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 6 June 2023

Chris Bowen
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Note: This table relates only to the provisions of this instrument as originally made.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Each instrument that is specified in a Schedule to this instrument is amended or repealed as set out in the applicable items in the Schedule concerned, and any other item in a Schedule to this instrument has effect according to its terms.

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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 aviation kerosene has the meaning given by the Regulations.

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

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22	Biofuels other than those mentioned in items 20, 20A, 20B and 21	N/A	N/A	N/A

6 Subsection 2.47(3) (after table item 20)

Add:

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

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 "section 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.

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14 Subsections 5.4(2) to (5)

Repeal the subsections, substitute:

(2) For subsection (1), if:

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

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

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

where:

CH_{4gen} 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 CO_2-e tonnes.

(3) For subsection (1), if:

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

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

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

where:

γ is the factor $6.784 \times 10^{-4} \times GWP_{methane}$ converting cubic metres of methane at standard conditions measured to CO_2-e tonnes.

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

CH_{4gen} 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 CO_2-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 Section 5.15C

Repeal the section, substitute:

5.15C Equation—collection efficiency limit at landfill in particular reporting year

(1) Subject to subsection (3), the collection efficiency limit for a landfill is calculated using the following formula:

$$\frac{(A3 \times 60\% + A4 \times 75\% + A5 \times 95\%)}{(A2 + A3 + A4 + A5)}$$

where:

A2 is the area of the landfill in square metres, regardless of cover type, without active gas collection.

A3 is the area of the landfill in square metres that has daily soil cover and active gas collection.

A4 is the area of the landfill in square metres that has active gas collection and:

(a) an intermediate cover in place; or

(b) a final phytocap.

A5 is the area of the landfill in square metres that has active gas collection and final capping in place (excluding phytocaps) as approved under applicable State or Territory legislation.

(2) For ***A4***, the intermediate cover in place must be consistent with:

(a) applicable guidance issued by the State or Territory in which the landfill is located; or

(b) if no applicable guidance has been issued by the State or Territory in which the landfill is located:

(i) the document entitled *Siting, design, operation and rehabilitation of landfills* (Publication 788.3), published by the Environment Protection Authority Victoria in August 2015, as in force or existing from time to time; or

(ii) the last published version of the document referred to in subparagraph (i), if that document is no longer published.

(3) Where a landfill operator is unable to specify the areas for the factors A2, A3, A4 and A5 in subsection (1), the collection efficiency limit for the landfill is calculated using the following formula:

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$$\frac{\text{Area of the landfill in square metres that has active gas collection} \times 60\%}{\text{Total area of the landfill in square metres}}$$

17 Chapter 7

Repeal the Chapter, substitute:

Chapter 7—Scope 2 emissions

7.1 Application

(1) This Chapter specifies:

(a) compulsory location-based methods for determining scope 2 emissions from the consumption of purchased or acquired electricity, or the loss of electricity from an electricity transmission network or distribution network (method A1 under section 7.2 and method A2 under section 7.3); and

(b) a voluntary market-based method for determining scope 2 emissions from the consumption of purchased or acquired electricity (method B under section 7.4).

(2) Methods A1 and A2 apply 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 1: 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).

Note 2: An entity may use the voluntary market-based method (method B) in addition to the compulsory location-based methods to estimate scope 2 emissions. However, emissions estimated using the market-based method should not be aggregated with emissions estimated using a location-based method.

Note 3: An entity may use the voluntary market-based method (method B) regardless of the amount of purchased electricity consumed from the operation of a facility during a year.

7.2 Method A1—location-based method—electricity purchased, acquired or lost from main electricity grid in a State or Territory

(1) The following method must be used for estimating scope 2 emissions 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 CO_2-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.

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EF is the scope 2 location-based emission factor, in kilograms of CO_2-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 in 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 A2—location-based method—electricity purchased, acquired or lost from other sources

(1) The following formula must be used for estimating scope 2 emissions from electricity:

(a) purchased or acquired from an electricity transmission network or distribution network 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 CO_2-e tonnes.

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 CO_2-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

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an electricity transmission network or distribution network that is not, and is not part of, the main electricity grid in a State or Territory.

(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 in gigajoules by 0.0036.

7.4 Method B—market-based method

(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 from purchased or acquired electricity consumed from the operation of a facility during a year:

$$Y = ((Q - Q_{exempt}) \times (1 - (RPP + JRPP)) + (Q_{exempt} \times (1 - JRPP)) - (REC_{surr} - REC_{onsite}) \times 1000) \times \frac{RMF}{1000}$$

where:

Y is the scope 2 emissions measured in CO_2-e tonnes.

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

$\boldsymbol{Q_{exempt}}$ 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 Regulator, https://www.cleanenergyregulator.gov.au/RET/Scheme-participants-and-industry/the-renewable-power-percentage.

JRPP is the jurisdictional renewable power percentage for the applicable period, activity and State or Territory. 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.

$\boldsymbol{REC_{surr}}$ 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 CO_2-e emissions per kilowatt hour as mentioned in Part 6 of Schedule 1.

$\boldsymbol{REC_{onsite}}$ 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 compulsory location-based methods for estimating scope 2 emissions. However, emissions estimated using the market-based method should not be aggregated with emissions estimated using location-based methods.

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.

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(2) For $\boldsymbol{Q}$ and $\boldsymbol{Q_{exempt}}$, if the electricity purchased or acquired is measured in gigajoules, the quantity of kilowatt hours must be calculated by dividing the amount in gigajoules by 0.0036.

(3) For $\boldsymbol{REC_{surr}}$, $\boldsymbol{REC_{onsite}}$ and ***JRPP***, 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*; or

(b) an incorrectly created or cancelled LGC; or

(c) 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 or a statement confirming the purchase from an accredited GreenPower Provider.

(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 $\boldsymbol{Y}$ is equal to zero.

18 Subsection 8.6(1) (table item 30)

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

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

Add:

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

20 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

21 After section 9.15

Add:

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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.

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

After "Natural gas", insert "transmitted or".

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

Add:

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

24 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

25 Division 4.1 of Part 4 of Schedule 1 (after table item 59)

Add:

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

26 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

27 Division 4.2 of Part 4 of Schedule 1 (after table item 65)

Add:

65A	Renewable diesel	38.6	0.00	0.01	0.5

28 Division 4.3 of Part 4 of Schedule 1 (table)

Repeal the table, substitute:

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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_2O
68	Diesel oil	Euro iv or higher	38.6	69.9	0.07	0.4
68A	Renewable 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 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 diesel	Euro i	38.6	0.00	0.2	0.4

29 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

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

Before "distributed in a pipeline", insert "transmitted or".

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

Add:

52A	Renewable aviation kerosene	0
52B	Renewable diesel	0

32 Part 2 of Schedule 4

Omit "megajoules" (wherever occurring), substitute "gigajoules".

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33 After Part 6 of Schedule 4

Add:

Part 7—Scope 2 emissions

For the purposes of subsection 4.17B(2) of the Regulations, the matters that must be included in a report are the values Q, Q_{exempt}, REC_{surr} and REC_{onsite} used to estimate scope 2 emissions under the market-based method as set out in section 7.4 (method B).

34 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.

35 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.

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