Reporting blended fuels and other fuel mixes guideline

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Abbreviations

<table>
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<tr>
<th>Term</th>
<th>Meaning</th>
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<tbody>
<tr>
<td>GJ</td>
<td>gigajoules</td>
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<tr>
<td>NGER</td>
<td>National Greenhouse and Energy Reporting</td>
</tr>
<tr>
<td>NGER Act</td>
<td>National Greenhouse and Energy Reporting Act 2007</td>
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<tr>
<td>NGER Determination</td>
<td>National Greenhouse and Energy Reporting (Measurement) Determination 2008</td>
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<tr>
<td>NGER Regulations</td>
<td>National Greenhouse and Energy Reporting Regulations 2008</td>
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<tr>
<td>Scope 1 emissions</td>
<td>Means the release of greenhouse gas into the atmosphere as a direct result of an activity or series of activities (including ancillary activities) that constitute the facility.</td>
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<tr>
<td>Scope 2 emissions</td>
<td>Means the release of greenhouse gas into the atmosphere as a direct result of one or more activities that generate electricity, heating, cooling or steam that is consumed by the facility but that do not form part of the facility.</td>
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<tr>
<td>t CO2-e</td>
<td>Tonnes carbon dioxide equivalence</td>
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<td>L</td>
<td>Litres</td>
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Disclaimer

This guideline should be read in conjunction with the National Greenhouse and Energy Reporting Act 2007, the National Greenhouse and Energy Reporting Regulations 2008 and the National Greenhouse and Energy Reporting (Measurement) Determination 2008 (current versions can be found on the Federal Register of Legislation website). Changes to the legislation may affect the information in this guideline. This guideline is not intended to comprehensively deal with its subject area or to provide legal advice. Entities are responsible for determining their obligations under the law and for applying the law to their individual circumstances. If you have any concerns, you should seek independent professional advice.
Blended fuels and other fuel mixes

This document describes the requirements for reporting blended fuels and fuels mixes produced and consumed at a facility.

When reporting energy production and consumption data, only those fuels and energy commodities for which there are applicable methods in the National Greenhouse and Energy Reporting (Measurement) Determination 2008 (NGER Determination) and that are listed in Schedule 1 of the National Greenhouse and Energy Reporting Regulations 2008 (NGER Regulations) should be reported.

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

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

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

What is a blended fuel?

Under section 1.8 of the NGER Determination a blended fuel is a fuel that is a blend of fossil and biogenic carbon fuels. For example, E10 is a blend of gasoline (fossil fuel) and up to 10 per cent ethanol (biogenic carbon fuel).

The NGER Determination defines ‘biogenic carbon fuel’ as energy that is (see section 1.8 of the NGER Determination):

a) derived from plant and animal material, such as wood from forests, residues from agriculture and forestry processes and industrial, human or animal wastes, and

b) not embedded in the earth, like coal oil or natural gas.

Examples of biogenic carbon fuels under the NGER legislation are listed at items 10–16 and 28–30 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.

Other fuel mixes

Under the NGER Determination, while blended fuels are given specific meaning, corporations are still required to report the production and consumption of other fuel mixes depending on the ingredient fuels.

In general, the production and consumption of all fuels listed in the NGER legislation must be reported. Where a corporation is unsure how to report a fuel mix, they should contact the Clean Energy Regulator.
What is energy production and consumption?

A number of relevant definitions from the NGER legislation are summarised below:

- **Fuel** means a substance mentioned at items 1–57 in Schedule 1 of the *National Greenhouse and Energy Reporting Regulations 2008* (NGER Regulations) (duplicated in Attachment A to this guideline).

- **Energy** includes the fuels and other energy commodities listed in Schedule 1 of the NGER Regulations (duplicated in Attachment A to this guideline).

- **Production of energy** means the (see NGER Regulation 2.25):
  - 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, or
  - 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 NGER Regulation 2.26):
  - own-use, and
  - losses in extraction, production and transmission.

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

Corporations should be aware that the NGER legislation definition of ‘energy’ differs from the common uses of the terms.

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**Reporting consumption without combustion**

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

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

A registered corporation’s 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 Determination, and
- is not reported under paragraph 4.22 (1)(a) or subregulation 4.22 (2) or (3).

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

Blending or mixing fuels to produce a fuel not listed in Schedule 1 of the NGER Regulations

If fuels are blended or mixed to form a fuel not listed in Schedule 1 of the NGER Regulations, corporations do not need to report the consumption of ingredient fuels nor the production of a new fuel, as there is no conversion from one form of energy to a form of energy listed in Schedule 1 of the NGER Regulations.

Consumption of blended or mixed fuels which are not fuels listed in Schedule 1 of the NGER Regulations

The end use of a blended or mixed fuel will determine whether a corporation will need to report the ingredient fuels as consumed with or without combustion. In general, if a corporation consumes blended fuels they are required to report consumption of the blended or mixed fuel’s ingredients individually.

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 fuel) with the gasoline (fossil fuel) together to produce E10 consisting of 7 per cent ethanol and 93 per cent gasoline. Facility 2 sells 10,000 litres (L) of it’s E10 to Facility 3.

*As E10 is not a fuel listed in Schedule 1 of the NGER Regulations the consumption of ethanol and gasoline as well as the production of E10 is not required to be reported as no new fuel type has been created.

**Facility 3 (final consumption—combustion)**—Facility 3 acquires 10,000 L of E10 from Facility 2 for use in its fleet vehicles. Facility 3 is required to report the final Energy Consumption (fuel combustion). In accordance with the manufacturer’s specifications (Facility 2), the total 10,000 L of E10 will consist of 700 L of ethanol (7 per cent) and 9,300 L of gasoline (93 per cent).

In this example E10 is used to fuel fleet cars for Facility 3, meaning the fuel is combusted for transport energy purposes.

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

- ethanol (item 51 of Schedule 1—ethanol for use in an internal combustion engine) as consumed with combustion, and
- gasoline (item 53 of Schedule 1—gasoline (other than for use as fuel in an aircraft) as consumed with combustion.
Estimating the composition of purchased blended fuels

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

Corporations are able to adopt the outcome of:

1. sampling undertaken by the manufacturer, or
2. their own sampling.

Blending or mixing fuels to produce a new fuel listed in Schedule 1 of the NGER Regulations

If fuels are blended or mixed to form a new fuel listed in Schedule 1 of the NGER Regulations, corporations need to report the:

- production of the ingredient fuels which are listed in Schedule 1 of the NGER Regulations if they are produced at the facility
- consumption of the ingredient fuels (without combustion) which are listed in Schedule 1 of the NGER Regulations, and
- production of the new fuel which is listed in Schedule 1 of the NGER Regulations if it is produced at the facility.

It is important to ensure the total volume and total energy content (EC) of the new fuel does not exceed the combined totals of the ingredient fuels.

Consumption of blended or mixed fuels which are fuels listed in Schedule 1 of the NGER Regulations

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 of the new energy commodity 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)**—Facility 1 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)**—Facility 2 receives the anthracite and brown coal from Facility 1. Facility 2 mixes the anthracite and brown coal and presses the mixture into coal briquettes. 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.
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.

Corporations are required to report the production of bitumen at a facility. However, it is not required to report bitumen that is consumed without combustion (see Item 49 in Schedule 1 of the NGER Regulations).

Example 3—reporting bitumen

Asphalt is a composite material commonly used in the manufacture of road surfaces. It is produced by mixing bitumen, heated aggregate and filler.

A facility (Facility B) mixes 20 tonnes (t) of bitumen with heated aggregate and filler to produce asphalt. The asphalt is mixed at a batching plant prior to delivery to the site where it is to be laid. The batching plant is part of facility B which is under the operational control of Corporation Y.

As bitumen consumed without combustion is excluded from reporting, Corporation Y does not report the consumption without combustion of the 20 t of bitumen.

As the aggregate, filler and asphalt are not listed fuels, their production and use is not reportable under the NGER legislation.

The production of the bitumen must be reported by the corporation with operational control of the facility that produced the bitumen.

Further information

Email: reporting@cleanenergyregulator.gov.au

Phone: 1300 553 542 within Australia

Web: www.cleanenergyregulator.com.au