Australian Government
Clean Energy Regulator



Reporting uncertainty guideline

July 2026

National Greenhouse and Energy Reporting

Contents

Contents **1**
Definitions and abbreviations **3**
Disclaimer **4**
2025–26 updates **5**
1. Introduction **5**
2. What is uncertainty? **5**
3. What is uncertainty used for? **5**
4. Uncertainty reporting thresholds and requirements **6**
4.1. Special cases: Emissions from entities that are not common 'facilities' 6
Facility Aggregates 6
Incidental and percentage reporting 6
Network or pipeline and multi-site cement site facilities 6
5. How to assess uncertainty **6**
5.1. Assessing uncertainty where Method 1 is used to estimate emissions 7
5.2. Assessing uncertainty where Method 2, 3 or 4 is used to estimate emissions 7
5.3. Assessing uncertainty for industrial process sources with no default uncertainty levels 7
6. Reporting uncertainty in the Emissions and Energy Reporting System **8**
6.1. Using the auto-calculate feature 9
6.2. Manually calculating uncertainty 9
7. More information and references **10**
7.1. More information 11
7.2. Guidelines 11

Definitions and abbreviations

Term	Meaning
CO_2	Carbon dioxide
CO_2-e	Carbon dioxide equivalence
EERS	The Clean Energy Regulator's Emissions and Energy Reporting System, which is used for National Greenhouse and Energy Reporting (NGER) 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
Scope 1 emissions	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.
Scope 2 emissions	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.
t CO_2-e	Tonnes carbon dioxide equivalence
Uncertainty protocol	The document titled: 'GHG Protocol guidance on uncertainty assessment in GHG inventories and calculating statistical parameter uncertainty' (September 2003 v1.0) issued by the 'World Resources Institute' and the 'World Business Council for Sustainable Development'.

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 based on this guidance.

The CER and the Australian Government 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 6: Added information on reporting uncertainty in the Emissions and Energy Reporting System
- Minor stylistic and formatting changes have also been made to this document.

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

1. Introduction

This guide provides information about the reporting requirements for uncertainty under the NGER Act. This includes information about:

- background to reporting uncertainty
- reporting thresholds and requirements
- rules for uncertainty calculation.

For more comprehensive information on assessing uncertainty, see the NGER Uncertainty Calculator User Guide[7].

2. What is uncertainty?

Uncertainty can be described as the amount of variation in a numerical result consistent with observations. Statistical uncertainty, as measured under NGER legislation, accounts for the level of uncertainty that may be attributed to sampling and statistical variation.

Uncertainty is to be reported at the 95% confidence level. For example, an uncertainty assessment of 7% identifies that with 95% confidence the true value of scope 1 emissions is within 7% of the reported value. From basic statistical principles, the reported figure is more likely to lie near the true value than at the outer limits of the uncertainty range.

3. What is uncertainty used for?

The uncertainty data provided under NGER legislation will help inform the uncertainty estimates published in Australia's National Greenhouse Accounts, including:

- meeting Australia's reporting commitments under the United Nations Framework Convention on Climate Change (UNFCCC)
- tracking progress against Australia's targets under various international agreements
- informing policymakers and the public.

[6] https://cer.gov.au/schemes/national-greenhouse-and-energy-reporting-scheme/report-emissions-and-energy/amendments
[7] https://cer.gov.au/document_page/national-greenhouse-energy-reporting-uncertainty-calculator-user-guide

The uncertainty data can also assist corporations in understanding the uncertainties associated with their emission estimates, informing their allocation of resources and their choice of methods under the NGER legislation. Uncertainty data is not published annually under section 24 of the NGER Act.

See the Department of Climate Change, Energy, the Environment and Water website[8] for more information about National Greenhouse Accounts.

4. Uncertainty reporting thresholds and requirements

4.08 and 4.17A of the NGER Regulations detail the thresholds for reporting uncertainty associated with scope 1 emissions. When the scope 1 emissions from the fuel/energy type or source are 25,000 tonnes carbon dioxide equivalence (t CO_2-e) or more, uncertainty must be reported for each:

- source listed in section 1.10 of the NGER Measurement Determination, or
- fuel/energy type listed in Schedule 1 of the NGER Regulations.

4.1. Special cases: Emissions from entities that are not common 'facilities'

Facility Aggregates

A facility cannot be included within a facility aggregate if its scope 1 emissions are 25,000 t CO_2-e or more (NGER Regulation 4.25). Therefore, emissions from facility aggregates will not appear in the uncertainty dashboard.

Incidental and percentage reporting

Data reported as a percentage or 'incidental' is not subject to uncertainty reporting requirements (under NGER Regulation 4.26 and 4.27 respectively).

Network or pipeline and multi-site cement site facilities

The requirement to report uncertainty applies to network or pipeline facilities as well multi-site cement facilities which are defined under 4.28 and 4.28A of the NGER Regulations respectively.

> Note: If any relevant activity data is changed in EERS after you report uncertainty, the uncertainty value will clear and will need to be recalculated prior to submission.

5. How to assess uncertainty

Uncertainty must be assessed in accordance with Chapter 8 of the NGER Measurement Determination. Part 8.3 sets out the requirements where Method 1 is exclusively used, and Part 8.4 sets out the requirements where Method 2, 3 or 4 is used.

[8] https://www.dcceew.gov.au/

5.1. Assessing uncertainty where Method 1 is used to estimate emissions

Part 8.3 of the NGER Measurement Determination provides default uncertainty levels which can be used to calculate the uncertainty for emissions of a fuel or source estimated using exclusively Method 1. It also allows uncertainty levels to be worked out in accordance with the GHG Protocol guidance on uncertainty assessment in GHG inventories and calculating statistical parameter uncertainty[9] (September 2003 v1.0), also known as the 'uncertainty protocol'.

The default levels can be found in Sections 8.6 to 8.10 of the NGER Measurement Determination. EERS provides an 'auto-calculate' function which uses the default uncertainty levels. See the Reporting uncertainty in EERS chapter of this guideline for more information. If you do not use the default levels, records must be kept regarding how your uncertainty level was determined in a manner compliant with section 22 of the NGER Act.

For information on calculating uncertainty for 'carbon mass balance equations' using Method 1, see the NGER Uncertainty Calculator User Guide[10].

5.2. Assessing uncertainty where Method 2, 3 or 4 is used to estimate emissions

Part 8.4 of the NGER Measurement Determination sets out how to assess uncertainty where Method 2, 3 or 4 is used to estimate scope 1 emissions of a fuel or source. The default uncertainty levels are not available for these methods and uncertainty is required to be assessed in accordance with the uncertainty protocol. The uncertainty protocol provides estimation techniques, as well as guidance and discussion, on the calculations.

Generally, the uncertainties estimated under Methods 2, 3, and 4 are likely to be lower than those calculated under Method 1. This indicates that emissions estimates using the higher order methods are more accurate than emissions estimates using Method 1. The main reason for this is that in Method 1, default emission factors are used, which bear higher levels of uncertainty. Higher order methods require direct analysis of fuels, providing a more accurate estimation of their carbon content and associated emissions.

Records must be kept regarding how your uncertainty was determined in a manner compliant with section 22 of the NGER Act.

5.3. Assessing uncertainty for industrial process sources with no default uncertainty levels

The table below specifies industrial process sources that do not have default uncertainty levels in the NGER Measurement Determination. If emissions from these sources involve the combustion of a fuel, then default fuel combustion uncertainty factors may be used for emissions attributable to each fuel. Otherwise, the auto-calculate uncertainty function will use a default uncertainty value of 10% for the source, in accordance

[9] https://ghgprotocol.org/sites/default/files/2023-03/ghg-uncertainty.pdf
[10] https://cer.gov.au/document_page/national-greenhouse-energy-reporting-uncertainty-calculator-user-guide

with the downloadable Measurement and Estimation Uncertainty of GHG Emissions 'worksheet'[11] from the Greenhouse Gas Protocol's Calculation tools and guidance[12].

Table 1: Sources without default uncertainty values in the NGER Measurement Determination.

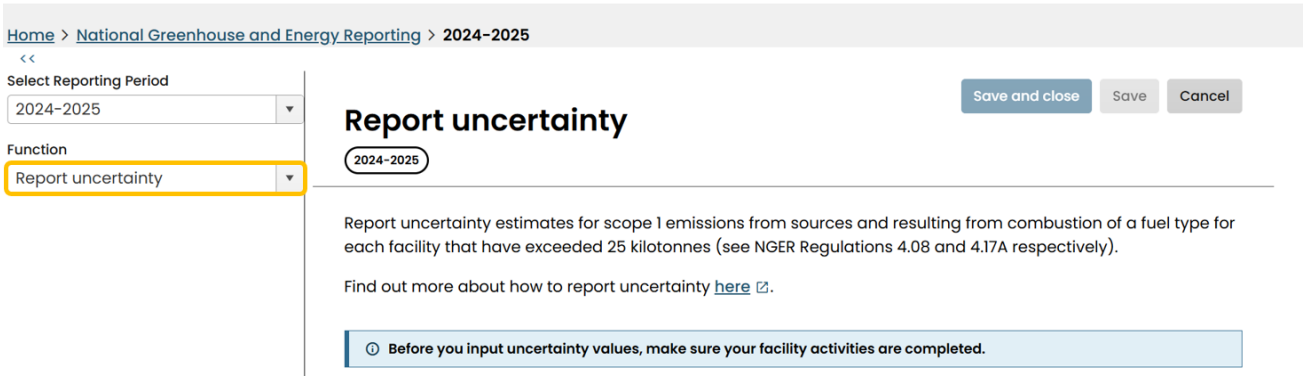
Source
Sodium cyanide production
Soda ash production
Ammonia production
Hydrogen production
Carbide production
Chemical or mineral production (other than carbide production) using a carbon reductant or carbon anode
Iron, steel or other metal production using an integrated metalworks
Ferroalloys production
Aluminium production (where the activity is the production of baked carbon anodes)
Other metals production

6. Reporting uncertainty in the Emissions and Energy Reporting System

> As uncertainty is calculated using your activity information, enter all activity information *before* reporting uncertainty in EERS.
>
> If you change relevant activity data after you report uncertainty, then the uncertainty will clear and will need to be recalculated prior to report generation and submission.

To report uncertainty in EERS, select 'Report uncertainty' from the function drop down menu.

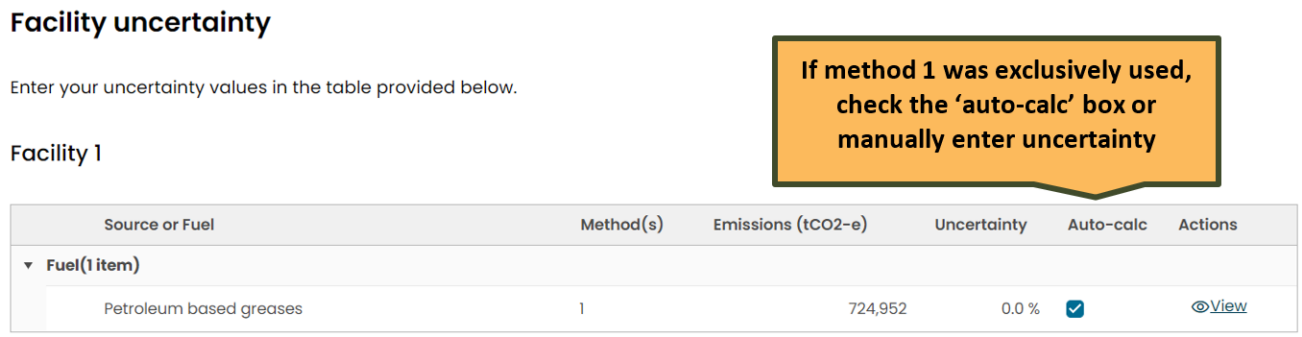
[11] https://ghgprotocol.org/sites/default/files/tools/ghg-uncertainty.xlsx
[12] https://ghgprotocol.org/calculation-tools-and-guidance



The 'Report uncertainty' page shows all sources and fuels that exceed the uncertainty reporting threshold for each facility.

6.1. Using the auto-calculate feature

For a facility, where Method 1 has been exclusively used for a source or fuel type, you can use the 'auto-calculate' option. When you check the 'auto-calc' box, EERS will calculate and display the uncertainty as a percentage for that source or fuel. If you choose to manually enter the uncertainty, de-select the 'Auto-calc' checkbox.



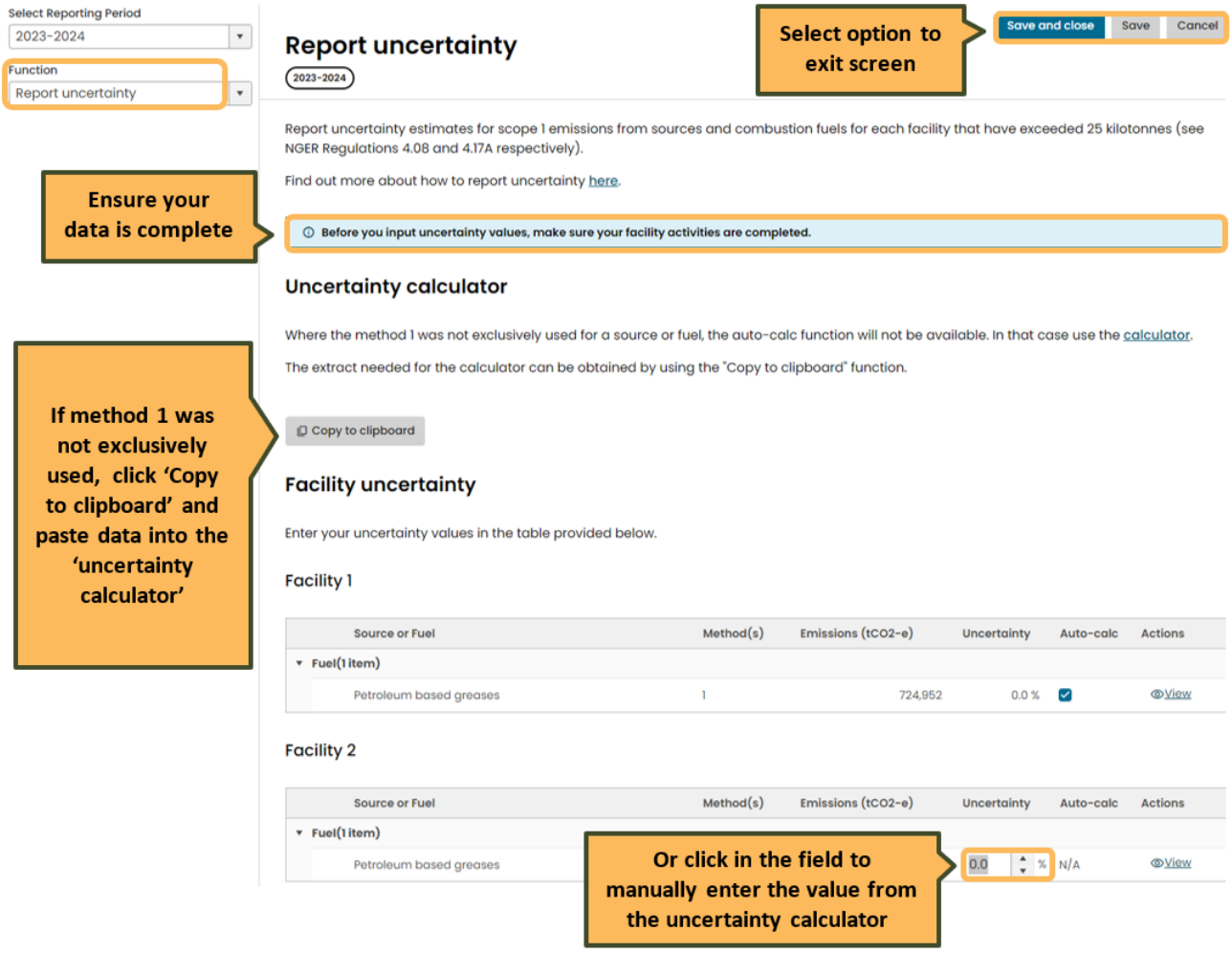
6.2. Manually calculating uncertainty

If you have used Method 2, 3 or 4, you must manually calculate the uncertainy. The CER has provided a tool to help reporters do this, called the NGER Uncertainty Calculator.

> It is not compulsory to use the NGER Uncertainty Calculator. Reporters may use their own method, in line with the requirements of the NGER Measurement Determination.

If you choose to use the NGER Uncertainty Calculator:

1. Download the Uncertainty Calculator[13] and the Uncertainty Calculator User Guide[14] for the relevant reporting year.
2. Click 'Copy to clipboard' from the 'Report uncertainty' page in EERS, and paste data into the Uncertainty Calculator.
3. Click on the uncertainty fields in EERS for each facility to manually enter the value from the Uncertainty Calculator.



7. 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.

[13] https://cer.gov.au/schemes/national-greenhouse-and-energy-reporting-scheme/report-emissions-and-energy/nger-calculators
[14] https://cer.gov.au/document_page/national-greenhouse-energy-reporting-uncertainty-calculator-user-guide

7.1. 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

7.2. Guidelines

See our NGER Reporting Guides[15] for guidance on:

- measurement criteria
- reporting energy production and consumption
- estimating emission and energy from coal mining guideline
- estimating emission and energy from industrial processes.

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