



National Greenhouse and Energy Reporting Legislation Amendment (Best Practice Emissions Intensities Update) Instrument 2024

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

Dated 26 August 2024

Chris Bowen

Minister for Climate Change and Energy

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1 Name

This instrument is the *National Greenhouse and Energy Reporting Legislation Amendment (Best Practice Emissions Intensities Update) Instrument 2024*.

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	The day after this instrument is registered.	

Note: This table relates only to the provisions of this instrument as originally made.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 subsections 10(3) and 22XS(1) 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Each instrument that is specified in a Schedule to this instrument is amended or repealed as set out in the applicable items in the Schedule concerned, and any other item in a Schedule to this instrument has effect according to its terms.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 Subsection 5.15(4)

Omit the following equation:

$$\text{CH}_{4z}^* = \gamma(Q_{\text{capz}} + Q_{\text{flaredz}} + Q_{\text{trz}}) \times \left(\frac{1}{\text{CEA}} \right)$$

Substitute:

$$\text{CH}_{4z}^* = \gamma(Q_{\text{capz}} + Q_{\text{flaredz}} + Q_{\text{trz}}) \times \left(\frac{1}{\text{CEL}} \right)$$

2 At the end of Chapter 9

Add:

9.19 Amendments made by the *National Greenhouse and Energy Reporting Legislation Amendment (Best Practice Emissions Intensities Update) Instrument 2024*

The amendments made by the *National Greenhouse and Energy Reporting
Legislation Amendment (Best Practice Emissions Intensities Update) Instrument
2024* apply in relation to:

- (a) the financial year starting on 1 July 2024; and
- (b) later financial years.

3 Schedule 1, Part 6

Repeal the Part (not including the heading), substitute:

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	0.66	0.81
78	Victoria	0.77	0.81
79	Queensland	0.71	0.81
80	South Australia	0.23	0.81
81	South West Interconnected System in Western Australia	0.51	0.81
82	Tasmania	0.15	0.81
83	Northern Territory	0.56	0.81

***National Greenhouse and Energy Reporting (Safeguard Mechanism)
Rule 2015***

4 At the end of section 17

Add:

- (6) An audit report under this section must be the result of an audit which:
 - (a) was conducted in accordance with the relevant requirements for reasonable assurance engagements under the *National Greenhouse and Energy Reporting (Audit) Determination 2009*; and
 - (b) had an audit team leader who is registered as a Category 2 auditor under subregulation 6.25(3) of the NGER Regulations.

5 Subsection 39(3)

Repeal the subsection, substitute:

- (3) The application must include the following information:
 - (a) if the facility was not a manufacturing facility in the first financial year—all of the following:
 - (i) subject to subsection 36(2), the revenue of the facility in the first financial year, calculated in accordance with:
 - (A) the Australian accounting standards as in force at the end of the first financial year; and
 - (B) any EBIT Guidelines that are in force at that time;
 - (ii) information about the assumptions made when working out that revenue;
 - (b) if the facility was a manufacturing facility in the first financial year—all of the following:
 - (i) the earnings before interest and tax (the ***EBIT***) of the facility in the first financial year, calculated in accordance with section 37;
 - (ii) information about the assumptions made when working out the EBIT under that section;
 - (iii) each depreciation factor used in the depreciation schedule used for calculating the EBIT;
 - (iv) if the depreciation schedule used for calculating the EBIT uses an accelerated depreciation factor—an explanation for why the accelerated depreciation factor is used;
 - (c) both of the following:
 - (i) the assessed cost impact for the facility for the first financial year;
 - (ii) information about the assumptions made when working out that assessed cost impact;
 - (d) the amount of covered emissions of greenhouse gases from the operation of the facility in the first financial year;
 - (e) the hypothetical baseline for the facility for the first financial year;
 - (f) the emissions reduction contribution, and the baseline emissions number, for the facility for the first financial year if:
 - (i) the determination were made; and

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- (ii) those numbers were worked out using the assessed cost impact for the facility for the first financial year;
 - (g) an estimate of the emissions reduction contribution for the facility for each of the next 2 financial years after the first financial year if the determination were made.

6 After subsection 39(3)

Insert:

- (3A) For the purposes of subsection (3)(a)(i), EBIT Guidelines prevail over the Australian accounting standards to the extent of any inconsistency.

7 At the end of section 40

Add:

- (4) An audit report under this section must be the result of an audit which:
 - (a) was conducted in accordance with the relevant requirements for reasonable assurance engagements under the *National Greenhouse and Energy Reporting (Audit) Determination 2009*; and
 - (b) had an audit team leader who is registered as a Category 2 auditor under subregulation 6.25(3) of the NGER Regulations.

8 Subparagraph 42(2)(a)(iv)

After “equivalence of”, insert “covered emissions of”.

9 At the end of section 72

Add:

- (4) If the total amount of covered emissions of greenhouse gases from the operation of a designated large facility during a financial year is set out in a report under this Act for the financial year, the Regulator must publish on its website by the first 15 April after the end of the financial year, the methods used by the facility to estimate each source of fugitive methane emissions from the following for the financial year:
 - (a) coal mining activities; and
 - (b) oil and natural gas activities.

10 At the end of Part 6

Add:

Division 8—Application, saving and transitional provisions relating to the *National Greenhouse and Energy Reporting Legislation Amendment (Best Practice Emissions Intensities Update) Instrument 2024*

93 Application and transitional provisions

- (1) If a best practice emissions intensity is being used in relation to a baseline emissions number for the financial year beginning on 1 July 2023 or 1 July 2024,

the best practice emissions intensity is to be determined as the value in force immediately after the commencement of Schedule 1 to the *National Greenhouse and Energy Reporting Legislation Amendment (Best Practice Emissions Intensities Update) Instrument 2024*.

- (2) If a default emissions intensity is being used in relation to a baseline emissions number for the financial year beginning on 1 July 2024, the default emissions intensity is to be determined as the value in force immediately after the commencement of Schedule 1 to the *National Greenhouse and Energy Reporting Legislation Amendment (Best Practice Emissions Intensities Update) Instrument 2024*.
- (3) Despite subsection 92(1), if a default emissions intensity for the gaseous hydrogen production variable in section 99 of Schedule 1 is being used in relation to a baseline emissions number for the financial year beginning on 1 July 2023, the default emissions intensity is to be determined as the value in force immediately after the commencement of Schedule 1 to the *National Greenhouse and Energy Reporting Legislation Amendment (Best Practice Emissions Intensities Update) Instrument 2024*.

11 At the end of section 9 of Schedule 1

Add:

- (4) The best practice emissions intensity is 1.26 t CO₂-e per tonne of 100% equivalent anhydrous ammonia.

12 At the end of section 11 of Schedule 1

Add:

- (5) The best practice emissions intensity is 0.306 t CO₂-e per tonne of 100% equivalent carbamide.

13 At the end of Part 9 of Schedule 1

Add:

Part 9A—Phosphoric acid

12B Phosphoric acid

- (1) Kilolitres of 100% equivalent phosphoric acid (H₃PO₄) that:
 - (a) are contained in solution where the concentration of phosphoric acid is greater than 70% by weight; and
 - (b) are produced as part of carrying on the phosphoric acid production activity at the facility; and
 - (c) are of saleable quality.
- (2) The metric in subsection (1) is applicable to a facility that conducts the activity of producing phosphoric acid through the transformation of phosphate-bearing minerals (the ***phosphoric acid production activity***).
- (3) The metric in subsection (1) is not applicable to a facility which further processes the phosphoric acid into monoammonium phosphate or diammonium phosphate.

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- (4) The best practice emissions intensity is 0.114 t CO₂-e per kilolitre of 100% equivalent phosphoric acid.

14 Subsection 13(2) of Schedule 1

Repeal the subsection, substitute:

- (2) The metric in subsection (1) is applicable to a facility that conducts the activity of producing sodium cyanide through:
- (a) the chemical transformation of methane, anhydrous ammonia (NH₃) and air to produce hydrogen cyanide (HCN); and
 - (b) the chemical transformation of that hydrogen cyanide (HCN) and caustic soda to produce sodium cyanide (NaCN).

15 At the end of section 21 of Schedule 1

Add:

- (5) The best practice emissions intensity is 0.0204 t CO₂-e per tonne of manganese ore.

16 At the end of section 23A of Schedule 1

Add:

- (5) The best practice emissions intensity is 0.0105 t CO₂-e per tonne of lithium ore.

17 Subsection 28(4) of Schedule 1

Repeal the subsection, substitute:

- (4) However, the metric in subsection (1) is not applicable to a facility using another production variable in this Part (other than the reservoir carbon dioxide production variables in sections 35 and 35A of Schedule 1).

18 At the end of section 29 of Schedule 1

Add:

- (4) The best practice emissions intensity is 0.000243 t CO₂-e per gigajoule of processed natural gas.

19 Subsection 30(4) of Schedule 1

Repeal the subsection, substitute:

- (4) However, the metric in subsection (1) is not applicable to a facility using another production variable in this Part (other than the reservoir carbon dioxide production variables in sections 35 and 35A of Schedule 1 or the processed natural gas (processing only) production variable in section 29 of Schedule 1).

20 At the end of section 30 of Schedule 1

Add:

- (6) The best practice emissions intensity is 0.000394 t CO₂-e per gigajoule of processed natural gas.

21 At the end of section 31 of Schedule 1

Add:

- (6) The best practice emissions intensity is 0.000876 t CO₂-e per gigajoule of liquefied natural gas.

22 Subsection 36(4) of Schedule 1

Repeal the subsection, substitute:

- (4) In this Part:

carbon steel means material that:

- (a) contains by mass more iron (Fe) than any other single element; and
(b) has a carbon (C) concentration less than 2%.

coke oven coke means the solid product obtained from the carbonisation of coal (principally coking coal) or other materials at a high temperature and includes coke breeze and foundry coke.

23 Subsection 39(4) of Schedule 1

Omit “ $Q_p + 0.892 Q_i$ ”, substitute “ $Q_p + (1 - 0.108 c) Q_i$ ”.

24 Subsection 39(4) of Schedule 1

After the definition of Q_p , insert:

c is:

- (a) if the facility is using a production process that uses coke oven coke and requires less than 0.4 tonnes of coke oven coke to produce a tonne of metallic iron products for the majority of its iron production—the number of tonnes of coke oven coke required to produce a tonne of metallic iron products for the facility, divided by 0.468; or
(b) otherwise—1.

25 Subsection 39(4) of Schedule 1 (Example)

Repeal the example, substitute:

Example: Assume that a facility produces 10,000 tonnes of metallic iron products that are exported from the facility and are of saleable quality, using coke oven coke, as part of carrying on the primary iron production activity at the facility. Assume that all the metallic iron products are 2% gangue and that 10% of the metallic iron products are made using imported coke. Assume the facility requires 0.4 or more tonnes of coke oven coke to produce a tonne of metallic iron products for the majority of its iron production.

Because the metallic iron products are 2% gangue, the facility therefore produces 9,800 tonnes of metallic iron products that meet the requirements of subsection (1) and, as such, $Q_p = 90\% \times 9,800 = 8,820$; and $Q_i = 10\% \times 9,800 = 980$. The metric, in tonnes, is therefore equal to $8,820 + (1 - 0.108) \times 980$, or 9,694.16.

26 Section 41 of Schedule 1

Repeal the section, substitute:

41 Primary Steel

- (1) Subject to subsections (4) and (5), tonnes of continuously cast carbon steel products and ingots of carbon steel that:
 - (a) are produced as part of carrying on the primary steel manufacturing activity at the facility; and
 - (b) are of saleable quality.
- (2) The metric in subsection (1) is applicable to a facility that conducts the activity of producing continuously cast carbon steel products and ingots of carbon steel through the physical and chemical transformation of iron feed material (which may include, but is not solely comprised of, cold ferrous feed) into crude carbon steel products and hot-rolled carbon steel products.

- (3) The activity in subsection (2) is the **primary steel manufacturing activity**.

Examples: Smelting iron ore in a blast furnace to make pig iron, and then making carbon steel from the pig iron and added scrap metal using a basic oxygen furnace.

Making direct reduced iron from iron ore using direct reduction, and then making carbon steel from the iron using an electric arc furnace.

Note: Cold ferrous feed, such as scrap metal, can be used as a co-input in the primary steel manufacturing activity. Steel produced on a production line where cold ferrous feed is the only iron feed material does not meet the definition of the primary steel manufacturing activity, and therefore section 44 is applicable.

- (4) For subsection (1), if the amount of coke oven coke imported into the facility to produce the continuously cast carbon steel products and ingots of carbon steel is equal to or greater than 5% of the total amount of coke oven coke consumed in carrying on the primary steel manufacturing activity, then tonnes of continuously cast carbon steel products and ingots of carbon steel are given by the following equation:

Tonnes of continuously cast carbon steel products and ingots of carbon steel =
 $Q_p + (1 - 0.1 c) Q_i$

where:

Q_p is the quantity of continuously cast carbon steel products and ingots of carbon steel that meet the requirements of subsection (1) and are not produced using coke oven coke imported into the facility.

c is:

- (a) if the facility is using a production process that uses coke oven coke and requires less than 0.4 tonnes of coke oven coke to produce a tonne of continuously cast carbon steel products and ingots of carbon steel for the majority of its steel production—the number of tonnes of coke oven coke required to produce a tonne of continuously cast carbon steel products and ingots of carbon steel for the facility, divided by 0.446; or
- (b) otherwise—1.

Q_i is the quantity of continuously cast carbon steel products and ingots of carbon steel that meet the requirements of subsection (1) and are produced using coke oven coke imported into the facility.

Note 1: Q_p may or may not have been produced with coke oven coke.

Note 2: Q_p and Q_i do not need to be directly measured; they can be calculated from the consumed ratio of coke oven coke imported into the facility to coke oven coke used to produce continuously cast carbon steel products and ingots of carbon steel that meet the requirements in subsection (1), multiplied by the quantity of steel produced using coke oven coke.

Example: A facility produces 100,000 tonnes of continuously cast carbon steel products and ingots of carbon steel that meet the requirements in subsection (1). 50,000 tonnes of products were produced using an electric arc furnace process that does not use coke oven coke, 45,000 tonnes were produced using coke oven coke produced at the facility, and 5,000 tonnes were produced using coke oven coke imported to the facility. Assume the facility requires 0.4 or more tonnes of coke oven coke to produce a tonne of continuously cast carbon steel products and ingots of carbon steel for the majority of its steel production. The amount of coke oven coke imported into the facility to produce the continuously cast carbon steel products and ingots of carbon steel is 10% of the total amount of coke oven coke consumed in carrying on the primary steel manufacturing activity. The metric is equal to $95,000 + (1 - 0.1) \times 5,000$, or 99,500 tonnes.

- (5) For subsection (1), if more than 35% (by mass) of the total iron ore feed and cold ferrous feed that is used as an input to the primary steel manufacturing activity is comprised of cold ferrous feed, then the tonnes of continuously cast carbon steel products and ingots of carbon steel are given by the following equation:

$$\text{Tonnes of continuously cast carbon steel products and ingots of carbon steel} = (100\% - CFF_{adj}\%) \times Q$$

where:

$CFF_{adj}\%$ is the percentage (by mass) of the total iron ore feed and cold ferrous feed used as an input to the primary steel manufacturing activity that is comprised of cold ferrous feed, minus 35%.

Q is tonnes of continuously cast carbon steel products and ingots of carbon steel that meet the requirements of subsection (1), taking into account any adjustments resulting from subsection (4).

Example: A facility produces steel from 60,000 tonnes of iron ore feed and 40,000 tonnes of cold ferrous feed. From this feed, 90,000 tonnes of steel are produced. Therefore, 40% of the total feed to steelmaking comes from cold ferrous feed (i.e. $40,000 / (40,000 + 60,000)$), meaning that the adjustment in subsection (5) is required. $CFF_{adj}\%$ is equal to 5% (i.e. $40\% - 35\%$), and it follows that 95% (i.e. $100\% - 5\%$) of the steel manufactured by the facility meets the metric in subsection (1), assuming no adjustment was required by subsection (4), the metric is $95\% \times 90,000 = 85,500$ tonnes.

Note 1: If, as a result of subsection (5), there is any steel produced at the facility that is not counted towards the metric in subsection (1), such as 4,500 tonnes in the example above, this steel meets the metric in subsection 44(3).

- (6) In subsection (5), *cold ferrous feed* does not include cold ferrous feed produced by the facility.
- (7) The default emissions intensity is 2.07 t CO₂-e per tonne of continuously cast carbon steel products and ingots of carbon steel.

27 Section 44 of Schedule 1

Repeal the section, substitute:

44 Continuously cast carbon steel products and ingots of carbon steel (manufacture of carbon steel from cold ferrous feed)

- (1) Subject to subsection (3), tonnes of continuously cast carbon steel products and ingots of carbon steel that:
 - (a) are produced as part of carrying on:
 - (i) the manufacture of carbon steel from cold ferrous feed activity at the facility; or
 - (ii) if subsection 41(5) applies to the facility – the primary steel manufacturing activity at the facility; and
 - (b) are of saleable quality.
- (2) The metric in subsection (1) is applicable to a facility that:
 - (a) conducts the activity of the manufacture of carbon steel from cold ferrous feed; or
 - (b) if subsection 41(5) applies to the facility – conducts the primary steel manufacturing activity.
- (3) For subsection (1), if subsection 41(5) applies to the facility, then tonnes of continuously cast carbon steel products and ingots of carbon steel are given by the following equation:

$$Q_a + (Q_b - Q_c)$$

where:

Q_a is tonnes of continuously cast carbon steel products and ingots of carbon steel that are produced as part of carrying on the manufacture of carbon steel from cold ferrous feed activity at the facility.

Q_b is tonnes of continuously cast carbon steel products and ingots of carbon steel that meet the requirements of subsection 41(1), taking into account any adjustments resulting from subsection 41(4) (but not taking into account any adjustments resulting from subsection 41(5)).

Q_c is tonnes of continuously cast carbon steel products and ingots of carbon steel calculated in accordance with subsection 41(5).

Example: In the example for subsection 41(5), a facility manufactured 90,000 tonnes of continuously cast carbon steel products and ingots of carbon steel from iron ore feed and cold ferrous feed. Given cold ferrous feed in this example exceeded 35% of total feed, 85,500 tonnes are considered produced from the primary steel manufacturing activity. Therefore, the remaining 4,500 tonnes of continuously cast carbon steel products and ingots of carbon steel is considered to meet the metric in subsection (1).

- (4) The default emissions intensity is 0.0981 t CO₂-e per tonne of continuously cast carbon steel products and ingots of carbon steel.

28 Subsection 58(3) of Schedule 1

Omit “0.254”, substitute “0.196”.

29 At the end of section 66 of Schedule 1

Add:

-
- (5) The best practice emissions intensity is 0.00237 t CO₂-e per tonne of quarried rock.

30 At the end of section 72 of Schedule 1

Add:

- (4) The best practice emissions intensity is 0.455 t CO₂-e per tonne of copper anode.

31 At the end of section 77 of Schedule 1

Add:

- (4) The best practice emissions intensity is 3.78 t CO₂-e per tonne of 100% equivalent nickel.

32 At the end of section 78 of Schedule 1

Add:

- (4) The best practice emissions intensity is 2.29 t CO₂-e per tonne of 100% equivalent nickel.

33 At the end of section 79 of Schedule 1

Add:

- (4) The best practice emissions intensity is 1.48 t CO₂-e per tonne of 100% equivalent nickel.

34 Subsection 99(4) of Schedule 1

Repeal the subsection, substitute:

- (4) The default emissions intensity is 9.01 t CO₂-e per tonne of gaseous hydrogen.
(5) The best practice emissions intensity is 7.13 t CO₂-e per tonne of gaseous hydrogen.

35 At the end of section 103 of Schedule 1

Add:

- (3) The best practice emissions intensity is 0.717 t CO₂-e per kilolitre of renewable aviation kerosene.

36 At the end of section 104 of Schedule 1

Add:

- (3) The best practice emissions intensity is 0.704 t CO₂-e per kilolitre of renewable diesel.

37 At the end of Schedule 1

Add:

Part 51—Rare earth processing

105 Definitions

In this Part:

Primary rare earth elements means praseodymium (Pr), neodymium (Nd), terbium (Tb), and dysprosium (Dy).

Primary rare earth oxides means:

- (a) oxides of primary rare earth elements; or
- (b) mixtures of one or more primary rare earth elements and oxides of primary rare earth elements.

Separated primary rare earth products means semi-separated or individual primary rare earth compounds.

106 Rare earth processing

- (1) Tonnes of total primary rare earth oxide equivalent contained in separated primary rare earth products that:
 - (a) have weight by weight primary rare earth oxide greater than 90%; and
 - (b) are suitable quality and concentration as an input to a metallisation process (including via electrolysis); and
 - (c) are produced as part of carrying on the separated primary rare earth products production activity at the facility; and
 - (d) are of saleable quality.
- (2) The metric in subsection (1) is applicable to a facility that conducts the activity of producing separated primary rare earth products through the transformation of metal ore (the **separated primary rare earth products production activity**).
- (3) The best practice emissions intensity is 20.1 t CO₂-e per tonne of total primary rare earth oxide.

38 Section 1 of Schedule 2 (after table item 58)

Add:

59	Kilolitres of phosphoric acid
60	Tonnes of total primary rare earth oxide equivalent contained in separated primary rare earth products
