



National Greenhouse and Energy Reporting (Measurement) Amendment (2023 Update) Determination 2023

I, Chris Bowen, Minister for Climate Change and Energy, make the following determination.

Dated

Chris Bowen **DRAFT ONLY—NOT FOR SIGNATURE**
Minister for Climate Change and Energy

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1 Name

This instrument is the *National Greenhouse and Energy Reporting (Measurement) Amendment (2023 Update) Determination 2023*.

2 Commencement

- (1) Each provision of this instrument specified in column 1 of the table commences, or is taken to have commenced, in accordance with column 2 of the table. Any other statement in column 2 has effect according to its terms.

Commencement information		
Column 1	Column 2	Column 3
Provisions	Commencement	Date/Details
1. The whole of this instrument	1 July 2023.	

Note: This table relates only to the provisions of this instrument as originally made. It will not be amended to deal with any later amendments of this instrument.

- (2) Any information in column 3 of the table is not part of this instrument. Information may be inserted in this column, or information in it may be edited, in any published version of this instrument.

3 Authority

This instrument is made under subsection 10(3) of the *National Greenhouse and Energy Reporting Act 2007*.

4 Schedules

Each instrument that is specified in a Schedule to this instrument is amended or repealed as set out in the applicable items in the Schedule concerned, and any other item in a Schedule to this instrument has effect according to its terms.

Schedule 1—Amendments

National Greenhouse and Energy Reporting (Measurement) Determination 2008

1 Section 1.8

Insert in the appropriate alphabetical position:

biodiesel has the meaning given by the Regulations.

gross vehicle mass means the tare weight of the vehicle plus its maximum carrying capacity, excluding trailers.

heavy duty vehicle means a vehicle with a gross vehicle mass of more than 4.5 tonnes.

light duty vehicle means a vehicle other than a heavy duty vehicle.

renewable paraffinic diesel has the meaning given by the Regulations.

renewable paraffinic kerosene has the meaning given by the Regulations.

wet weight, in relation to waste, is the weight of material that has not been treated to remove moisture.

2 Subsection 2.20(2) (paragraph (c) of the definition of *transport energy purposes*)

Repeal the paragraph, substitute:

(c) waterborne transport;

3 Subsection 2.41(2) (paragraph (c) of the definition of *transport energy purposes*)

Repeal the paragraph, substitute:

(c) waterborne transport;

4 Subsection 2.45(1) (after table item 20)

Add:

20A	Renewable paraffinic diesel	ASTM D 240-02 (2007) ASTM D 4809-06	N/A	N/A
20B	Renewable paraffinic kerosene	ASTM D 240-02 (2007) ASTM D 4809-06	N/A	N/A

5 Subsection 2.45(1) (table item 22)

Repeal the item, substitute:

22	Biofuels other than those mentioned in items 20, 20A, 20B and 21	N/A	N/A	N/A
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6 Subsection 2.47(3) (after table item 20)

Add:

20A	Renewable paraffinic diesel	ISO 3170:2004 ISO 3171:1988 ASTM D 4057 – 06 ASTM D 4177 – 95 (2005)
20B	Renewable paraffinic kerosene	ISO 3170:2004 ISO 3171:1988 ASTM D 4057 – 06 ASTM D 4177 – 95 (2005)

7 Subsection 2.47(3) (table item 22)

Repeal the item, substitute:

22	Biofuels other than those mentioned in items 20, 20A, 20B and 21	ISO 3170:2004 ISO 3171:1988 ASTM D 4057 – 06 ASTM D 4177 – 95 (2005)
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8 Subparagraph 2.67A(b)(ii)

Omit “the analysing”, substitute “analysing”.

9 Section 3.20 (paragraph (c) of the definition of *EF_j*)

Repeal the paragraph, substitute:

(c) for a mine in Queensland—0.031;

10 Subsection 3.54(2)

Omit “subparagraph 3.51(1)(a)(ii)”, substitute “subparagraph 3.52(1)(a)(ii)”.

11 Subparagraph 3.88N(1)(c)(ii)

Omit “section 3.86A”, substitute “3.87A”.

12 Section 3.88 (the section 3.88 inserted by item 62 of Schedule 1 to the *National Greenhouse and Energy Reporting (Measurement) Amendment Determination 2010 (No. 1)*)

Renumber as section 3.88U.

13 Sections 4.85 and 4.89

Repeal the sections.

14 Subsections 5.4(2) to (5)

Repeal the subsections, substitute:

(2) For subsection (1), if:

$$\frac{\gamma (Q_{\text{cap}} + Q_{\text{flared}} + Q_{\text{tr}})}{CH_{4\text{gen}}}$$

is less than or equal to the collection efficiency amount for the landfill calculated in accordance with section 5.15C, then:

$$CH_4^* = CH_{4\text{gen}}$$

where:

$CH_{4\text{gen}}$ is the quantity of methane in landfill gas generation released from the landfill during the year estimated in accordance with subsection (4) and measured in CO₂-e tonnes.

(3) For subsection (1), if:

$$\frac{\gamma (Q_{\text{cap}} + Q_{\text{flared}} + Q_{\text{tr}})}{CH_{4\text{gen}}}$$

is greater than the collection efficiency amount for the landfill calculated in accordance with section 5.15C, then:

$$CH_4^* = \gamma (Q_{\text{cap}} + Q_{\text{flared}} + Q_{\text{tr}}) \times \left(\frac{1}{CEA} \right)$$

where:

γ is the factor $6.784 \times 10^{-4} \times GWP_{\text{methane}}$ converting cubic metres of methane at standard conditions measured to CO₂-e tonnes.

CEA is the collection efficiency amount for the landfill calculated in accordance with section 5.15C.

$CH_{4\text{gen}}$ is the quantity of methane in landfill gas generation released from the landfill during the year, estimated in accordance with subsection 5.4(4) and measured in CO₂-e tonnes.

Q_{cap} is the quantity of methane in landfill gas captured for combustion from the landfill during the year, measured in cubic metres in accordance with Division 2.3.6.

Q_{flared} is the quantity of methane in landfill gas flared from the landfill during the year and measured in cubic metres in accordance with Division 2.3.6.

Q_{tr} is the quantity of methane in landfill gas transferred out of the landfill during the year and measured in cubic metres in accordance with Division 2.3.6.

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- (4) For subsections (2) and (3), CH_{4gen} must be calculated using the estimates mentioned in section 5.4A and the equations mentioned in sections 5.4B, 5.4C and 5.4D.

15 Sections 5.4A, 5.4B, 5.4C, 5.4D, 5.13, and 5.15

Omit “subsection 5.4(5)” (wherever occurring), substitute “subsection 5.4(4)”.

16 Chapter 7

Repeal the Chapter, substitute:

Chapter 7—Scope 2 emissions

7.1 Application

- (1) This Chapter specifies:
- (a) the compulsory method for determining scope 2 location-based emissions from the consumption of purchased or acquired electricity, or the loss of electricity from an electricity transmission network or distribution network; and
 - (b) a voluntary market-based method for determining scope 2 emissions from the consumption of purchased or acquired electricity, or electricity that is generated and consumed by a facility behind its meter that is generated using renewable energy sources.
- (2) This Chapter applies if the amount of purchased electricity consumed from the operation of a facility during a year that results in scope 2 emissions is more than 20 000 kilowatt hours.

Note: Scope 2 emissions result from activities that generate electricity, heating, cooling or steam that is consumed by a facility but that do not form part of the facility (see regulation 2.24 of the Regulations).

7.2 Method 1—purchase and loss of electricity from main electricity grid in a State or Territory

- (1) The following method must be used for estimating scope 2 emissions released from electricity purchased or acquired from the main electricity grid in a State or Territory and consumed from the operation of a facility during a year:

$$Y = Q \times \frac{EF}{1\,000}$$

where:

Y is the scope 2 emissions measured in CO₂-e tonnes.

Q is the quantity of electricity purchased or acquired from the electricity grid during the year and consumed from the operation of the facility measured in kilowatt hours.

EF is the scope 2 location-based emission factor, in kilograms of CO₂-e emissions per kilowatt hour, for the State or Territory in which the consumption occurs as mentioned in Part 6 of Schedule 1.

- (1A) The method in subsection (1) must, subject to subsection (2), also be used for estimating scope 2 emissions released from electricity consumed from the operation of a facility during a year if the operation of the facility is constituted by an electricity transmission network or distribution network that is, or is part of, the main electricity grid in a State or Territory.
- (2) In applying that method for the purposes of subsection (1A), **Q** is the quantity of electricity losses for that network during the year.
- (3) For **Q**, if the electricity purchased or acquired (or lost) is measured in gigajoules, the quantity of kilowatt hours must be calculated by dividing the amount of gigajoules by 0.0036.
- (4) The **main electricity grid**, for a State or Territory, means:
 - (a) for Western Australia—the Southwest Interconnected System; and
 - (b) for the Northern Territory—the Darwin-Katherine Interconnected System; and
 - (c) for each other State or Territory—the electricity grid that provides electricity to the largest percentage of the State's or Territory's population.

7.3 Method 1—purchase and loss of electricity from other sources

- (1) The following formula must be used for estimating scope 2 emissions released from electricity:
 - (a) purchased or acquired from a grid other than the main electricity grid in a State or Territory; and
 - (b) consumed from the operation of a facility during a year:

$$Y = Q \times \frac{EF}{1\,000}$$

where:

Y is the scope 2 emissions measured in CO₂-e tonnes during the year.

Q is the quantity of electricity purchased or acquired during the year and consumed from the operation of the facility, measured in kilowatt hours.

EF is the scope 2 location-based emission factor, in kilograms of CO₂-e emissions per kilowatt hour, either:

- (a) provided by the supplier of the electricity; or
 - (b) if that factor is not available, the emission factor for the Northern Territory as mentioned in Part 6 of Schedule 1.
- (1A) The formula in subsection (1) must, subject to subsection (2), also be used for estimating scope 2 emissions released from electricity consumed from the operation of facility during a year if the operation of the facility is constituted by an electricity transmission network or distribution network that is not, and is not part of, the main electricity grid in a State or Territory.

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- (2) In applying that formula for the purposes of subsection (1A), Q is the quantity of electricity losses for that network during the year.
 - (3) For Q , if the electricity purchased or acquired (or lost) is measured in gigajoules, the quantity of kilowatt hours must be calculated by dividing the amount of gigajoules by 0.0036.

7.4 Method 1a—market-based method for the purchase and loss of electricity

- (1) For the purposes of a report under Part 3, 3E, 3F or 3G of the Act, the following formula may be used for estimating scope 2 emissions released from electricity:
 - (a) that is either:
 - (i) purchased or acquired from an electricity transmission network or distribution network; or
 - (ii) generated and consumed by a facility behind its meter; and
 - (b) partially or completely matched by an eligible Renewable Energy Certificate (as specified in subsection (3)); and
 - (c) consumed from the operation of a facility during a year:

$$Y = \left((Q - E) \times (1 - (RPP + JRPP)) \right) + (E \times (1 - JRPP)) - X \times 1000 + L \times 1000 \times \frac{RMF}{1000}$$

where:

Y is the scope 2 emissions measured in CO₂-e tonnes.

Q is the quantity of electricity purchased or acquired from the electricity grid during the year and consumed from the operation of the facility measured in kilowatt hours.

E is the quantity of electricity exempt from Renewable Energy Target (RET) liability, measured in kilowatt hours.

RPP is the RET Renewable Power Percentage for the applicable period (averaged across the adjacent calendar years) as published by the Clean Energy Regular, <https://www.cleanenergyregulator.gov.au/RET/Scheme-participants-and-industry/the-renewable-power-percentage>. For electricity exempt from RET liability the RPP equals zero.

$JRPP$ is the jurisdictional renewable power percentage for the applicable period and activity state. For reporters in a jurisdiction without a jurisdictional renewable power percentage the JRPP equals zero. It is calculated as the number of eligible Renewable Energy Certificates surrendered by or on behalf of the jurisdictional authority divided by total electricity consumption in the jurisdiction.

X is the number of eligible Renewable Energy Certificates voluntarily surrendered in the reporting year equivalent to megawatt hours.

RMF is the scope 2 residual mix factor, in kilograms of CO₂-e emissions per kilowatt hour as mentioned in Part 6 of Schedule 1.

L is the number of eligible Renewable Energy Certificates that have been or will be issued for electricity produced on-site during the year and consumed from the operation of the facility equivalent to megawatt hours.

Note 1: An entity may optionally use this method in addition to the applicable compulsory method for calculating scope 2 emissions for the purchase and loss of electricity.

Note 2: This method may not be used for the purpose of calculating whether a controlling corporation's group meets a threshold for a financial year under section 13 of the Act.

- (2) For Q , if the electricity purchased or acquired (or lost) is measured in gigajoules, the quantity of kilowatt hours must be calculated by dividing the amount of gigajoules by 0.0036.
- (3) For X , an eligible Renewable Energy Certificate is:
 - (a) a Large-scale Generation Certificate (**LGC**), other than an ineligible Renewable Energy Certificate, that is voluntarily surrendered through the Renewable Energy Certificate Registry in the reporting year; or
 - (b) a purchase of GreenPower electricity from an accredited GreenPower Provider;

that is supported by evidence in accordance with subsection (5).
- (4) For subsection (3), an **ineligible Renewable Energy Certificate** is:
 - (a) an LGC surrendered to meet a liable entity's obligations for that compliance year under the *Renewable Energy (Electricity) Act 2000*;
 - (b) a small-scale technology certificate (STC);
 - (c) a certificate administered under a State or Territory scheme;
 - (d) an incorrectly created or cancelled LGC
 - (e) an LGC that is voluntarily surrendered and has a generation date of more than 36 months prior to the end of the reporting year.
- (5) For subsection (3), the evidence required to support the attribution of an eligible Renewable Energy Certificate to a facility's estimate of scope 2 emissions under this method is:
 - (a) for a voluntarily surrendered LGC—the serial number of the LGC, as recorded on the Renewable Energy Certificate Registry;
 - (b) for a purchase of GreenPower electricity from an accredited GreenPower Provider—a receipt for the purchase.
- (6) If more eligible Renewable Energy Certificates are attributed to a facility's estimate of scope 2 emissions under this method than the total required to reach zero emissions (calculated in accordance with subsection (1)), then Y is equal to zero.

17 Subsection 8.6(1) (table item 30)

Omit "29 and 29A", substitute "28A and 29".

18 Subsection 8.6(1) (after table item 50)

Add:

50A	Renewable paraffinic kerosene	3	NA
50B	Renewable paraffinic diesel	2	NA

19 Subsection 8.6(1) (table item 52)

Repeal the item, substitute:

52	Biofuels other than those mentioned in items 50, 50A, 50B and 51	50	NA
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20 After section 9.15

Add:

9.16 Amendments made by the *National Greenhouse and Energy Reporting (Measurement) Amendment (2023 Update) Determination 2023*

The amendments made by the *National Greenhouse and Energy Reporting (Measurement) Amendment (2023 Update) Determination 2023* apply in relation to:

- (a) the financial year starting on 1 July 2023; and
- (b) later financial years.

21 Part 2 of Schedule 1 (table item 17, column 2)

After “Natural gas”, insert “transmitted or”.

22 Part 3 of Schedule 1 (after table item 50)

Add:

50A	Renewable paraffinic diesel	38.6	0.0	0.1	0.2
50B	Renewable paraffinic kerosene	36.8	0.0	0.02	0.2

23 Part 3 of Schedule 1 (table item 52)

Repeal the item, substitute:

52	Biofuels other than those mentioned in items 50, 50A, 50B and 51	23.4	0.0	0.08	0.2
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24 Division 4.1 of Part 4 of Schedule 1 (after table item 59)

Add:

59A	Renewable paraffinic diesel	38.6	0.0	0.1	0.4
59B	Renewable paraffinic kerosene	36.8	0.0	0.01	0.6

25 Division 4.1 of Part 4 of Schedule 1 (table item 61)

Repeal the item, substitute:

61	Biofuels other than those mentioned in items 59, 59A, 59B and 60	23.4	0.0	0.8	1.7
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26 Division 4.2 of Part 4 of Schedule 1 (after table item 65)

Add:

65A	Renewable paraffinic diesel	38.6	0.00	0.01	0.5
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27 Division 4.3 of Part 4 of Schedule 1 (table)

Repeal the table, substitute:

Item	Fuel type	Heavy vehicles design standard	Energy content factor GJ/kL	Emission factor kg CO ₂ -e/GJ (relevant oxidation factors incorporated)		
				CO ₂	CH ₄	N ₂ O
68	Diesel oil	Euro iv or higher	38.6	69.9	0.07	0.4
68A	Renewable paraffinic diesel	Euro iv or higher	38.6	0.00	0.07	0.4
69	Diesel oil	Euro iii	38.6	69.9	0.1	0.4
69A	Renewable paraffinic diesel	Euro iii	38.6	0.00	0.1	0.4
70	Diesel oil	Euro i	38.6	69.9	0.2	0.4
70A	Renewable paraffinic diesel	Euro i	38.6	0.00	0.2	0.4

28 Part 6 of Schedule 1

Repeal the Part, substitute:

Part 6—Indirect (scope 2) emission factors and residual mix factors for consumption of electricity

Item	Column 1 State, Territory or grid description	Column 2 Emission factor kg CO ₂ -e/kWh	Column 3 Residual mix factor kg CO ₂ -e/kWh
77	New South Wales and Australian Capital Territory	0.68	0.81
78	Victoria	0.79	0.81
79	Queensland	0.73	0.81
80	South Australia	0.25	0.81
81	South West Interconnected System in Western Australia	0.53	0.81
82	Tasmania	0.12	0.81
83	Northern Territory	0.54	0.81

29 Part 2 of Schedule 3 (table item 17A, column 2)

Before “distributed in a pipeline”, insert “transmitted or”.

30 Part 3 of Schedule 3 (after table item 52)

Add:

52A	Renewable paraffinic diesel	0
52B	Renewable paraffinic kerosene	0

31 Amendments of listed provisions—Valves—leaker

Omit “Values—leaker” and substitute “Valves—leaker” in the following provisions:

- (a) subsection 3.73C(3) (table), column 2 of item 2;
- (b) subsection 3.73H(3) (table), column 2 of item 2;
- (c) subsection 3.73M(4) (table), column 2 of item 2;
- (d) subsection 3.73S(3) (table), column 2 of item 2;
- (e) subsection 3.78E(3) (table), column 2 of item 2;
- (d) subsection 3.78J(3) (table), column 2 of item 2.

32 Amendments of listed provisions—Natural gas transmitted or distributed in a pipeline

Omit “Natural gas if distributed in a pipeline” and substitute “Natural gas transmitted or distributed in a pipeline” in the following provisions:

- (a) subsection 2.24(1) (table), column 2 of item 1;
- (b) subsection 2.26(3) (table), column 2 of item 1;
- (c) subsection 8.6(1) (table), column 2 of item 17;
- (d) Part 2 of Schedule 3 (table), column 2 of item 17.