



Australian Government

Department of Climate Change, Energy,  
the Environment and Water

# National Greenhouse and Energy Reporting (NGER) Scheme

## 2023 Amendments

Consultation Outcomes Paper

National Inventory Systems and International Reporting Branch  
Department of Climate Change, Energy, the Environment and Water



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We acknowledge the Traditional Custodians of Australia and their continuing connection to land and sea, waters, environment and community. We pay our respects to the Traditional Custodians of the lands we live and work on, their culture, and their Elders past and present.

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# 2023 NGER Amendments- consultation outcomes

The National Greenhouse and Energy Reporting (NGER) Scheme is Australia's national system for reporting greenhouse gas emissions and energy production and consumption by corporations. It underpins the operation of the Safeguard Mechanism, and reported data informs climate and energy policy development. The Department reviews the NGER Scheme annually to increase the accuracy of reported data in line with Australia's international reporting obligations.

The Department released a consultation paper in April 2023 outlining the following proposed updates to the NGER Scheme:

- Introduction of an optional supplementary 'market-based method' for determining emissions associated with the consumption of electricity ('scope 2' emissions);
- An update to Method 1<sup>1</sup> for estimating emissions of methane from Queensland open cut coal mines to reflect improvements in data availability;
- An update to the methods for estimating methane released from landfills (other than from flaring of methane);
- Creation of two new fuel types, renewable paraffinic diesel and renewable paraffinic kerosene; and
- Other minor amendments.

47 submissions were received. Submissions not requested to remain confidential are published on the Department's consultation web page.

The following updates to NGER legislation have been made and are available on the Federal Register of Legislation:

- National Greenhouse and Energy Reporting Amendment (2023 Measures No. 1) Regulations 2023 (the Update Regulations); and
- National Greenhouse and Energy Reporting (Measurement) Amendment (2023 Update) Determination 2023 (the Update Determination).

The amendments commence on 1 July 2023 and apply to reports to be submitted by 31 October 2024 for the 2023-24 reporting year, and for subsequent years.

## A: Optional, supplementary market-based method for calculating scope 2 emissions from electricity consumption

### Submissions

The new, optional market-based method for estimating scope 2 emissions allows NGER reporters to make unique claims on the zero emissions intensity attributable to some renewable electricity

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<sup>1</sup> Method 1 typically specifies the use of default emission factors based on those used in Australia's National Greenhouse Gas Inventory.

purchases and reflect these in their scope 2 emissions reporting. This will supplement the existing location-based method, increase transparency and allow NGER reports to reflect investments in renewable electricity.

The new, optional market-based method for estimating scope 2 emissions was supported by a majority of submissions on the basis that it will increase transparency and allow NGER reports to reflect investments in renewable electricity. There were however a number of submissions that called for the introduction of this amendment to be delayed pending further technical refinements to the method.

Proposals for refinements included:

- The disaggregation of the residual mix factor to the state level to better reflect the electricity generation emissions intensity within each state;
- The creation of temporal residual mix factors – such as for time of day or season to better reflect changes in grid emission intensity during times of higher renewable energy creation;
- To allow the use of supplier-specific emission factors instead of the national residual mix factor when the facility is on a mini-grid or directly supplied and the scope 2 grid emission factor is known;
- To recognise certificates for generation which is below an entity's baseline under the Renewable Energy Target (RET) as eligible renewable energy certificates in the market-based method;
- To allow the use of third-party assurance and verification to certify a renewable energy certificates eligibility.

Other submissions reflected on the proposed voluntary nature of the scope 2 market-based method.

Proposals included:

- Removal of the current location-based scope 2 method;
- Mandatory dual reporting of location and market-based methods;
- Requiring existing schemes (such as Climate Active and the Corporate Emissions Reduction Transparency (CERT) report) to use the NGER Scheme market-based method;
- Retaining the optional market-method until method refinements proposed above are fully implemented.

## **Outcomes**

The Department carefully considered all submissions received and the 2023 update incorporates market-based scope 2 reporting on an optional basis. This will allow NGER reports to reflect purchases of renewable electricity and will support existing and proposed Government programs (including Climate Active and CERT) by providing a single Government approach to market-based accounting for scope 2.

Location-based and market-based accounting are different but complementary approaches to estimate entities' indirect emissions from consumption of electricity. Together, they provide a fuller assessment of risks, opportunities, and changes to emissions from electricity use over time.

The Department considers that the market-based method as introduced represents current best practice. The method draws on the GHG Protocol Scope 2 Guidance and the approaches used by Climate Active and CERT that have been in operation and refined through public consultation since 2021.

On the basis of feedback received from internal and external stakeholders, the Department made minor revisions to the proposed method to improve clarity.

Consistent with all other NGER methods, this method will be subject to continuous improvement as improved data and experience with implementation evolves. The refinements proposed by stakeholders in their submissions represent an opportunity to make further improvements to the method over time as new data becomes available. It is anticipated that the Renewable Energy Guarantee of Origin scheme currently under development will lead to the creation of renewable energy certificates with spatial and temporal attributes. Once this scheme is in place, this could be used as the basis for further method refinements. We will continue to work with stakeholders to respond to their concerns through a method development work program.

## **B: Update to Method 1 used to calculate fugitive methane emissions from Queensland open cut coal mines**

### **Submissions**

The 2023 update incorporates the amendments to Method 1 for the calculation of fugitive methane emissions from Queensland open cut coal mines as proposed in the public consultation paper. The update increases the emissions factor for these mines from 0.023 to 0.031 tonnes of carbon dioxide equivalent per tonne of run-of-mine coal extracted. As outlined in the public consultation paper, the revised emissions factor was derived from coal strata gas content data published in the Queensland Government's Petroleum Exploration Dataset which is more detailed and comprehensive than the previously used data.

Submissions generally acknowledged there was a case to increase the Method 1 emission factor for calculating fugitive methane emissions for Queensland open cut coal mines to reflect improvements in data availability.

A number of submissions called for some or all mines to be required to use higher order methods (including through removal of Method 1). Some submissions called for a review of Methods 2 and 3, noting the availability of satellite, aerial and ground-based measurements and suggested that top-down approaches to emissions validation should be used (eg satellites).

### **Outcomes**

This method is amended as proposed.

The Climate Change Authority will review methods for companies to calculate their methane emissions in the context of its legislated review of the NGER scheme legislation this year. The Authority will consider these methods in the context of recent international developments in methane measurement, reporting and verification, including the work of the Oil and Gas Methane

Partnership 2.0 and the Metcoal Methane Partnership<sup>2</sup>. Any changes to NGER Scheme methods recommended by this review would be considered through the Department's usual NGER Scheme annual update process, and subject to public consultation.

## C: Updates to methods for the estimation of methane emissions released from landfills (other than from flaring of methane)

### Submissions

Section 5.4 of the NGER Measurement Determination provides a default method (Method 1) to estimate emissions of methane released from landfills (other than from flaring of methane). Prior to these updates, under Method 1 there was an effective 75% limit for collection efficiency at a landfill.

Submissions generally expressed strong support for changes proposed to Method 1, recognising that landfill gas collection efficiencies up to 95% can be achieved under certain operational parameters.

A number of submissions proposed further changes to Section 5.15C (under Method 2), to which the amended Method 1 refers. In particular, the proposed changes included:

- The removal of the word 'final' from Section 5.15C A4(b) and A5(a), to allow higher collection efficiencies to be derived under a broader range of operational circumstances; and
- Capping utilising a 'phytocap' to be elevated from an A4 cover type to an A5 cover type, increasing the maximum potential gas collection efficiency for those areas from 75% to 95%.

Other issues raised by submissions included requests:

- For the default waste compositions included in the Measurement Determination to include consideration of waste management practices for food and garden organics;
- To review default capture rates outlined in Section 5.15C under Method 2;
- To consider bio-covers as an alternative cover type; and
- To undertake a longer-term research program to better understand how the current method can be improved, particularly to ensure Section 5.15C of Method 2 reflects current operational practices at landfills.

### Outcomes

The 2023 update to Method 1 for the estimation of methane emissions released from landfills increases the potential maximum collection efficiency to 95% of estimated emissions levels. This amendment reflects the advances made to best practice landfill management and regulation over

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<sup>2</sup> [Setting, tracking and achieving Australia's emissions reduction targets](#) – Issue Paper – May 2023, Climate Change Authority

the past decade<sup>3,4</sup>, and allows for landfill gas collection efficiencies of up to 95% under certain operating parameters.

Following consultation, further amendments to Section 5.15C of Method 2 (to which the amended Method 1 refers) were made. The additional changes provide clarity on the operational circumstances required to be able to derive higher capture efficiency rates and improve alignment with applicable State or Territory guidance and legislation.

The Department will work with stakeholders to further improve options for the calculation of landfill capture efficiency under the NGER Scheme over time, including through the use of facility-specific actual gas capture data.

## D: Renewable diesel and renewable aviation kerosene

### Submissions

This proposed amendment was to introduce renewable paraffinic diesel (RPD) and renewable paraffinic kerosene (RPK) as new fuel types under the NGER Scheme. These fuels were proposed to be assigned a zero carbon dioxide emission factor to reflect the fact that their combustion releases carbon which was absorbed by their biogenic source materials from the atmosphere during their life.

While submissions generally expressed strong support for the recognition of these fuels within the NGER Scheme, submissions raised a number of issues including:

- Requests for consistency where possible between NGER and other regulatory frameworks, and with international technical standards.
- Highlighting that the use of the term paraffinic within the proposed fuel names (renewable paraffinic diesel and renewable paraffinic kerosene), while true in the majority of present cases, risked unduly limiting the future evolution of the fuels.
- More explicit recognition of the role of these fuels as components which are blended with fossil-derived fuels.
- Specification of a lower energy content factor for these fuels than for their fossil-derived equivalents.

A number of submissions called for further amendments to the NGER Scheme to allow the attribution of emissions benefits to parties purchasing renewable fuels in circumstances where those fuels are distributed via common infrastructure and consumed by multiple other parties (sometimes referred to as 'market-based' reporting).

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<sup>3</sup> United States Environmental Protection Agency (2021) '*Chapter 7. Best Practices for Landfill Gas Collection System Design and Installation*', *Landfill Gas Energy Project Development Handbook*: <https://www.epa.gov/lmop/landfill-gas-energy-project-development-handbook>.

<sup>4</sup> Environment Protection Authority Victoria (2015) '*Siting, design, operation and rehabilitation of landfills*', *Best practice environmental management*, publication 788.3: <https://www.epa.vic.gov.au/-/media/epa/files/publications/788-3.pdf>.



## Outcomes

Revised definitions of these fuels are specified in the Update Regulations. The revised definitions more explicitly reflect the use of the fuels either as (a) blending components in mixture with conventional fuels, or (b) as neat fuels.

The word 'paraffinic' is no longer retained in the name *renewable diesel*. However, renewable diesel and renewable aviation kerosene must still consist mainly of alkane and other hydrocarbons.

*Renewable aviation kerosene* now explicitly refers to the use of the fuel in aircraft. In light of the room allowed by these definitions for differing product characteristics, the new fuels retain the same energy content of their fossil derived equivalents on a conservative basis (noting that the resulting impact on estimated emissions is relatively small). Further consideration will be given to both definitions and technical parameters of these fuels as their characteristics and uses evolve.

Including renewable diesel as a reportable NGER fuel type does not override any requirements on fuel supply imposed by the *Fuel Quality Standards Act 2000* (FQS Act). Supply of renewable diesel in Australia is regulated under the Fuel Quality Standards (Automotive Diesel) Determination 2019 (diesel standard). However, due to its lower density, renewable diesel does not meet the requirements of the automotive diesel standard. To supply renewable diesel in Australia (and renewable diesel/mineral diesel blends with a density below 820kg/m<sup>3</sup>), suppliers currently require an exemption under section 13 of the FQS Act. The Department is investigating approaches to enable the supply of renewable diesel without the need for an exemption.

The Department recognises the calls by renewable fuel consumers who source their fuel from common infrastructure to be able to reflect the full emissions benefits of these renewable fuels. The Department considers that a response to these concerns requires more careful consideration to determine if updates to NGER are required or would be facilitated by other policy developments, such as the development of the Guarantee of Origin. The Government recognises the importance of the NGER Scheme in supporting incentives for the use of renewable fuels, including by Safeguard facilities to meet their baselines. These issues could also be considered in the Climate Change Authority's legislated review of the NGER scheme legislation this year.

## E: Other amendments

### Submissions

Submissions generally did not comment on other minor definitional amendments regarding waterborne transport, light and heavy vehicles and wet weight quantities of waste.

### Outcomes

These amendments are made as proposed.