



# Waste levy – measuring waste tonnages

This is part of a series of fact sheets on disposal facility obligations under the Waste Minimisation Act 2008 and related regulations. From 1 July 2024 disposal facility operators will need to report additional information.

## Measuring and reporting waste tonnages

The Waste Minimisation Act 2008 (WMA) requires disposal facility operators to measure waste that is disposed of at their facility. Table 1 outlines the three measures you must take and report to the Ministry for the Environment.

**Table 1: What disposal facility operators must measure**

Definition		Format
Gross tonnage	<p>The total tonnage of waste and diverted material that enters the facility.</p> <p>A common error in the calculation process is including only solid, residual waste in the gross tonnage measure.</p> <p>All material that enters the facility should be included under the gross tonnage, including materials that are intended for diversion.</p>	Total tonnage reported in tonnes.
Diverted tonnage (Diversion)	<p>The tonnage of waste or diverted material that enters the facility but is reused, recycled, or recovered from the facility no later than six months of it arriving<sup>1</sup>.</p> <p>Diverted tonnage may include waste deliberately burnt at the facility to recover energy from it, but not waste burnt at the facility for the purpose of destroying it.</p> <p>The measurement of diverted tonnage must include waste measured in the 'gross tonnage' category, which is then diverted.</p>	Tonnage of diverted material, reported in tonnes.
Activity source	<p>The activity category (that is, the activity source that the waste comes from) of material that is received at a disposal facility.</p> <p>This is to be reported as tonnages of each of the seven activity categories listed in Schedule 3 of the regulations.</p>	Tonnage of each of the seven activity source categories, reported in tonnes.

<sup>1</sup> Not all materials can be reused, recycled, or recovered on site. For further information on diversion [please see here](#).

## Why you need to report tonnages

Gross and diverted tonnages are used to calculate **net tonnage**, which the Ministry uses to calculate the waste disposal levy owed by the disposal facility. This is an important aspect of our compliance, monitoring and enforcement responsibilities.

Net tonnage is the gross tonnage minus diverted tonnage.

### Activity category reporting

From 1 July 2024 disposal facility operators must report on the source of materials received (activity categories) alongside their waste return.

Read more about [activity category reporting requirements](#) for disposal facility operators.

## Measuring your waste tonnages

If your facility has a compliant weighbridge, you must use this to measure all incoming waste and diverted material.

If you do not have a compliant weighbridge, you may measure gross and diverted tonnage using an off-site weighbridge, as long as it is compliant.

A weighbridge must be compliant with the Weights and Measures Act 1987 and display a mark of verification. For more information on weighbridges see the Trading Standards Website.

If you do not have access to a compliant weighbridge, you can measure gross tonnage using:

- the volume-to-weight conversion method, which requires the use of regulated volume-to-weight conversion factors (Appendix 1).
- The average tonnage system, which the Ministry must first approve.

### The volume-to-weight conversion method

This option is only available if you do not have access to a compliant weighbridge.

From 1 July 2024, the conversion factors have been updated to provide more categories (see appendix 1).

Volume-to-weight conversion uses the assessed volume of material (in cubic metres) and regulated conversion factors in this formula to calculate gross or diverted tonnage:

$$\text{Assessed volume} \times \text{Conversion factor} = \text{Gross tonnage}$$

**You can measure assessed volume by:**

- using a measuring instrument such as a tape measure to measure the volume of waste in the container, for example, physically measuring the dimensions of a container or skip bin
- estimating the volume as accurately and consistently as possible
- using information on the volume capacity of types of vehicles.

**When measuring volume using a measuring instrument, you should use the following formula:**

$$\text{Length} \times \text{Width} \times \text{Height} = \text{Volume in M}^3$$

If you are assessing volume, records must show how you assessed the volume.

Once you have assessed the volume, choose the most appropriate conversion factor. To do so, assess the waste being deposited and then select the most appropriate category of waste from the conversion factor schedule.

As part of the changes to waste information regulations that come into effect on 1 July 2024, we have updated the volume-to-weight conversion factor schedule to improve the definitions, and cover the broad categories of waste that may be delivered to your facilities. The updated conversion factors are listed in Appendix 1.

## The average tonnage system

You can only use an average tonnage system to measure your waste if you have approval from the Ministry. Apply for approval through the Online Waste Levy System (OWLS).

An average tonnage system allows you to weigh a sample of the vehicles delivering waste to the disposal facility and calculate the average weight of waste carried for specific types of vehicles set out in Appendix 2.

The simplest way to calculate the average load weight is by weighing multiple vehicle loads. You can then calculate the average load weight by dividing the total of the net load weights by the number of vehicles weighed.

You must calculate the load weight of each vehicle by weighing the vehicle before and after the waste has been dropped off. You can use either an on-site or off-site compliant weighbridge or volume-to-weight conversion.

## Records and report measurements in monthly, quarterly or annual returns

The WMA requires disposal facility operators to keep the original records of the tonnages of waste and diverted material. These records are used when the Ministry audits your facility. It is an offence under the WMA for a disposal facility to fail to keep accurate records.

Gross, diverted and activity source category tonnages are also included in the monthly, quarterly or annual returns a disposal facility operator provides to the Ministry.




For levy liable facilities, the Ministry uses these returns to calculate what waste levy is owed by a disposal facility operator. Please see the [Waste Levy: Filing a waste return](#) factsheet for more information.

## Appendix 1: Conversion factors

Type of waste or diverted material	Description	Conversion factor
Mixed general material – loose.	<p>Small loads (0.5 cubic metres or less) of uncompacted general waste or material, including bags of domestic and commercial refuse or waste.</p> <p>or</p> <p>Material for diversion that is similar in density to loose and uncompacted material, such as recyclable containers, cans, and plastic bottles.</p> <p>Includes loads received from a residential customer that is mainly household waste but includes some garden material.</p>	0.13 tonnes (130kg)/cubic metre
Uncompacted garden material.	<p>Grass, leaves, foliage, branches, and other general bulky green waste.</p> <p>Does not include soil or logs, or mulched materials. Material is delivered loose and not from a collection service or otherwise compacted.</p>	0.15 tonnes (150kg)/cubic metre
Mixed general material – bulk, uncompacted.	<p>Larger loads (more than 0.5 cubic metres) of any uncompacted waste</p> <p>or</p> <p>Material for diversion from residential, commercial, and industrial sources.</p> <p>Includes loads of construction and demolition waste of building products and materials that is dominated by packaging or light-weight insulation.</p>	0.20 tonnes (200kg)/cubic metre
Compacted putrescible material.	<p>Compacted or mulched grass, leaves, foliage, branches, and food waste included in a food and garden waste collection.</p> <p>Does not include soil or logs. For example, materials collected through a kerbside service in a compactor vehicle.</p>	0.26 tonnes (260kg)/cubic metre
Mixed general material – compacted.	<p>Waste or material for diversion carried in a compacted state (including in kerbside collection compactors, stationary compactors, and mechanical handling if this includes compaction) and compacted bulk waste.</p> <p>or</p> <p>Material from refuse transfer stations in a compacted state.</p> <p>or</p> <p>Waste or material for diversion that is similar in density to compacted waste, such as whole glass bottles and loose light-gauge scrap metal.</p>	0.32 tonnes (320kg)/cubic metre
Mixed construction and demolition material.	<p>Mixed loads of construction and demolition waste. Includes a mixture of timber, glass, metals, plastics, plasterboard, or fibre cement products, fibreglass or insulation materials, masonry, bricks, and small (incidental) amounts of concrete, soil, or rock.</p> <p>If the load is predominantly concrete, soil or rock, this should be categorised under “Soil, sludges, and similar excavated material” or “Concrete, rock, or other high-density materials”.</p>	1.20 tonnes (1200kg)/cubic metre

	Not applicable to loads of construction and demolition material that are dominated by lighter materials such as insulation, packaging, or plastics (“Mixed general material—bulk, uncompacted” applies).	
Soil, sludges and similar excavated material.	Material predominantly made up of soil and excavated material including sand, silt, clay, and topsoil. May include stumps or logs and asphalt.  Materials predominantly made up of slags, sludges (including biosolids), ash, foundry sand, pomace (fruit pulp), and abattoir waste.	1.50 tonnes (1500kg)/cubic metre
Concrete, rock, or other high-density materials.	Waste or material composed of high-density materials and predominantly made up of concrete, rock, and rubble.	2.00 tonnes (2000kg)/cubic metre

## Appendix 2: Average tonnage of vehicles

Class	Description
MA (Passenger car) 	A passenger vehicle (other than a Class MB or Class MC vehicle) that has no more than nine seats (including the driver’s seat)
MB (Forward control passenger vehicle) 	A passenger vehicle (other than a Class MC vehicle): that has no more than nine seats (including the driver’s seat), and  in which the centre of the steering wheel is in the forward quarter of the vehicle’s total length
MC (Off-road passenger vehicle) 	A passenger vehicle, designed with special features for off-road operation, that has no more than nine seats (including the driver’s seat), and that: <ol style="list-style-type: none"> <li>a. has four-wheel drive, and</li> <li>b. has at least four of the following characteristics when the vehicle is unladen on a level surface and the front wheels are parallel to the vehicle’s longitudinal centreline and the tyres are inflated to the vehicle manufacturer’s recommended pressure:               <ol style="list-style-type: none"> <li>i. an approach angle of not less than 28 deg</li> <li>ii. a breakover angle of not less than 14 deg</li> <li>iii. a departure angle of not less than 20 deg</li> <li>iv. a running clearance of not less than 200 mm</li> <li>v. a front-axle clearance, rear-axle clearance, or suspension clearance of not less than 175 mm</li> </ol> </li> </ol>
Omnibus	A passenger vehicle that has more than nine seats (including the driver’s seat). An omnibus comprising two or more non-separable but articulated units shall be considered as a single vehicle.
MD 1	An omnibus that has a gross vehicle mass not exceeding 3.5 tonnes and not more than 12 seats
MD 2	An omnibus that has a gross vehicle mass not exceeding 3.5 tonnes and more than 12 seats

Goods vehicle	<p>A motor vehicle that:</p> <ul style="list-style-type: none"> <li>a. is constructed primarily for the carriage of goods, and</li> <li>b. either: <ul style="list-style-type: none"> <li>i. has at least four wheels, or</li> <li>ii. has three wheels and a gross vehicle mass exceeding 1 tonne</li> </ul> </li> </ul> <p>For the purpose of this description:</p> <ul style="list-style-type: none"> <li>a. a vehicle that is constructed for both the carriage of goods and passengers shall be considered primarily for the carriage of goods if the number of seats multiplied by 68 kg is less than 50% of the difference between the gross vehicle mass and the unladen mass</li> <li>b. the equipment and installations carried on special purpose vehicles not designed for the carriage of passengers shall be considered to be goods</li> <li>c. a goods vehicle that has two or more non-separable but articulated units shall be considered to be a single vehicle</li> </ul>
NA (Light goods vehicle)	A goods vehicle that has a gross vehicle mass not exceeding 3.5 tonnes
NB (Medium goods vehicle)	A goods vehicle that has a gross vehicle mass exceeding 3.5 tonnes but not exceeding 12 tonnes
NC (Heavy goods vehicle)	A goods vehicle that has a gross vehicle mass exceeding 12 tonnes

