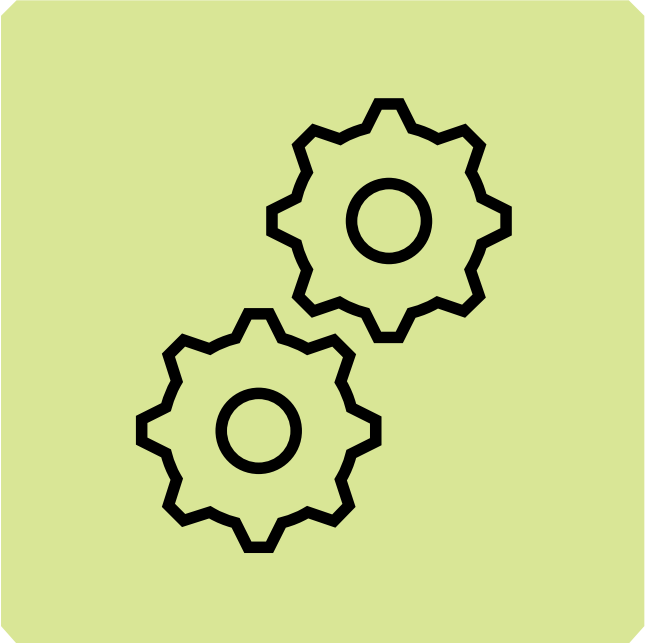
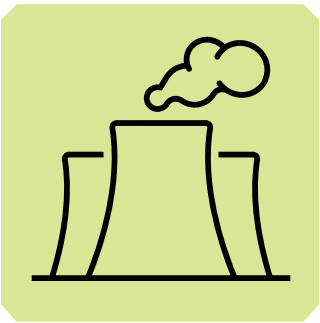
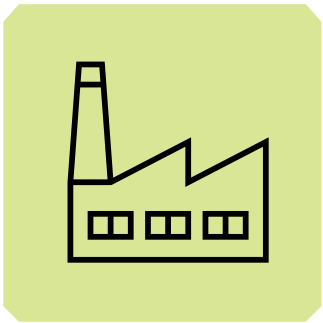
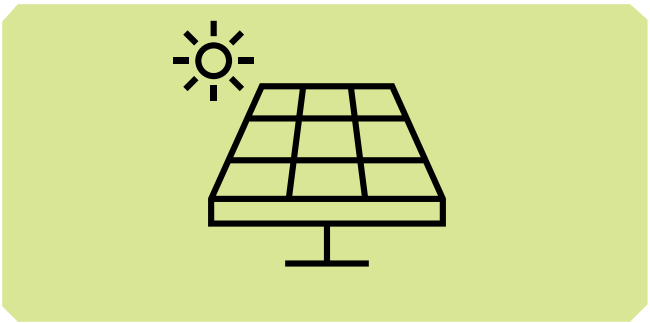
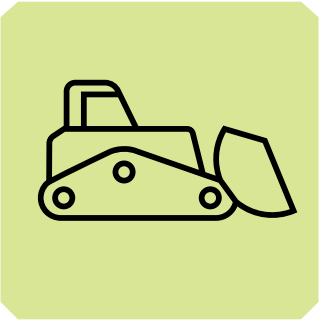
Australian Government
Clean Energy Regulator



Reporting blended fuels, other fuel mixes, bitumen and explosives guideline

July 2026

National Greenhouse and Energy Reporting

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Definitions and Abbreviations

Term	Meaning
NGER	National Greenhouse and Energy Reporting
NGER Act	*National Greenhouse and Energy Reporting Act 2007*
NGER legislation	NGER Act, NGER Measurement Determination and NGER Regulations
NGER Measurement Determination	National Greenhouse and Energy Reporting (Measurement) Determination 2008
NGER Regulations	National Greenhouse and Energy Reporting Regulations 2008
L	Litres
t	Tonnes
Reporter	An entity required to report emissions and energy production and consumption to the Clean Energy Regulator under section 19, 22G, or 22X of the NGER Act

Terms in NGER legislation may have specific meanings within the law. These key words and phrases are normally identified under a heading such as Definitions, Interpretation or Dictionary or in other parts of the document.

For more information on interpreting legislation see Federal Register of Legislation - Understanding Legislation[1].

[1] https://www.legislation.gov.au/help-and-resources/understanding-legislation/reading-legislation

Disclaimer

This guideline has been developed by the Clean Energy Regulator (CER) to assist entities to comply with their reporting obligations under the *National Greenhouse and Energy Reporting Act 2007*[2] (NGER Act) and associated legislation.

This guideline only applies to the 2025-26 NGER reporting year and should be read in conjunction with the NGER Act, National Greenhouse and Energy Regulations 2008[3] (NGER Regulations), and National Greenhouse and Energy Reporting (Measurement) Determination 2008[4] (NGER Measurement Determination), as in force for this reporting period. These laws and their interpretation are subject to change, which may affect the accuracy of the information contained in the guideline.

The guidance provided in this document is not exhaustive, nor does it consider all circumstances applicable to all entities. This guidance is not intended to comprehensively deal with its subject area, and it is not a substitute for independent legal advice. Although entities are not bound to follow the guidance provided in this document, they must ensure they meet their obligations under the National Greenhouse and Energy Reporting (NGER) Scheme[5] at all times. The CER encourages all users of this guidance to seek independent legal advice before taking any action or decision on the basis of this guidance.

The CER and the Commonwealth of Australia will not be liable for any loss or damage from any cause (including negligence) whether arising directly, incidentally, or as consequential loss, out of or in connection with, any use of this guideline or reliance on it, for any purpose.

If an entity chooses to meet their obligations under the NGER Scheme in a manner that is inconsistent with the guidance provided in this document, the CER, or an independent auditor, may require the entity to demonstrate that they are compliant with requirements of the NGER Act, NGER Regulations, and/or the NGER Measurement Determination. Entities are responsible for determining their obligations under the law and for applying the law to their individual circumstances.

[2] https://www.legislation.gov.au/Series/C2007A00175
[3] https://www.legislation.gov.au/Series/F2008L02230
[4] https://www.legislation.gov.au/Series/F2008L02309
[5] https://cer.gov.au/schemes/national-greenhouse-and-energy-reporting-scheme

2025-26 updates

Changes in this document for the 2025-26 reporting year:

- Chapter 2.1.3: New market-based method for blended fuels received from a natural gas network.
- Chapter 2.5: Updates to information on biomethane to make the CER's position clearer regaring its formation and reporting as a blended fuel.
- Chapter 2.6: Hydrogen is now a fuel, and information on hydrogen and blended fuels has been updated accordingly.
- Chapter 2.8: Incorporated information previously listed within the 'Quick help topics' document on simulated natural gas.
- Minor stylistic and formatting changes have also been made through this guidance document.

Read about the changes to the NGER legislation for the 2025-26 reporting period[6].

1. Blended fuels and other fuel mixes

This document describes the requirements for reporting the production and the consumption of blended fuels and fuel mixes at a facility. See Defining a facility for National Greenhouse and Energy Reporting[7] for guidance on what constitutes a facility.

When reporting energy production and consumption data, only those fuels and energy commodities for which there are applicable methods in the NGER Measurement Determination and that are listed in Schedule 1 of the NGER Regulations should be reported.

The requirements for reporting blended fuels and fuel mixes will depend on the:

- ingredients (fuels) in the blend or mix
- product created by the blending or mixing
- end use of the blended fuel or fuel mix.

The lifecycle of blended fuels and fuel mixes may take place across facility boundaries. Reporters will need to determine which reporting requirements are relevant to their specific circumstances.

[6] https://cer.gov.au/schemes/national-greenhouse-and-energy-reporting-scheme/report-emissions-and-energy/amendments
[7] https://cer.gov.au/document_page/defining-facility-national-greenhouse-and-energy-reporting

1.1. What is a blended fuel?

Under NGER, a 'blended fuel' is a fuel that is composed of a fossil fuel and:

- a biogenic carbon fuel, or
- hydrogen, or
- a mixture of a biogenic carbon fuel *and* hydrogen.

For example, E10 fuel is a blend of gasoline (fossil fuel) and ethanol (biogenic carbon fuel).

'Biogenic carbon fuel' is energy that is:

- derived from plant and animal material, such as wood from forests, residues from agriculture and forestry processes, and industrial, human or animal wastes
- not embedded in the earth, like coal, oil, or natural gas.

Examples of biogenic carbon fuels under the NGER legislation are listed at items 10 to 16, 28 to 30, and 52 to 54 in Schedule 1 of the NGER Regulations.

The NGER legislation does not define fossil fuels. However, taking the ordinary meaning of the term, a fossil fuel is a carbon-based fuel from fossil hydrocarbon deposits, including coal, oil and natural gas. It includes any subsequent fuels derived from those deposits.

1.2. Other fuel mixes

Under certain circumstances, other mixes of fuels that fall outside the NGER definition of a 'blended fuel' must also be reported. For example, this may include a fuel made from mixing 2 different fossil fuels together.

In general, the production and consumption of all fuels listed in the NGER legislation must be reported separately, including when consumed as a mixed fuel. Where a corporation is unsure how to report a fuel mix, they should contact the CER[8].

2. Reporting blended and mixed fuels

2.1. Consumption of blended fuels which are not listed fuels

In general, if a reporter consumes blended fuels, they are required to report consumption of the blended fuel's individual components. The end use of a blended fuel will determine whether a corporation will need to report the component fuels as consumed with or without combustion.

[8] https://cer.gov.au/about-us/contact-us

Example 1 – lifecycle reporting of a blended fuel

Facility 1 (refining) – Facility 1 produces both gasoline and ethanol which is transported to Facility 2. Facility 1 is required to report Energy Production for the quantities of ethanol and gasoline produced at the facility.

Facility 2 (blending) – Facility 2 receives the ethanol and gasoline from Facility 1. Facility 2 blends the ethanol (biogenic carbon fuel) with the gasoline (fossil fuel) together to produce E10 consisting of 7% ethanol and 93% gasoline. Facility 2 sells 10,000 litres (L) of its E10 to Facility 3.

As E10 is not a fuel listed in Schedule 1 of the NGER Regulations, the 'consumption' of ethanol and gasoline to make the blend and production of E10 blend is not required to be reported by Facility 2 as no new fuel type has been created. Gasoline and ethanol are still present in the E10 blend.

Facility 3 (final consumption – combustion) – Facility 3 acquires 10,000 L of E10 from Facility 2 for use in its fleet vehicles. When consumed, Facility 3 is required to report the final Energy Consumption (fuel combustion). Facility 3 uses the manufacturer's specifications (Facility 2) to determine quantities of each fuel within the blended fuel. The total 10,000 L of E10 will consist of 700 L of ethanol (7%) and 9,300 L of gasoline (93%).

As Facility 3 consumed the E10 to fuel fleet cars, the fuel is combusted for transport energy purposes.

As both ethanol and gasoline are listed fuels in Schedule 1 of the NGER Regulations, Facility 3 must report the consumption of these fuels:

- ethanol (item 53 of Schedule 1 of the NGER Regulations –'ethanol for use in an internal combustion engine') as consumed with combustion
- gasoline (item 35 of Schedule 1 of the NGER Regulations – 'gasoline (other than for use as fuel in an aircraft)') as consumed with combustion.

When reporting in the Emissions and Energy Reporting System, the box specifying "Is the fuel combusted in this activity part of a blend?" needs to be checked for each of the two fuel combustion activities. Additional data must then be provided as 'matters to be identified'. Read chapter 2.1.4 of this guideline for information.

2.1.1. Estimating the composition of purchased blended fuels

Part 2.6 of the NGER Measurement Determination sets out the ways in which reporters can determine the amounts of each kind of fuel that are in blended solid, liquid, and gaseous fuels.

For blended solid fuels, reporters are able to adopt the outcome of:

- sampling and analysis undertaken by the manufacturer, or
- their own sampling and analysis.

For blended liquid fuels, reporters are able to use either:

- the determination of the manufacturer of each fuel in the blend
- their own sampling and analysis (where fuel has not been drawn from shared infrastructure).

For blended gaseous fuels received from a natural gas network into which renewable gas has been injected, reporters must use renewable gas certificates.

For blended gaseous fuels **not** received from a natural gas network into which renewable gas has been injected, reporters may either:

- adopt the determination by the producer of the fuel or the operator that supplies the fuel
- use their own sampling and analysis.

> Please note that the NGER Measurement Determination describes how sampling of these blended fuels must be undertaken:
>
> - for solid blended fuels, sampling must be undertaken in accordance with subsections 2.12(3) and (4), and the analysis must be performed in accordance with one of the prescribed standards in paragraph 2.66(1)(b)
> - for liquid blended fuels not drawn from shared infrastructure, sampling must be undertaken in accordance with subsections 2.47(3) and (4), and the analysis must be performed in accordance with one of the prescribed standards in paragraph 2.67(b)
> - for gaseous blended fuels not received from a natural gas network, sampling must be undertaken in accordance with subsections 2.26(3) and (4), and the analysis must be performed in accordance with one of the prescribed standards in subparagraph 2.67A(b)(ii).

2.1.2. Market-based approach for renewable liquid fuel in shared infrastructure

Section 2.67B of the NGER Measurement Determination outlines a market-based approach for determining the amount of renewable liquid fuel in a blended fuel that was supplied through shared infrastructure.

Shared infrastructure is defined within Section 1.8 of the NGER Measurement Determination as a fuel supply infrastructure from which fuel may be drawn by multiple facilities.

In order to use section 2.67B, reporters are not required to determine the amounts of each type of fuel in the blended fuel. Instead, reporters are required to:

- retain and provide invoices from vendors showing the purchase of the reported renewable liquid fuel, and purchase of the total blended fuel that was combusted
- obtain written evidence from the vendor or responsible party that confirms delivery of the renewable liquid fuel into the shared infrastructure on behalf of a named facility
- secure a certificate or declaration from the vendor proving the renewable liquid fuel is derived from biomass
- ensure the reported amount of renewable liquid fuel combusted does not exceed the total amount of blended fuel drawn from the shared infrastructure.

When reporting combustion of renewable liquid fuel under subsection 2.67B(2), a reporter must separately report the combustion of the relevant quantity of fossil fuel. If no renewable liquid fuel is reported as combusted under subsection 2.67B(2), or the specified evidence was not available, all blended fuel drawn from shared infrastructure must be reported as fossil fuel.

2.1.3. Market-based approach for renewable gas received from a natural gas network

Section 2.67C of the NGER Measurement Determination outlines a market-based approach for determining the amount of renewable gas in gaseous fuels that were supplied through a natural gas network.

For section 2.67C, natural gas network is defined within subsection 2.67C(6) as a natural gas transmission pipeline or natural gas distribution pipeline.

> **This methodology for determining the quantities of gases in a blended gaseous fuel can only be used for gaseous fuels that are drawn from a natural gas network.**

To determine what portion of the fuel received from a natural gas network is a renewable gas, reporters will need to utilise eligible Renewable Gas Certificates (RGCs), adjusted by a loss factor. The loss factor represents losses of renewable gas through the natural gas network and its value will depend on whether the renewable gas is biomethane or hydrogen.

The eligible RGCs can either be Renewable Gas Guarantee of Origin certificates (RGGOs) issued under the GreenPower Renewable Gas Certification scheme, or a Product Guarantee of Origin (PGO) certificate for renewable gas registered under the *Future Made in Australia (Guarantee of Origin) Act 2024*.

- Eligible RGCs must represent renewable gas that could reasonably pass from the point of injection to the facility via the natural gas network.
  - The CER considers the requirement under paragraph 2.67C(5)(e) to mean that the point of injection and point at which the facility receives natural gas are within the same natural gas network. There is no need to consider whether the injection point is upstream of the general flow of gas in this test.
- The RGCs must be retired, or completed by or on behalf of the reporter, anytime between the start of the applicable reporting year, and the date of submission of the report for that reporting year.
- The RGCs must represent renewable gas which was injected no earlier than 2 years before the end of the reporting year.
- An RGC representing a biomethane displacement ACCU must not have been surrendered in accordance with section 22XN of the NGER Act.
- For a PGO certificate, the PGO must specify that the renewable gas was consumed at the facility, or at a location which constitutes part of the facility.
- For a RGGO certificate, the Beneficiary on the Retirement Statement for the RGGO, must be either:
  - the facility
  - the person with operational control of the facility
  - an entity that constitutes a part of the facility.

2.1.4. Matters to be identified

When reporting the consumption of blended fuels under NGER, certain information must be included. These matters to be identified (MTBIs) will appear within the Emissions and Energy Reporting System (EERS).

The MTBIs require identification of:

- the section within Part 2.6 of the NGER Measurement Determination used to estimate the quantities of each kind of fuel which was contained within the blended fuel
- the total quantity of the blended fuel consumed, in the relevant units (tonnes, cubic metres, or kilolitres) at standard conditions
- the total quantity of each type of fuel within the blended fuel, in relevant units (tonnes, cubic metres, or kilolitres) at standard conditions.

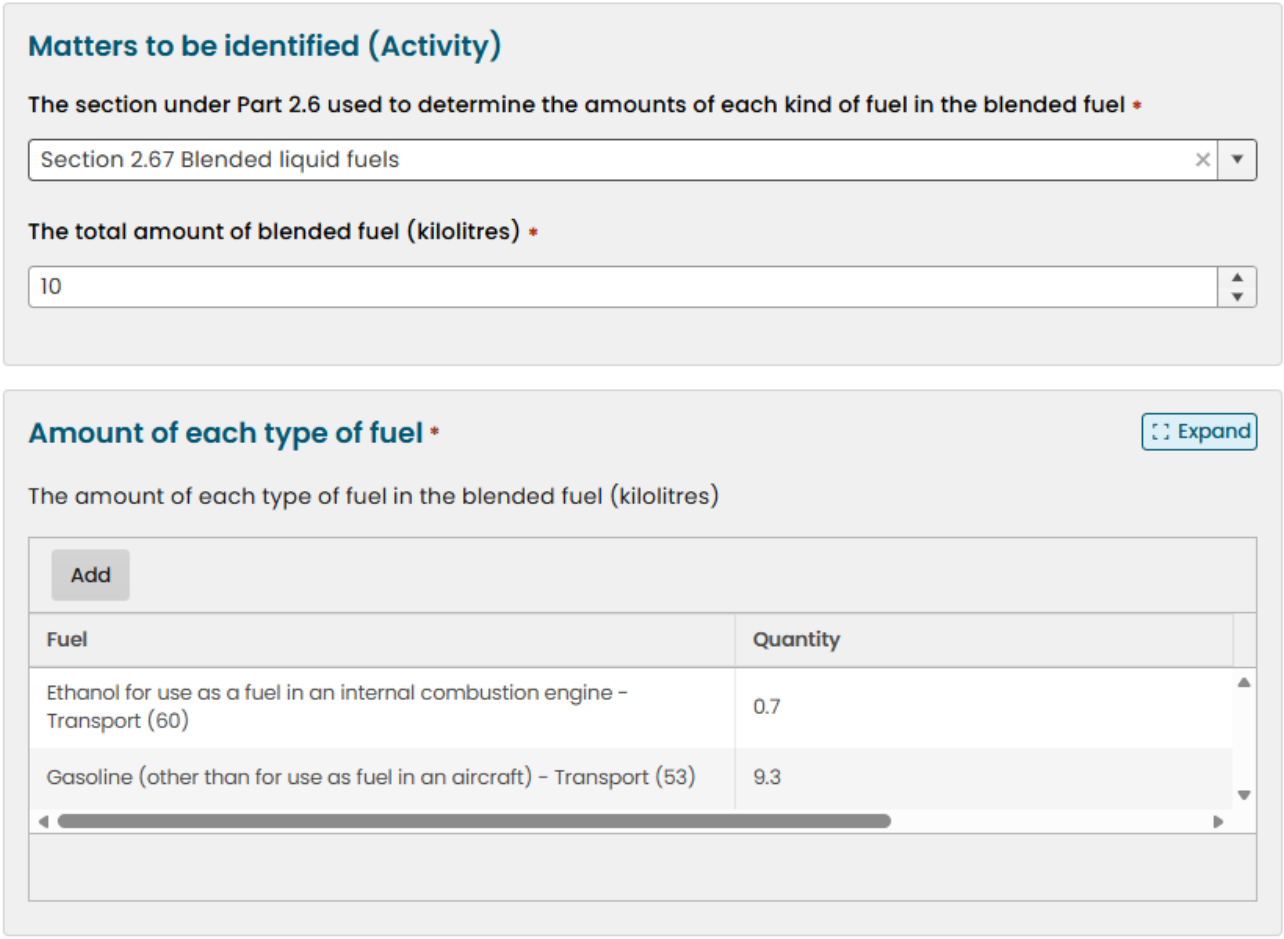
> **Note: Quantities reported for these MTBIs should be based on the total consumption of the blended fuel over the entire reporting year.**

If section 2.67C was used to determine the quantity of each fuel in the blended fuel you need to provide:

- for PGOs:
  - the unique certificate identifier/s of each PGO
  - the quantity (in GJ) of each renewable gas represented by those PGOs
- for RGGOs:
  - the RGGO renewable gas type
  - the unique RGGO certificate identifier/s
  - the Retirement Statement code that covers the RGGOs
  - the total quantity (in GJ) of each renewable gas represented by those RGGOs.

Continuing on from Example 1 in chapter 2.1 above, Facility 3 would be required to check a box specifying "Is the fuel combusted in this activity part of a blend?" for both their ethanol and gasoline consumption activities. Then, for each activity, they would enter the following MTBIs in EERS:

Table 1: Summary of MTBI entries in EERS for Facility 3 from Example 1



When selecting the fuel type in EERS, the item numbers correspond to Schedule 1 of the NGER Measurement Determination. For ethanol and gasoline, the reporter can choose from more than one fuel, each representing a different emissions profile when the fuel is combusted in a different class of engine.

In Example 1, the following fuels are available:

- For ethanol for use in an internal combustion engine:
  - » item 60 and item 67 of the NGER Measurement Determination. Both correspond to item 53 of Schedule 1 of the NGER Regulations - 'ethanol for use in an internal combustion engine'.
- For gasoline (other than for use as fuel in an aircraft):
  - » item 53 and item 64 of the NGER Measurement Determination. Both correspond to item 35 of Schedule 1 of the NGER Regulations – 'gasoline (other than for use as fuel in an aircraft)'.

2.2. Reporting of biomethane and biomethane blended fuels

Biomethane is defined in the NGER Regulations as a high-methane content gas that is produced by biogas upgrading and is suitable for use as a natural gas substitute. Biogas is defined as a gaseous fuel derived or recovered from biomass. In NGER the biogases used for biogas upgrading are listed in Schedule 1 of the NGER Regulations as:

- Item 28 - Landfill biogas that is captured for combustion,
- Item 29 - Sludge biogas that is captured for combustion,, and
- Item 30 - A biogas that is captured for combustion, other than those mentioned in items 28 to 29A.

Any process that could be considered as refining or stripping of impurities is included in the definition of biogas upgrading in the NGER Regulations. The most common biogas upgrading processes are pre-treatment compression, drying and post-treatment processing or compression.

2.2.1. Energy production and consumption

When biogas upgrading takes place:

- the quantity of the feedstock biogas that was fed into the biogas upgrading process must be reported as energy consumed (without combustion)
- the quantity of biomethane produced from the biogas upgrading process must be reported as energy produced.

2.2.2. Combustion

Reporting use of biomethane for electricity production typically includes reporting the following activities:

- Emissions released from fuel use by certain industries (including electricity generation) (fuel combustion) reported as the activity 'Fuel combustion – gaseous fuels', and the fuel type of 'biomethane'.
- The quantities of electricity produced for different purposes (For example, for use onsite and exported across the facility boundary)[9] must be reported as activity 'Electricity produced (biogas generation)'.

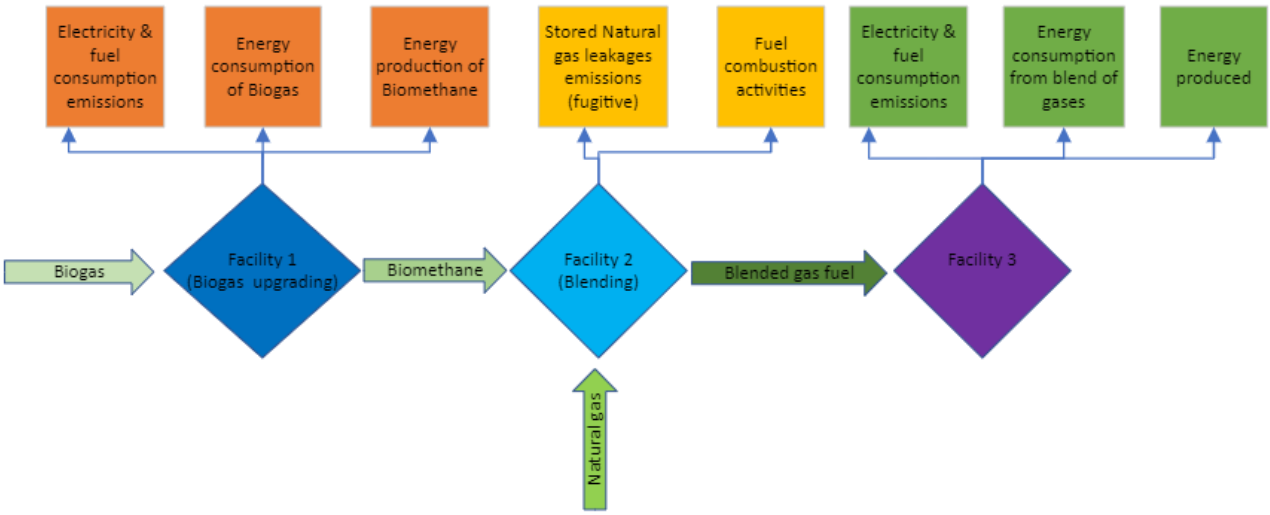
If biomethane was transported via a natural gas network, it must be considered as natural gas transmitted or distributed in a pipeline when consumed, unless RGCs have been used to determine the quantity of biomethane contained. See Section 2.1.3 of this guideline for more information.

2.2.3. Fugitive emissions

For fugitive emissions purposes, biomethane that is contained within, or was transported through, a natural gas network must be considered as 'natural gas transmitted or distributed in a pipeline'. This does not apply where RGCs have been used to determine the quantity of biomethane contained. See Section 2.1.3 of this guideline for more information.

[9] Where energy produced onsite was also consumed onsite, EERS will automatically create an activity 'Total electricity consumed onsite that was produced for use onsite'.

Figure 1 Summary of processes usually involved in production of biomethane and NGER reporting requirements.



2.2.4. Case Scenario

In Figure 1, Facility 1 receives biogas from waste or landfill facilities either by transport or by forced injection through a pipeline. The facility processes the biogas through any operations consistent with NGER Regulations for 'biogas upgrading' to create a 'biomethane' gas.

- Energy consumption of biogas that is upgraded to biomethane is to be reported as consumed without combustion.
- Energy associated with the biomethane produced needs to be reported as 'energy content of fuel produced'.
- Where the produced biomethane is consumed, the following need to be reported:
  - » A fuel combustion activity (electricity production).
  - » Emissions released from fuel use by certain industries (including electricity generation).
  - » Energy production activities similar to reporting for landfill biogas.
- Emissions released from combustion of gaseous fuel (biomethane) may also need to be reported if the consumption is for stationary or transport energy purposes – excluding electricity generation.

The biomethane may then be injected into the pipeline or stored.

Facility 2 receives the biomethane from Facility 1. Facility 2 mixes the biomethane (a biofuel) with natural gas (a fossil fuel) to form a blended fuel (as defined in the NGER Measurement Determination). The blended gas is then injected into the pipeline for use in Facility 3.

> **Note:** Facility 2 is not required to report any energy production/consumption associated with making a blend.

Facility 3 acquires the blended fuel from Facility 2 to run their operations. Facility 3 is required to report the final energy consumption (by fuel combustion). As the blended fuel was sent directly from Facility 2 to

Facility 3, the quantity of biomethane and natural gas contained within the blend must be determined as per section 2.67A of the NGER Determination.

Facility 3 can either adopt the determination of the amounts of the producer of the fuel, or operator of the pipeline that supplied the fuel, or perform a sampling as per subsections 2.26(3) and (4) of the NGER Determination, with analysis performed in accordance with ASTM D6866-20 (or equivalent).

The quantity of each fuel that is present, listed in Schedule 1 of the NGER Regulations, and consumed though combustion is determined by:

- analysing each fuel according to a standard (or equivalent) listed in subsections 2.26(3) and (4) of the NGER Measurement Determination, or
- the manufacturer or supplier of the fuel.

2.3. Reporting a blend of gaseous fuels and hydrogen

Hydrogen is listed as a fuel under Item 30A of Schedule 1 of the NGER Regulations. It must be reported in the same fashion as other gaseous fuels. It can be blended with other gaseous fuels (both fossil and biogenic carbon) and considered a blended fuel. If the blended fuel is created by, or directly supplied to a reporter, the quantities of each fuel type contained must be determined as per section 2.67A of the NGER Determination.

If the blended fuel was supplied through a natural gas network, only section 2.67C of the NGER Determination can be used to determine the quantity of hydrogen contained. See Section 2.1.3 of this guideline for more information.

> Note: Hydrogen may be naturally occurring in some gaseous fuels. This naturally occurring hydrogen does not make it a blended fuel, and the naturally occurring hydrogen should be considered as part of the original gaseous fuel.

2.4. Blending or mixing fuels to produce a new fuel

If different NGER fuels are blended or mixed to form another fuel that is listed in Shedule 1 of the NGER Regulations, reporters need to report the:

- production of the ingredient fuels which are listed in Shedule 1 of the NGER Regulations (if they are produced at the facility) as per the requirements listed within Part 6.1 of the NGER Determination
- consumption of the ingredient fuels (without combustion) which are listed in Schedule 1 of the NGER Regulations as per the requirements listed within Part 6.2 of the NGER Determination
- production of the new fuel which is listed in Shedule 1 of the NGER Regulations if it is produced at the facility as per the requirements listed within Part 6.1 of the NGER Determination.

See the CER's Reporting energy production and consumption guildline[10] for more information on reporting energy production and consumption.

[10] https://cer.gov.au/document_page/reporting-energy-production-and-consumption-guideline

2.5. Consumption of blended or mixed fuels which are listed

Consumption of the new blended or mixed fuel created will also need to be reported. How this is reported will depend on the way in which consumption occurs. That is, if the new mixed fuel is used for combustion purposes, then it will be reported as consumed with combustion. If the new product is used for non-combustion purposes, then it will be reported as consumed without combustion.

Example 2 – Lifecycle reporting of a mixed fuel

Facility 1 (mining) produces both anthracite and brown coal which is transported to Facility 2. Facility 1 is required to report energy production for the quantities of anthracite and brown coal produced at the facility.

Facility 2 (mixing/processing) receives the anthracite and brown coal from Facility 1. Facility 2 mixes the anthracite and brown coal and presses the mixture into coal briquettes.

As coal briquettes are a fuel listed in Schedule 1 of the NGER Regulations, the energy consumption of anthracite and brown coal as well as the energy production of the fuel 'coal briquettes' is required to be reported since a new NGER fuel type has been created.

Facility 2 reports the energy consumption (without combustion) associated with the quantities of anthracite and brown coal as well as the energy production associated with the quantity of coal briquettes produced. Facility 2 sells a quantity of coal briquettes to Facility 3.

Facility 3 (Final consumption—combustion) – Facility 3 acquires a quantity of coal briquettes from Facility 2 to combust for stational energy purposes. Facility 3 is required to report the final energy consumption (with combustion) of the coal briquettes.

Sometimes, the combining of 2 fuels results in a mixture which falls within the definition of one of the original ingredient fuels. This is because of the broadness of a fuel's definition within the NGER legislation.

Example 3 – altered or specialised fuels

Reporters may need to use altered or specialised fuels. These could be formed as a mixture of 2 fuels listed within Schedule 1 of the NGER Regulations. The new mixed fuel should be compared against each of the fuels listed within Schedule 1 of the NGER Regulations to see if it falls within its definition.

For example, 'Company A' may create a mixture of 4 parts fuel oil to 1 part diesel oil to create a new product which they've dubbed '4:1'.

'Company A' would need to report energy consumed (without combustion) of both fuel oil and diesel oil quantities.

'Company A' would also need to report the energy content of the fuel that was produced (for example, 4:1). To know which fuel to report, 'Company A' would need to compare their 4:1 product against each of the fuels listed within Schedule 1.

Once a fuel type has been determined, 'Company A' would need to report energy production of for the total quantity of 4:1 produced.

Where a corporation is unsure how to define a fuel, they should contact CER[11].

2.6. How to report bitumen

Bitumen is a heavy petroleum derivative used in asphalt production and is used in the majority of road surfaces around Australia.

Reporters are required to report the production of the NGER fuel 'Bitumen (including bitumen production), other than consumption for non-combustion purposes' at a facility. However, consumption of bitumen is not reportable unless it has been combusted (see Item 49 in Schedule 1 of the NGER Regulations).

[11] https://cer.gov.au/about-us/contact-us

Example 4 – reporting bitumen

Asphalt is a composite material commonly used to build roads. It is produced by mixing bitumen with heated aggregate and filler.

'Corporation X' has operational control of a facility (Facility A) that produces 20 tonnes (t) of bitumen, and supplies it to 'Corporation Y'.

'Corporation Y' has operational control of a facility (Facility B) that mixes the 20 t of bitumen with heated aggregate and filler in a batching plant, to produce asphalt. 'Corporation Y' uses the asphalt to build a road at another site.

The production of the NGER fuel 'bitumen' that was produced at 'Facility A' must be reported by 'Corporation X'.

The consumption of bitumen to produce asphalt at 'Facility B' is not reportable by 'Corporation Y', because the bitumen is not combusted in the asphalt production process.

The use of asphalt by 'Corporation Y' to build a road is also not reportable.

2.7. How to report explosives

Explosives are a specialised product in which the chemical energy contained within its ingredients is transformed into kinetic energy. Explosives are used in the mining industry to assist in exploration and extraction of valuable materials. The composition of an explosive will vary, depending on the requirements of its use.

The CER considers fuels that are used in the production and preparation of an explosive mixture must be reported as consumed without combustion (see section 2.68 of Part 2.7 of NGER Measurement Determination). They are to be reported by the entity that has operational control of the facility at the point of final mixing. There is no reporting of emissions or energy consumption associated with use of explosives.

Example 5 outlines the reporting requirements for the manufacture and use of explosives.

Example 5 – reporting explosives

A commonly used explosive in Australia is a mixture of ammonium nitrate and fuel oil, known as ANFO. The activities to be reported using an example of the manufacture and use of ANFO are listed below.

Manufacture of an explosive:

- Facility 1 combines fuel oil, a reportable fuel type appearing in Schedule 1 of the NGER Regulations, with ammonium nitrate, creating a mixture known as ANFO.
- Facility 1 is required to report the quantity of fuel oil used during the manufacture of ANFO as consumed without combustion in accordance with section 2.68 of the NGER Measurement Determination.

On-site preparations of an explosive:

- Facility 2 acquires the ANFO mixture. Before use, Facility 2 adds additional diesel oil, a reportable fuel type appearing in schedule 1 of the NGER Regulations, to the ANFO. The fuel is added to help improve the explosive yield when the explosive is used.
- Facility 2 is required to report the quantity of diesel oil added to the ANFO as consumed without combustion in accordance with section 2.68 of the NGER Measurement Determination.

Use of an explosive:

- Facility 2 uses the ANFO mixture as an explosive to help remove unwanted materials from their site.
- There are no reporting requirements for emissions or energy consumption associated with use of the explosive.

2.8 How to report the use of simulated natural gas

Simulated Natural Gas (SNG), also known as 'Synthetic Natural Gas', is a mixture of vaporised liquefied petroleum gas (LPG) and compressed air. SNG cannot be considered a blended fuel because air is not a listed fuel.

SNG is not separately listed as a fuel under NGER legislation. SNG can be categorised under Schedule 1 of NGER Regulations as '27 - Gaseous fossil fuels other than those mentioned in item 17 to 26'. The energy content and emission factor for this fuel is listed in Schedule 1 of the NGER Measurement Determination. When reporting the energy quantity of SNG, the reporter must consider the entire volume of air and LPG present.

To report the production and use of SNG, a reporter should include:

- energy consumed (without combustion) of the quantity of LPG used to make SNG during the reporting year

- energy production of '27 - Gaseous fossil fuels other than those mentioned in item 17 to 26' as a secondary fuel during the reporting year. Estimate the energy of the SNG either in GJ, or cubic meters in accordance with industry practice
- energy consumed (with or without combustion) of the SNG consumed during the reporting year. The measurement criteria available are dependent on how the SNG was acquired.

If the quantity of SNG has been acquired:

- without a commercial transaction, it must be estimated using measurement criteria AAA or BBB
- through a commercial transaction then measurement criterion A, AA, or AAA must be used.

See Division 2.3.6—Measurement of quantity of gaseous fuels in the NGER Measurement Determination for more information, or the Methods and measurement criteria guideline[12].

[12] https://cer.gov.au/document_page/methods-and-measurement-criteria-guideline

3. Reporting energy production and consumption

Relevant definitions from the NGER legislation are summarised below:

- 'fuel' means a substance mentioned at items 1 to 57 in Schedule 1 of the NGER Regulations
- 'energy' includes the fuels and other energy commodities listed in Schedule 1 of the NGER Regulations
- 'production of energy' means the (see 2.25 of the NGER Regulations):
  - » extraction or capture of energy from natural sources for final consumption by or from the operation of the facility, or for use other than in the operation of the facility
  - » manufacture of energy by the conversion of energy from one form to another form for final consumption by or from the operation of the facility, or for use other than in the operation of the facility.
- 'consumption of energy', in relation to a facility, means the use or disposal of energy from the operation of the facility, including (see 2.26 of the NGER Regulations):
  - » own-use
  - » losses in extraction, production, and transmission.

Note: 'use' includes the consumption of energy in the transformation of one form to another form.

Reporters should be aware that the NGER legislation definition of 'energy' differs from the common uses of the term.

Reporting consumption without combustion

4.22 of the NGER Regulations details the requirements for reporting energy consumption under the NGER Act. Energy consumption must be reported where energy is consumed:

- by combustion [4.22(1)(a) of the NGER Regulations]
- by means other than combustion [4.22(1)(b) of the NGER Regulations]
- to produce a mineral, chemical or metal product [4.22(2) and (3) of the NGER Regulations].

A report must include the amount of energy consumed by means other than combustion if the amount:

- exceeds the reporting thresholds mentioned in section 2.68 of the NGER Measurement Determination
- is not reported under paragraph 4.22(1)(a), or subregulations 4.22(2), or 4.22(3) of the NGER Regulations.

If any energy commodity listed in the NGER Measurement Determination or the NGER Regulations is consumed without combustion, then the thresholds and methodology in section 2.68 of the NGER Measurement Determination apply. It is important to note that section 2.68 is only applicable where no combustion of the fuel takes place.

4. More information and references

This guideline has been provided by the CER to assist in the consistent accounting and reporting of greenhouse gas emissions, energy consumption and energy production using the NGER legislation.

More information

For more information, please contact CER:

Email: cer-nger-reporting@cer.gov.au

Phone: 1300 553 542 within Australia

Website: www.cer.gov.au

References

See NGER reporting guides[13] for guidance on:

- defining a facility
- measurement criteria
- reporting energy production and consumption
- estimating emissions from fuel combustion guideline reporting hydrofluorocarbons and sulphur hexafluoride gases
- petroleum-based oils and greases
- reporting uncertainty.

[13] https://cer.gov.au/schemes/national-greenhouse-and-energy-reporting-scheme/report-emissions-and-energy/nger-reporting-guides