Australian Government
Australian Taxation Office

Explanatory Statement

Excise (Mass of CNG) Determination 2026

General outline of instrument

1. This instrument is made under subsection 65(1) of the *Excise Act 1901* (the Act).

2. Excise duty is generally payable on compressed natural gas (CNG) sold in Australia where the CNG is used for an excisable purpose, such as for transport. This instrument sets out rules for working out the mass of CNG that is subject to excise duty. That mass is then used to calculate the amount of excise duty payable.

3. The instrument will provide certainty to taxpayers on methods that they can use to consistently and reliably work out the mass of CNG for excise purposes.

4. The instrument is a legislative instrument for the purposes of the *Legislation Act 2003*.

5. Under subsection 33(3) of the *Acts Interpretation Act 1901*, where an Act confers a power to make, grant or issue any instrument of a legislative or administrative character (including rules, regulations or by-laws) the power shall be construed as including a power exercisable in the like manner and subject to the like conditions (if any) to repeal, rescind, revoke, amend, or vary any such instrument.

Date of effect

6. This instrument commences on the day after it is registered on the Federal Register of Legislation.

Background

7. Excisable goods (that is, goods subject to excise duty) under excise control generally cannot be used or sold domestically until they are released from excise control (that is, 'delivered for home consumption' – see section 61 of the Act). Once released, the goods may be sold, used, or consumed within Australia and excise duty becomes payable (see section 54 of the Act).

8. Under section 65 of the Act, the CEO (that is, the Commissioner of Taxation) can determine rules for working out the volume, weight, alcohol percentage, or energy content of excisable goods entered for home consumption. The worked-out quantity is then used to calculate the amount of excise duty payable (see section 59 of the Act and section 5 of the *Excise Tariff Act 1921*).

9. The *Excise (Mass of CNG) Determination 2016 (No.2) 2016* (2016 Determination) was made to provide certainty to manufacturers of CNG by setting out clear and consistent methods for determining the mass of excisable CNG entered for home consumption. The 2016 Determination accommodated the different metering and storage systems used across industry, ensuring duty was calculated consistently while allowing manufacturers to rely on existing equipment. This approach avoided unnecessary compliance costs and the imposition of an undue financial or regulatory burden on industry participants.

10. This instrument repeals and replaces the 2016 Determination, which would otherwise sunset on 1 October 2026. This instrument has the same substantive effect as the 2016 Determination.

Effect of this instrument

11. Section 6 sets out the rules and outlines which methods can be used for working out the mass of excisable CNG.

12. The methods that a person can use for an accounting period, depending on their aggregated clearances, are set out in sections 7 and 8. 'Aggregated clearances' are defined in the instrument as the total mass of excisable CNG that a person expects (based on historical data) to deliver or reasonably expects (if historical data is not available) to deliver, for home consumption from all of their excise-licensed premises during an accounting period.

Aggregated clearances of 150,000 kilograms or more

13. Under subsection 6(1), a person must use one of the applicable methods in section 7 (Method 1, Method 2 or Method 3), where the person has aggregated clearances of excisable CNG of 150,000 kilograms or more during an accounting period, or where the measurement equipment used at the time the excisable CNG is delivered for home consumption is capable of distinguishing quantities of excisable CNG from non-excisable CNG and natural gas.

14. Method 1, outlined in subsection 7(1), applies if a person uses measuring equipment that can measure the quantity of excisable CNG directly in kilograms. Where this condition is met, Method 1 is the only method that may be used, and excise duty is payable on the quantity of excisable CNG measured in kilograms.

15. Method 2, outlined in subsection 7(2), applies where a person measures a quantity of excisable CNG in megajoules at the time it is delivered for home consumption. The mass of that quantity must be determined by converting the measured energy content into kilograms. This conversion may be undertaken by applying the conversion rate prescribed in subsection 24(3) of the *Excise Regulation 2015*, or by using an appropriate conversion factor calculated by reference to the mole fraction composition of the gas.

16. CNG consists of a mixture of gases, primarily methane, with smaller amounts of other components. The mass of CNG can be determined by taking account of its composition, as the proportion of each component gas (known as the mole fraction) and the known molecular weights of those components can be used to calculate an average molecular weight for the CNG. This allows a measured quantity of CNG, whether measured by energy content or by volume, to be converted into a total mass in kilograms, consistent with Australian Standard AS ISO 6976:2016. To simplify compliance and reduce costs for manufacturers, subsection 24(3) of the *Excise Regulation 2015* provides an average conversion rate based on the range of natural gas compositions commonly available in Australia. This conversion rate is available for all CNG manufacturers to use and avoids the need to determine the specific mole fraction of the gas, which involves more technically complex calculations and requires specialised measurement and analytical capabilities. While the mole fraction method remains available, it is expected to be used primarily by gas industry participants who already undertake detailed gas composition analysis as part of their routine processes to determine the components and energy content of individual gas streams.

17. Method 3, outlined in subsection 7(3), applies where a person measures a quantity of excisable CNG by volume, in cubic metres, at the time it is delivered for home consumption. The mass of that quantity must be determined by converting the measured volume into kilograms using one of two methods statements.

18. Under method statement A, the measured volume in cubic metres is converted into megajoules using relevant values and factors and then converted into kilograms by applying the conversion rate specified in subsection 24(3) of the *Excise Regulation 2015*.

19. 'Relevant values and factors', as defined in the instrument, refers to the information provided by the gas supplier, as set out in an invoice for the supply of the natural gas to the premises where the excisable CNG is manufactured. These values and factors describe the energy content of the gas and any necessary pressure adjustments. They may be expressed either as specific heating

value and pressure correction factors applying to the supply, or as average heating value and average pressure correction factors over the relevant period. This information can be used to determine the energy value of quantities of natural gas measured using volumetric measurement equipment.

20. Method statement A provides a straightforward approach for CNG manufacturers who rely solely on basic volumetric metering equipment to determine the mass of excisable CNG entered for home consumption. It allows manufacturers to use information that is already available to them, without requiring replacement of existing equipment or undertaking extensive testing or analysis.

21. Under method statement B, the volume measured in cubic metres is adjusted to reflect what that volume would be under standard reference conditions and then converted into kilograms by applying an appropriate conversion factor based on the mole fraction composition of the gas.

22. The conversion of volumes of CNG to standard reference conditions is consistent with Australian Standard AS ISO 13443-2007, which establishes uniform reference conditions of temperature, pressure and humidity for the measurement of natural gas. Standard reference conditions provide a common basis for comparing gas volumes and ensure that variations arising from ambient measurement conditions do not affect subsequent calculations. Converting volumes to these standard conditions enables the gas composition to be applied reliably when calculating mole fraction and, in turn, mass.

23. Method statement B is available for use by all CNG manufacturers, however, as with Method 2 described above, it involves more technically complex calculations and requires specialised measurement and analytical capabilities. It is expected that this method will generally be used by gas industry participants who already undertake gas composition and reference-condition adjustments as part of their routine operations.

Aggregated clearances of less than 150,000 kilograms

24. Under subsection 6(2), a person must use Method 4 (outlined in section 8) where the person has aggregated clearances of excisable CNG of less than 150,000 kilograms during an accounting period, and where the equipment used cannot directly measure the excisable CNG at the time it is delivered for home consumption.

25. At lower clearance levels, the amount of excise payable will be relatively small, and requiring manufacturers to install or upgrade specialised measuring equipment would impose a disproportionate compliance burden. Method 4, therefore, provides a more practical alternative for determining excisable quantities using a reliable measurement.

26. Reliable measurement, as defined in the instrument, means a consistent and reliable means of indirectly measuring quantities of excisable CNG and may include, but is not limited to, the use of gas flow-metering equipment, vehicle odometer readings, known route distances for vehicles operating on fixed routes, kilowatt hours of electricity generated, hours of operation of a vehicle or equipment, or average hourly fuel consumption rates. These measures enable manufacturers to work out excisable quantities in a reasonable and administratively efficient manner where direct measurement is not practicable. Under Method 4, each quantity of excisable CNG delivered during the settlement period is determined using a reliable measurement, converted into kilograms using a reasonable and appropriate method of conversion, and then aggregated to determine the total mass of excisable CNG for that period.

One Method per accounting period

27. Subsection 6(3) provides that a person must use only one method for the duration of their accounting period. However, subsection 6(3) also allows the CEO to override subsections 6(1) and 6(2) and authorise a person to use any of the methods in the instrument for an accounting period even where those subsections would otherwise limit the methods that the person can use.

28. ‘Accounting period’ is the 12-month period a person adopts for income tax purposes under section 18 of the *Income Tax Assessment Act 1936*, or another period that the CEO authorises in writing. While accounting period is used in regard to what Methods are used, excise duty on CNG is paid in the usual way in regard to each entity’s settlement period for excise purposes. Given ‘settlement periods’ for excise purposes can be as short as one week, ‘accounting period’ is used in regard to Methods in this instrument to ensure consistency in the Method used.

Example 1 – use of Method 1

A CNG manufacturer compresses natural gas into CNG at its own facility and delivers the CNG to the customer’s premises by truck. At the customer’s site, the CNG is transferred from the delivery vehicle into the customer’s storage vessel using a computer-controlled pumping and metering system, which measures the quantity of CNG delivered in kilograms and records that quantity in the customer’s account.

The customer accounts also record whether the CNG delivered is for use in transport or non-transport. At the end of the settlement period, the total quantity of CNG delivered for transport use (that is, excisable CNG) is measured as 50,000 kilograms.

As the quantity of CNG delivered for home consumption is measured in kilograms at the time of delivery, the applicable method is Method 1. Excise duty at the applicable tariff rate is therefore calculated on 50,000 kilograms of excisable CNG delivered into home consumption.

Example 2 – use of Method 2

Clean Air Bus Services (CABS) is an excise licensed CNG manufacturer that compresses natural gas into CNG at its own premises and stores the CNG on site in large steel tanks which they use to fuel their CNG bus fleet. CABS receives natural gas from a gas supplier via a dedicated metered gas line connected directly to their compressor unit and receive monthly invoices from their gas supplier detailing the amount of gas delivered measured in megajoules. CABS most recent monthly invoice shows 2,641,310 megajoules of natural gas was supplied, all of which was compressed by the company for use in their bus fleet. As the CNG is measured in megajoules, the applicable method is Method 2. CABS works out the mass of CNG by applying the conversion factor 0.01893 as stipulated in the Excise Regulation 2015 for every megajoule of CNG, which results in a mass of 50,000 kilograms. Excise duty at the applicable tariff rate is then calculated on the 50,000 kilograms.

Alternatively, under method 2, CABS could have elected to apply the specific conversion factor by determining the composition of the gas by mole fraction.

Example 3 – use of Method 3

On-time Delivery Service (ODS) is a small business entity contracted to deliver parcels within the CBD. ODS takes natural gas from the standard gas distribution network and compresses it on site to convert it to CNG for use in its delivery van. Accordingly, ODS holds an excise licence authorising the manufacture of CNG. The gas is connected directly to a compressor unit and is sourced from the local gas distributor via a volumetric meter installed on the mains gas line, which measures gas consumption in cubic metres.

As the quantity of CNG is measured in cubic metres, Method 3 is the applicable calculation method.

ODS is billed quarterly by the distributor, with each bill specifying the total volume of gas consumed, the monthly average correction factor applied (1.0109), and the heating value of the gas supplied (38.44 megajoules per cubic metre). At the end of the quarterly settlement period, ODS calculates the total quantity of excisable CNG as 67,972 cubic metres.

Accordingly, the calculation of the mass of excisable CNG delivered into home consumption is performed as follows:

(i) the Energy value (E) is calculated by multiplying the volume used by the monthly average correction factor and heating value supplied by the gas distributor (that is, E = 67,972 m^3 × 1.0109 × 38.44 MJ/m^3 = 2,641,324 MJ), and then

(ii) the conversion factor stipulated in the Excise Regulation 2015 is applied (that is, M = 2,641,324 MJ × 0.01893 Kg/MJ = 50,000 Kg).

Excise duty at the applicable tariff rate is then calculated on the 50,000 kilograms.

Example 4 – use of Method 4

Terrific Taste (TT) operates an industrial bakery in the western suburbs. TT hold an excise licence to operate a compression plant at its premises that manufactures excisable CNG for use in delivery trucks and non-excisable CNG for use in its forklifts.TT have aggregated clearances of excisable CNG of less than 150,000 kilograms. The main natural gas meter supplying the compression plant also supplies gas for other non-excisable purposes, including heating bread ovens and providing heating, cooking and hot water to office areas. The compressor itself is not fitted with metering equipment. As TT have aggregated clearances less than 150,000 kilograms and the gas meter does not differentiate between quantities of natural gas used to manufacture excisable CNG and quantities used for other purposes, TT must apply Method 4.

Under Method 4, TT elects to calculate the quantity of excisable CNG based on vehicle usage data, including odometer readings and the manufacturer's specifications for vehicle fuel efficiency.

According to the manufacturer's specifications, the bakery's bread delivery van consumes 25 cubic metres of natural gas (at standard temperature and pressure) per 100 kilometres travelled. The odometer reading is recorded at the beginning and end of the settlement period, and the starting reading is subtracted from the ending reading to determine the total distance travelled. Based on these readings, the delivery van travelled 854 kilometres during the settlement period.

Applying the manufacturer's fuel consumption rate, the total quantity of natural gas consumed by the delivery vehicle is calculated as 213.5 cubic metres (25 m^3 × (854 km ÷ 100 km)). TT then converts this volume to megajoules by applying the heating value specified on its most recent natural gas tax invoice. The resulting megajoule amount is subsequently converted to kilograms using the conversion rate specified in the Excise Regulation 2015.

The calculation is as follows:

(i) The volume of gas consumed by the delivery van is 213.5 m^3 (that is, 25m^3 × 854km ÷ 100km).

(ii) The heating value of the most recent invoice for natural gas is 38.44 MJ/m^3.

(iii) The energy value of the natural gas consumed by the truck is 8206.94 MJ (that is, 213.5m^3 × 38.44 MJ/m^3).

(iv) Therefore, the mass of natural gas consumed by the truck is 155.36 kilograms (that is, 8206.94 MJ x 0.01893 Kg/MJ).

The company similarly calculates the mass of CNG consumed by each of the other delivery trucks in their fleet to determine the total quantity of excisable CNG that has been delivered for home consumption during the settlement period for the purposes of working out the amount of excise duty payable.

Example 5 – use of Method 4

Feguson's Fertiliser Company (FFC) manufactures fertiliser by converting natural gas into ammonia and urea. FFC has an excise manufacturer licence for the compression plant at their site to manufacture CNG for use in trucks that deliver this fertiliser directly to local customers or to a central storage and distribution warehouse. The natural gas compressor has no metering equipment and the aggregated clearances of excisable CNG is less than 150,000 kilograms.

The natural gas is supplied to FFC from an adjacent petroleum refinery that meters the amount of gas supplied and invoices the FFC weekly in gigajoules. FFC does not use the natural gas for any purpose other than producing fertiliser or compressing for fuelling their delivery trucks.

The fertiliser manufacturing process is a computer-controlled system which accurately measures and records in kilograms the amount of natural gas added to the reactors to produce ammonia and urea. As a result FFC elects to subtract the quantity of natural gas used in the manufacturing process from the total quantity of gas supplied to them by the refinery (using the rate specified in the Excise Regulation 2015 to convert the megajoule value to kilograms) in order to determine the amount of gas that was compressed and manufactured into excisable CNG. For example:

(i) The weekly invoice to the fertiliser company shows natural gas with an energy value of 15,546.751 gigajoules was supplied. Using the rate specified in the Excise Regulation 2015 to convert the megajoule value to kilograms this equates to 294,300 kilograms (that is, M = 15,546,751 MJ × 0.01893 Kg/MJ = 294,300 Kg).

(ii) The amount of gas that was supplied to the reactor for conversion to ammonia and urea was measured by a gas mass flow meter and recorded as being 291,800 kilograms.

(iii) By subtracting the amount of gas used in the production of ammonia and urea from the total amount of natural gas supplied the amount of excisable CNG is calculated to be 2,500 kilograms (that is, M = 294,300 Kg − 291,800 Kg = 2,500 Kg).

Excise duty is then payable on the 2,500 kilograms of excisable CNG.

Compliance cost assessment

29. To be advised.

Consultation

30. Subsection 17(1) of the *Legislation Act 2003* requires the Commissioner to be satisfied that appropriate and reasonably practicable consultation has been undertaken before they make a legislative instrument.

31. As part of the consultation process, you are invited to comment on the draft instrument and its accompanying draft explanatory statement.

Please forward your comments to the contact officer by the due date.

Due date:	5 June 2026
Contact officer:	Anthony Barnard
Email:	Anthony.Barnard@ato.gov.au
Phone:	**03 9285 1974**

Statement of compatibility with human rights

Prepared in accordance with Part 3 of the *Human Rights (Parliamentary Scrutiny) Act 2011*

Excise (Mass of CNG) Determination 2026

This legislative instrument is compatible with the human rights and freedoms recognised or declared in the international instruments listed in section 3 of the *Human Rights (Parliamentary Scrutiny) Act 2011.*

Overview of the legislative instrument

Excise duty is generally payable on compressed natural gas (CNG) sold in Australia if the CNG is used for an excisable purpose, such as for transport. This instrument sets out rules for working out the mass of CNG that is subject to excise duty. This mass will be used to calculate the amount of excise duty payable.

Human rights implications

This legislative instrument does not engage any of the applicable rights or freedoms as it merely provides rules for working out the mass of CNG. It will provide greater certainty to taxpayers on methods that they can use to consistently and reliably work out the mass of CNG for excise purposes.

Conclusion

This legislative instrument is compatible with human rights as it does not raise any human rights issues.