Many local councils may use AUS-SPEC Specifications 1144 Asphalt (roadways) for local roads.

### **Does including RCG in asphalt affect its performance?**

Since May 2019 TfNSW specifications have allowed a higher proportion of RCG in asphalt mix. This change was based on a study by the Australian Road Research Board that was commissioned by TfNSW on the adoption and use of RCG as a sand replacement in asphalt. TfNSW has incorporated RCG in asphalt on a number of sites and will continue to promote its use in asphalt for current and upcoming projects.

In October 2019, AUS-SPEC Specification 1144 Asphalt (roadways) was amended to include the use of RCG.

### **What happens when reclaiming asphalt that contains RCG?**

RCG is treated the same as any other reclaimed material. The [Reclaimed Asphalt Pavement Order](#) and [Exemption](#) sets out the requirements for supplying and using reclaimed asphalt pavement.

## Additional information

### Recycling plant approvals

You need consent under the *NSW Environmental Planning and Assessment Act 1979*. The application process includes forms, supporting technical reports and plans. You usually need to provide this to the local council.

### Licence approvals to process waste glass into RCG

This section explains when you need an Environment Protection Licence from the EPA.

Schedule 1 of the *Protection of the Environment Operations Act 1997* lists the activities that require EPA licensing. You need an Environment Protection Licence if you:

- process waste glass in the 'regulated area' and have more than 1000 tonnes or 1000 cubic metres of waste on site at any one time, or process more than 6000 tonnes of waste per year
- process waste glass outside the 'regulated area' and have more than 2500 tonnes or 2500 cubic metres of waste on site at any one time, or process more than 12,000 tonnes of waste per year.

#### [Where is the regulated area?](#)

For more information consult the [EPA's guide to licencing](#) or call the Environment Line on 131 555.

### Cleaning RCG

The Recovered Glass Sand Resource Recovery Order and Exemption are designed to reduce the environmental impacts of using recycled glass, such as odour and leachate. TfNSW specifications require RCG to be cleaned in order to meet performance requirements for asphalt. You need to comply with both EPA specifications and TfNSW specifications.

## Receiving and handling RCG

### The waste levy and RCG – information for asphalt mixers

If the RCG you purchased complies with an order and exemption, then:

- you don't need an Environment Protection Licence to apply it to land, as long as it's applied consistent with the order and exemption
- you don't have to pay the waste levy on RCG used in roads
- you don't have to report to the EPA if you apply the RCG to land.

However, you must:

- keep the following records for six years:
  - the quantity of RCG received
  - the name and address of the supplier of the RCG
- make the records available to EPA authorised officers on request
- use the RCG within a reasonable time after you receive it.

You must still meet the other requirements of the *Protection of the Environment Operations Act 1997*, including not allowing your stockpiles of RCG to cause land or water pollution.

### Approvals to use RCG in asphalt mix

Where your client is TfNSW, their asphalt mix registrars will review your mix design against the asphalt and constituent material specifications. If the constituent material and asphalt mix complies with the relevant specifications, then it will be approved for use on NSW roads. [A register of approved asphalt mixes](#) can be found on the internet.

If your client is a local council they may have different requirements. Contact them for details.

### Some other potential road applications of RCG

Other applications include, but aren't limited to:

- road base – see [TfNSW's Granular Pavement Base and Subbase Materials specification 3051](#) for more information
- pipe bedding – see [TfNSW's Stormwater Drainage specification R11](#) for more information
- non-structural concrete – see [TfNSW's General Concrete Paving specification R54](#) for more information
- concrete pavements – see [TfNSW's Lean-Mix Concrete Subbase R82](#) and [Concrete Pavement Base R83 specifications](#) for more information.

Additionally, a number of AUS-SPEC specifications incorporate the use of RCG, including for rigid pavement base and sub-base; flexible pavements and pavement marking uses.

For more information see the [Technical Note GEN 028 Specifying recycled materials for roadworks using AUS-SPEC](#).

### For more information

- Call **13 22 13**
- Visit [roads-maritime.transport.nsw.gov.au/contact-us](https://roads-maritime.transport.nsw.gov.au/contact-us)

Transport for NSW now administers the activities and responsibilities which were previously the remit of the former Roads and Maritime Services agency.