National Greenhouse and Energy Reporting (Safeguard Mechanism) Amendment (Prescribed Production Variables) Rule 2020

I, Angus Taylor, Minister for Energy and Emissions Reduction, make the following instrument.

Dated 27 February 2020

Angus Taylor
Minister for Energy and Emissions Reduction

Contents

1 Name

This instrument is the *National Greenhouse and Energy Reporting (Safeguard Mechanism) Amendment (Prescribed Production Variables) Rule 2020*.

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Note: This table relates only to the provisions of this instrument as originally made.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 subsection 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Each instrument that is specified in a Schedule to this instrument is amended or repealed as set out in the applicable items in the Schedule concerned, and any other item in a Schedule to this instrument has effect according to its terms.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 (Safeguard Mechanism) Rule 2015

1 Section 4

Insert in the appropriate alphabetical position:

> ***Safeguard Mechanism document*** means the document entitled "Safeguard Mechanism: Prescribed production variables and default emissions intensities" published by the Department and as in force on the commencement of the *National Greenhouse and Energy Reporting (Safeguard Mechanism) Amendment (Prescribed Production Variables) Rule 2020*.
>
> Note: In 2020, the document could be accessed from http://www.industry.gov.au and is included in the explanatory statement for the *National Greenhouse and Energy Reporting (Safeguard Mechanism) Amendment (Prescribed Production Variables) Rule 2020*.

2 Paragraph 6(1)(a)

Omit "to (8A)", substitute "to (8C)".

3 Subsections 6(3) and (4)

Omit "If", substitute "Subject to subsection (8A), if".

4 Subsection 6(8A)

Repeal the subsection, substitute:

(8A) If the application uses an estimated emissions intensity for a prescribed production variable—the estimated emissions intensity must include only emissions that:

(a) if a default emissions intensity is specified for the production variable in Schedule 2 or 3—are emissions of a kind considered in developing the default emissions intensity; or

(b) if no default emissions intensity is specified for the production variable in Schedule 2 or 3—are of a kind that was considered as relevant to the production variable when it was included in that Schedule; or

(c) are minor emissions sources at the facility that:

(i) were not taken into account in developing a default emissions intensity for another prescribed production variable potentially applicable to the facility; and

(ii) were not considered relevant to any prescribed production variable for which a default emissions intensity is not specified in Schedule 2 or 3; and

(iii) taken together, are unlikely to exceed 10% of the covered emissions of the facility.

(8B) However, if the application uses default emissions intensities set out in Schedule 2 or 3 for some prescribed production variables and estimated emissions intensities for other production variables—the estimated emissions intensities must not include emissions of a kind considered in developing those default emissions intensities.

(8C) For the purpose of determining under subsection (8A) or (8B) whether:

(a) an emission was considered in developing the default emissions intensity for a prescribed production variable: or

(b) an emission was considered relevant to the production variable when it was included in Schedule 2 or 3;

regard must be had to the Safeguard Mechanism document.

5 At the end of subsection 25(6)

Add "on the basis of one or more of the following criteria:

(a) the new facility criteria:

(b) the significant expansion criteria;

(c) the inherent emissions variability criteria;

(d) the initial calculated baseline criteria."

6 Schedules 2 and 3

Repeal the Schedules, substitute:

Schedule 2—Prescribed (Annually Adjusted) Production Variables

Part 1—Preliminary

1 Purpose

This Schedule sets out prescribed (annually adjusted) production variables.

2 Structure

(1) Each Part of the Schedule sets out:

(a) one or more metrics, each of which is a prescribed (annually adjusted) production variable; and

(b) the units relevant to those metrics; and

(c) the circumstances in which they are applicable to a facility.

(2) The default emissions intensity is specified in t CO_2e per unit of the production variable.

(3) A Part may also set out:

(a) measurement requirements or procedures relevant to the application of the metrics; and

(b) for paragraphs 4.23C(2)(b) and 4.23D(3)(b) of the NGER Regulations, requirements for supporting information to be included in a report under the Act about the calculation of the amount of the prescribed (annually adjusted) production variables for a financial year.

(4) The emissions relevant to the development of each production variable and the calculation of its default emissions intensity are explained in the Safeguard Mechanism document.

3 Definitions

In this Schedule:

ANZSIC industry classification and code means an industry classification and code for that classification published in the Australian and New Zealand Standard Industrial Classification (ANZSIC), 2006 and as in force on the commencement of the *National*

Greenhouse and Energy Reporting (Safeguard Mechanism) Amendment (Prescribed Production Variables) Rule 2020.

Note: In 2020, the classification and code could be accessed from http://www.abs.gov.au.

ASTM followed by a number (for example, ASTM D6347/D6347M-99) means a standard of that number issued by ASTM International and, if a date is included, of that date.

Note: ASTM means the American Society for Testing and Materials, see http://www.astm.org.

saleable quality—see section 4 of Schedule 2.

4 Meaning of *saleable quality*

(1) In this Schedule, ***saleable quality*** is intended to have its ordinary meaning as understood by participants in the relevant market, subject to subsections (2) to (5).

(2) A product is taken to be of saleable quality if it is produced to a level at which it would ordinarily be considered by participants in the relevant market:
   (a) to be the output of a process carried on as part of the relevant activity the constitutes the facility; and
   (b) to have a commercial value as that output.

Note: On this basis, the output may meet particular industry standards or specifications (either general specifications or those set by particular customers). It may also meet internal standards by which it can be used by the firm as part of another process conducted by the firm.

Note: Outputs that are of saleable quality do not need to be sold in the year of production. Therefore, an output that is produced and entered on an inventory can be of saleable quality.

(3) A sub-standard product that is discarded is taken not to be of saleable quality.

(4) A product that is recycled back into the same activity at a facility to produce a new output is taken to be of saleable quality only once.

Examples:

Metal that is re-melted in the same equipment in which it was produced.

Paper that is re-inputted into a paper making process.

(5) Material that is scrapped or lost before it is packaged as a product that is of saleable quality:
   (a) is taken not to be of saleable quality; and
   (b) is taken not to be included in an amount of product that is of saleable quality that is to be counted for the purpose of calculating the amount of a production variable produced in a financial year.

Part 2—Bulk flat glass

5 Bulk flat glass

(1) Tonnes of bulk flat glass that:
   (a) is produced as part of carrying on the bulk flat glass activity at the facility; and
   (b) is of saleable quality.

(2) The metric in subsection (1) is applicable to a facility that conducts the activity of producing bulk flat glass through the physical and chemical transformation of silica (silicon dioxide (SiO_2)) and other raw and recycled materials (such as cullet) to produce

bulk flat glass products, including wired glass and patterned glass, by controlled melting and forming in a contiguous process (the ***bulk flat glass activity***).

(3) The default emissions intensity is 0.774 t CO_2-e per tonne of bulk flat glass.

Part 3—Glass containers

6 Glass containers

(1) Tonnes of blown and pressed glass containers that:
  (a) are produced as part of carrying on the glass containers 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 glass containers through the physical and chemical transformation of silica (silicon dioxide (SiO_2)) and other raw and recycled materials (such as cullet) to produce blown or pressed glass containers, by controlled melting and forming in a contiguous process (the ***glass containers activity***).

(3) The default emissions intensity is 0.521 t CO_2-e per tonne of glass containers.

Part 4—Aluminium

7 Aluminium

(1) Tonnes of primary aluminium (Al) that:
  (a) has a concentration of aluminium equal to or greater than 98%; and
  (b) is produced as part of carrying on the aluminium smelting activity at the facility; and
  (c) is weighed after electrolysis but before casting.

(2) The metric in subsection (1) is applicable to a facility that conducts the activity of aluminium smelting through the physical and chemical transformation of alumina (aluminium oxide (Al_2O_3)) into saleable aluminium metal (Al) (the ***aluminium smelting activity***).

(3) The default emissions intensity is 1.86 t CO_2-e per tonne of primary aluminium.

Part 5—Alumina

8 Alumina

(1) Combined:
  (a) tonnes of alumina (aluminium oxide (Al_2O_3)) that:
    (i) has a concentration of aluminium oxide equal to or greater than 95%; and
    (ii) is produced as part of carrying on the alumina refining activity at the facility; and
    (iii) is of saleable quality; and
  (b) alumina equivalent tonnes of alumina trihydrate ($Al(OH)_3$) that:
    (i) is produced as part of carrying on the alumina refining activity at the facility; and
    (ii) is of saleable quality.

(2) The metric in subsection (1) is applicable to a facility that conducts the activity of alumina refining through the physical and chemical transformation of bauxite (which is an ore containing mineralised aluminium compounds) into either or both of alumina (aluminium oxide (Al_2O_3)) with a concentration of aluminium oxide equal to or greater than 95% and alumina trihydrate ($Al(OH)_3$) (the ***alumina refining activity***).

(3) The default emissions intensity is 0.545 t CO_2-e per tonne of alumina and alumina equivalent tonnes of alumina trihydrate.

Part 6—Ammonia production

9 Ammonia production

Metric

(1) Tonnes of 100% equivalent anhydrous ammonia (NH_3) contained within anhydrous ammonia that:
  (a) has a concentration of ammonia equal to or greater than 98%; and
  (b) is produced as part of carrying on the ammonia production activity at the facility; and
  (c) is of saleable quality.

(2) The metric in subsection (1) is applicable to a facility that conducts the activity of producing ammonia through the chemical transformation of hydrocarbons (or other hydrogen feedstock) to hydrogen (H_2) that is subsequently reacted with nitrogen (N_2) to produce anhydrous ammonia (NH_3) that has a concentration of ammonia (NH_3) equal to or greater than 98% (the ***ammonia production activity***).

(3) The default emissions intensity is 1.87 t CO_2-e per tonne of 100% equivalent anhydrous ammonia.

Part 7—Ammonium nitrate production

10 Ammonium nitrate

(1) Tonnes of 100% equivalent ammonium nitrate (NH_4NO_3) contained within ammonium nitrate solution ($NH_4NO_{3(aq)}$) that:
  (a) has a concentration of ammonium nitrate (NH_4NO_3) equal to or greater than 60%; and
  (b) is produced as part of carrying on the ammonium nitrate production activity at the facility; and
  (c) is of saleable quality.

(2) The metric in subsection (1) is applicable to a facility that conducts the activity of producing ammonium nitrate through the chemical transformation of anhydrous ammonia (NH_3) to ammonium nitrate solution ($NH_4NO_{3(aq)}$) that has a concentration of ammonium nitrate (NH_4NO_3) equal to or greater than 60% (the ***ammonium nitrate production activity***).

(3) The default emissions intensity is 0.352 t CO_2-e per tonne of 100% equivalent ammonium nitrate.

Part 8—Urea production

11 Carbamide (urea)

(1) Tonnes of 100% equivalent carbamide (urea ($CO(NH_2)_2$)) on a dry weight basis that is:
  (a) contained within either of the following products:
    (i) carbamide solutions (urea ($CO(NH_2)_{2(aq)}$));
    (ii) saleable, granulated, prilled or other solid forms of carbamide (urea ($CO(NH_2)_{2(s)}$)); and
  (b) produced as part of carrying on the urea production activity at the facility; and
  (c) contained within products of saleable quality.

(2) The metric in subsection (1) is applicable to a facility that conducts the activity of producing carbamide (urea ($CO(NH_2)_2$)) through the chemical transformation of carbon dioxide (CO_2) and anhydrous ammonia (NH_3) to produce carbamide solution (urea ($CO(NH_2)_{2(aq)}$)) that:
  (a) has a concentration of carbamide (urea ($CO(NH_2)_2$)) equal to or greater than 80%; and
  (b) is subsequently used to produce either or both of:
    (i) carbamide solutions (urea ($CO(NH_2)_{2(aq)}$)); and
    (ii) saleable granulated, prilled or other solid forms of carbamide (urea ($CO(NH_2)_{2(s)}$)).

(3) The activity in subsection (2) is the ***urea production activity***.

(4) The default emissions intensity is 0.566 t CO_2-e per tonne of 100% equivalent carbamide.

Part 9—Ammonium phosphate production

12 Diammonium phosphate and monoammonium phosphate

(1) Tonnes of diammonium phosphate ($(NH_4)_2HPO_4$) products and monoammonium phosphate ($(NH_4)H_2PO_4$) products that:
  (a) have a concentration of diammonium phosphate or monoammonium phosphate equal to or greater than 70%; and
  (b) are produced as part of carrying on the ammonium phosphate production activity at the facility; and
  (c) have a free moisture content less than 2.5%; and
  (d) are of saleable quality.

(2) The metric in subsection (1) is applicable to a facility that conducts the activity of producing either or both of diammonium phosphate and monoammonium phosphate through:
  (a) the chemical transformation phosphate rock to phosphoric acid (H_3PO_4); and
  (b) the chemical transformation of that phosphoric acid and anhydrous ammonia (NH_3) to produce either or both of diammonium phosphate ($(NH_4)_2H_2PO_4$) and monoammonium phosphate ($(NH_4)H_2PO_4$).

(3) The activity in subsection (2) is the ***ammonium phosphate production activity***.

(4) The default emissions intensity is:
  (a) 0.078 t CO_2-e per tonne of diammonium phosphate products; and

(b) 0.088 t CO_2-e per tonne of monoammonium phosphate products.

Part 10— Sodium cyanide

13 Sodium cyanide

(1) Tonnes of 100% equivalent sodium cyanide (NaCN) on a dry weight basis that is contained within sodium cyanide products:
   (a) produced as part of carrying on the sodium cyanide production activity at the facility; and
   (b) of saleable quality.

(2) The metric in subsection (1) is applicable to a facility that conducts the activity of producing sodium cyanide through all of the following processes:
   (a) the chemical transformation methane, anhydrous ammonia (NH_3) and air to produce hydrogen isocyanine (HCN);
   (b) electrolysis of sodium chloride (NaCl) solution to produce caustic soda (NaOH);
   (c) the chemical transformation of hydrogen isocyanine (HCN) and caustic soda produce sodium cyanide (NaCN).

(3) The activity in subsection (2) is the ***sodium cyanide production activity***.

Note: The default emissions intensity for this prescribed production variable is yet to be calculated and specified in the Schedule.

Part 11—Synthetic rutile

14 Synthetic rutile

(1) Tonnes of synthetic rutile that:
   (a) has a titanium dioxide (TiO_2) concentration equal to or greater than 88% and less than 95.5%; and
   (b) has an iron (Fe) concentration greater than 0.5%; and
   (c) are produced as part of carrying on the synthetic rutile 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 synthetic rutile through the chemical transformation of ilmenite ore (ore containing $FeTiO_3$) through the reduction of iron oxides in order to increase the titanium dioxide (TiO_2) concentration to produce synthetic rutile that:
   (a) has a titanium dioxide (TiO_2) concentration equal to or greater than 88% and less than 95.5%; and
   (b) has an iron (Fe) concentration greater than 0.5%.

Note: The transformation described in subsection (2) is known as the Becher process.

(3) The activity in subsection (2) is the ***synthetic rutile production activity***.

(4) The default emissions intensity is 1.15 t CO_2-e per tonne of synthetic rutile.

Part 12—White titanium dioxide pigment

15 White titanium dioxide pigment

(1) Tonnes of white titanium dioxide (TiO_2) pigment that:

(a) conforms with ASTM classification D476-00 (2011); and

(b) have an iron (Fe) concentration greater than 0.5%; and

(c) are produced as part of carrying on the white titanium dioxide pigment production activity at the facility; and

(d) are of saleable quality.

Note: In 2020, the standard could be accessed from http://www.astm.org.

(2) The metric in subsection (1) is applicable to a facility that conducts the activity of producing white titanium dioxide (TiO_2) pigment through the chemical transformation of 1 or more of the following:

(a) rutile (TiO_2);

(b) synthetic rutile (TiO_2);

(c) ilmenite ($FeTiO_3$);

(d) leucoxene;

(e) titanium slag that has an iron (Fe) concentration of greater than or equal to 7%;

to produce white titanium dioxide (TiO_2) pigment.

(3) The white titanium dioxide (TiO_2) pigment produced under subsection (2) must:

(a) conform with ASTM classification D476-00 (2011); and

(b) have an iron (Fe) concentration of less than or equal to 0.5%.

Note: In 2020, the standard could be accessed from http://www.astm.org.

(4) The activity in subsection (2) is the ***white titanium dioxide pigment production activity***.

(5) The default emissions intensity is 1.68 t CO_2-e per tonne of white titanium dioxide pigment.

Part 13—Production variables related to coal mining

Division 1—Definitions

16 Definitions

(1) In this Part, the activity of ***coal mining*** is the physical extraction of coal in an open-cut or underground coal mine.

(2) In this Part:

coal mine waste gas means a substance that:

(a) consists of:

(i) naturally occurring hydrocarbons; or

(ii) a naturally occurring mixture of hydrocarbons and non-hydrocarbons; and

(b) is:

(i) drained from:

(A) an underground coal mine that is covered by a lease (however described) that authorises coal mining; or

(B) a closed underground coal mine that is, or was, covered by a lease (however described) that authorises, or authorised, coal mining; or

(ii) conveyed in a ventilation air shaft or duct to the surface of a mine mentioned in subparagraph (i).

decommissioned underground mine means an underground coal mine where the following activities have ceased to occur and are not expected to occur in the future:

(a) coal production;

(b) active mine ventilation, including the operation of ventilation fans at the mine.

Division 2— Run-of-mine coal

17 Run-of-mine coal

(1) Tonnes of run-of-mine coal that is produced as part of carrying on the coal mining activity at the facility.

Note: The coal may be sold with or without beneficiation.

(2) The metric in subsection (1) is applicable to a facility that:

(a) conducts the coal mining activity; and

(b) if it includes an underground coal mine—uses the coal mine waste gas production variable in section 18 of Schedule 2.

Note: The default emissions intensity for this prescribed production variable is yet to be calculated and specified in the Schedule.

Division 3—Coal mine waste gas

18 Coal mine waste gas

(1) Tonnes of CO_2-e of unmitigated coal mine waste gas generated at the facility as part of carrying on the coal mining activity at the facility.

Note: This includes pre-mine drainage, mining phase activities and post mining activities creating coal mine waste gas in the relevant reporting period.

(2) The metric in subsection (1) is applicable to a facility that:

(a) conducts the coal mining activity at an underground coal mine; and

(b) uses the run-of-mine coal production variable in section 17 of Schedule 2.

Note: The default emissions intensity for this prescribed production variable is yet to be calculated and specified in the Schedule.

(4) The t of CO_2-e of unmitigated coal mine waste gas generated must be measured consistently with the NGER (Measurement) Determination.

Division 4—Decommissioned underground mines

19 Fugitive emissions from decommissioned underground mines

(1) Tonnes of CO_2-e emissions reported under Division 3.2.4 of the NGER (Measurement) Determination for the facility.

(2) The metric in subsection (1) is applicable to a facility that is a decommissioned underground mine.

(3) The default emissions intensity is 1 t CO_2-e per t CO_2-e of reported emissions.

(4) The t of CO_2-e of emissions must be measured consistently with the NGER (Measurement) Determination.

Part 14—Iron ore

20 Iron ore

(1) Tonnes of iron ore, on a wet basis, that:
  (a) is produced as part of carrying on the iron ore mining activity at the facility; and
  (b) is of saleable quality.

(2) The metric in subsection (1) is applicable to a facility that conducts the activity of mining iron ore through:
  (a) the physical extraction of mineral ores that contain iron ore metal; and
  (b) the processing of the extracted ores to produce an iron ore product of saleable quality.

Note: The processes may include crushing, screening, grinding, separation, concentrating, filtration and waste to tailings.

(3) The activity in subsection (2) is the ***iron ore mining activity***.

Note: The default emissions intensity for this prescribed production variable is yet to be calculated and specified in the Schedule.

Part 15—Manganese ore

21 Manganese ore

(1) Tonnes of manganese ore product, on a wet basis, that:
  (a) is produced as part of carrying on the manganese ore mining activity at the facility; and
  (b) is of saleable quality.

(2) The metric in subsection (1) is applicable to a facility that conducts the activity of mining manganese ore through:
  (a) the physical extraction of mineral ores that contain manganese metal; and
  (b) the processing of the extracted ores by crushing and separation into a manganese ore product.

(3) The activity in subsection (2) is the ***manganese ore mining activity***.

Note: The default emissions intensity for this prescribed production variable is yet to be calculated and specified in the Schedule.

Part 16—Bauxite

22 Bauxite

(1) Tonnes of bauxite product that:
  (a) is produced as part of carrying on the bauxite mining activity at the facility; and
  (b) is of saleable quality.

(2) The metric in subsection (1) is applicable to a facility that conducts the activity of mining bauxite through:

(a) the physical extraction of aluminium ores such as gibbsite ($Al(OH)_3$), boehmite (γ-Aloo(OH)) and diaspore (α-AlO(OH)); and

(b) the processing of the extracted ores into a bauxite product.

(3) The activity in subsection (2) is the ***bauxite mining activity***.

Note: The default emissions intensity for this prescribed production variable is yet to be calculated and specified in the Schedule.

Part 17—Heavy metal concentrate (mineral sands mining)

23 Heavy metal concentrate

(1) Tonnes of heavy metal concentrate, on a wet basis, that:

(a) is suitable as a feedstock for a mineral separation process; and

(b) is produced as part of carrying on the mineral sands mining activity at the facility; and

(c) is of saleable quality.

(2) The metric in subsection (1) is applicable to a facility that conducts the activity of mining mineral sands through:

(a) the physical extraction of mineral sands such as such as such as ilmenite, zircon, rutile, leucoxene and monazite; and

(b) the processing of the extracted mineral sands by crushing and separation into a heavy metal concentrate.

(3) The activity in subsection (2) is the ***mineral sands mining activity***.

Note: The default emissions intensity for this prescribed production variable is yet to be calculated and specified in the Schedule.

Part 18—Run-of-mine metal ore

24 Run-of-mine metal ore

(1) Tonnes of run-of-mine metal ore that:

(a) contains 1 or more metals; and

(b) is produced as part of carrying on the metal ore mining and processing activity at the facility; and

(c) is of saleable quality; and

(d) has not been counted, in whole or part, for another production variable at the facility; and

(e) is not eligible to be the bauxite, manganese ore or iron ore prescribed production variable.

(2) The metric in subsection (1) is applicable to a facility that conducts the activity of mining and processing metal ore through:

(a) the physical extraction of mineral ores containing metals; and

(b) the processing of the extracted ores to produce a metal product or feedstock material.

(3) The activity in subsection (2) is the ***metal ore mining and processing activity***.

Note: The default emissions intensity for this prescribed production variable is yet to be calculated and specified in the Schedule.

Part 19—Production variables related to the oil and gas industry

Division 1—Definitions

25 Definitions

(1) In this Part:

liquefied petroleum gas means:

(a) liquid propane; or

(b) liquid butane; or

(c) a liquid mixture of propane and butane; or

(d) a liquid mixture of propane and other hydrocarbons that consists mainly of propane; or

(e) a liquid mixture of butane and other hydrocarbons that consists mainly of butane; or

(f) a liquid mixture of propane, butane and other hydrocarbons that consists mainly of propane and butane.

processed natural gas means a substance that:

(a) is in a gaseous state at standard temperature and pressure; and

(b) consists of:

(i) naturally occurring hydrocarbons; or

(ii) a naturally occurring mixture of hydrocarbons and non-hydrocarbons; and

(c) is mainly methane; and

(d) has been:

(i) injected into a natural gas transmission pipeline; or

(ii) supplied to a third party for injection into a natural gas transmission pipeline; or

(iii) supplied to a downstream user after processing the substance to an agreed specification, such that the gas has at least the following qualities:

(A) water content of 150 mg/Sm^3 or less;

(B) inert gases (including carbon dioxide) of 12 molar per cent or less;

(C) hydrocarbon cricondentherm of 10 °C or lower;

(D) sulphur content (including any sulphur from odourant) of 60 mg/Sm^3 or less.

Division 2—Oil and gas extraction

26 Extracted oil and gas

(1) Total gigajoules of the following products that meet the requirements of subsection (2):

(a) unprocessed natural gas;

(b) unstabilised crude oil and condensate.

(2) The requirements for products to be included in subsection (1) are that the products:

(a) consist of:

(i) naturally occurring hydrocarbons; or

(ii) a naturally occurring mixture of hydrocarbons and non-hydrocarbons; and

(b) are extracted from a naturally occurring petroleum reservoir as part of carrying on the oil and gas extraction activity at the facility; and

(c) at the time of measurement for the production variable, have undergone minimal or partial processing that is either:

(i) sufficient only to allow efficient transportation of the product to processing facilities; or

(ii) less than required to be considered processed natural gas or saleable crude oil or condensate; and

(d) are not consumed in carrying on the oil and gas extraction activity.

(3) The metric in subsection (1) is applicable to a facility that conducts the activity of oil and gas extraction through the production of a hydrocarbon stream from a naturally occurring petroleum reservoir and either:

(a) transports the produced stream of products covered by subsection (1) to the upstream boundary of a separate facility that conducts one or more of the following activities:

(i) natural gas processing,

(ii) processed or unprocessed natural gas liquefaction;

(iii) crude oil or condensate stabilisation; or

(b) transfers the products covered by subsection (1) to downstream processes within the same facility to produce multiple products.

(4) The activity in subsection (3) is the ***oil and gas extraction activity***.

Note: The default emissions intensity for this prescribed production variable is yet to be calculated and specified in the Schedule.

Division 3—Stabilisation of crude oil and condensates

27 Stabilised crude oil or condensate (stabilisation only)

(1) Total gigajoules of the crude oil and condensate that:

(a) are a mixture of hydrocarbons that are liquid at atmospheric pressure (101.325 kilopascals) and ambient temperature; and

(b) can be safely stored and transported at atmospheric pressure and ambient temperature; and

(c) are produced as part of carrying on the crude oil or condensate stabilisation activity at the facility; and

(d) are not consumed in carrying on the crude oil or condensate stabilisation activity; and

(e) are of saleable quality.

(2) The metric in subsection (1) is applicable to a facility that conducts the activity of crude oil or condensate stabilisation through the physical transformation of either or both of unstabilised crude oil and condensate, which may be a mixture of liquids and gases, into stabilised crude oil and condensate that:

(a) is in a liquid state; and

(b) has a vapour pressure of less than 101.325 kilopascals; and

(c) is safe to store and transport at atmospheric pressure and ambient temperature.

(3) The activity in subsection (2) is the ***crude oil or condensate stabilisation activity***.

Note: The default emissions intensity for this prescribed production variable is yet to be calculated and specified in the Schedule.

Division 4—Integrated extraction and stabilisation of crude oil

28 Stabilised crude oil (integrated extraction and stabilisation)

(1) Total gigajoules of the crude oil that:
  (a) are a mixture of hydrocarbons that are liquid at atmospheric pressure (101.325 kilopascals) and ambient temperature; and
  (b) can be safely stored and transported at atmospheric pressure and ambient temperature; and
  (c) are produced as part of carrying on the integrated crude oil extraction and stabilisation activity at the facility; and
  (d) are not consumed in carrying on the integrated crude oil extraction and stabilisation activity; and
  (e) are of saleable quality.

(2) The metric in subsection (1) is applicable to a facility that:
  (a) conducts both of the following activities:
    (i) the extraction of a hydrocarbon stream from a naturally occurring petroleum reservoir;
    (ii) the crude oil or condensate stabilisation activity; and
  (b) has stabilised crude oil as its only saleable hydrocarbon product.

(3) The activity in subsection (2) is the ***integrated crude oil extraction and stabilisation activity***.

(4) However, the metric in subsection (1) is not applicable to a facility using another production variable in this Part (other than the reservoir CO_2 production variable).

Note: The default emissions intensity for this prescribed production variable is yet to be calculated and specified in the Schedule.

Division 5—Natural gas processing

29 Processed natural gas (processing only)

(1) Gigajoules of the processed natural gas that:
  (a) are produced as part of carrying on the natural gas processing activity at the facility; and
  (b) are not consumed in carrying on the natural gas processing activity; and
  (c) are of saleable quality.

(2) The metric in subsection (1) is applicable to a facility that conducts the activity of processing natural gas through the physical transformation of unprocessed natural gas, which may be a mixture of gases and liquids, into processed natural gas (the ***natural gas processing activity***).

Note: The default emissions intensity for this prescribed production variable is yet to be calculated and specified in the Schedule.

Division 6—Integrated natural gas extraction and processing

30 Processed natural gas (integrated extraction and processing)

(1) Gigajoules of the processed natural gas that:
  (a) are produced as part of carrying on the integrated natural gas extraction and processing activity at the facility; and
  (b) are not consumed in carrying on the integrated natural gas extraction and processing activity; and
  (c) are of saleable quality.

(2) The metric in subsection (1) is applicable to a facility that:
  (a) conducts both of the following activities:
    (i) the extraction of a hydrocarbon stream that is predominantly gas from a naturally occurring petroleum reservoir;
    (ii) the natural gas processing activity; and
  (b) has processed natural gas as its only saleable hydrocarbon product.

(3) The activity in subsection (2) is the ***integrated natural gas extraction and processing activity***.

(4) However, the metric in subsection (1) is not applicable to a facility using another production variable in this Part (other than the reservoir CO_2 production variable).

Note: The default emissions intensity for this prescribed production variable is yet to be calculated and specified in the Schedule.

Division 7—Liquefied natural gas from unprocessed natural gas

31 Liquefied natural gas (from unprocessed natural gas)

(1) Gigajoules of the liquefied natural gas that:
  (a) have a methane content by mass of 70% or more; and
  (b) are produced as part of carrying on the unprocessed natural gas liquefaction activity at the facility; and
  (c) are in a liquid state; and
  (d) have been loaded onto a transport vessel, tanker or other transportation system; and
  (e) are of saleable quality; and
  (f) have not been counted as part of the liquefied natural gas production variable in section 32 of Schedule 2.

(2) The metric in subsection (1) is applicable to a facility that conducts the activity of liquefying unprocessed natural gas through the physical transformation of unprocessed natural gas into liquefied natural gas that:
  (a) has a methane content by mass of 70% or more; and
  (b) is in a liquid state on leaving the facility.

(3) The activity in subsection (2) is the ***unprocessed natural gas liquefaction activity***.

Note: The default emissions intensity for this prescribed production variable is yet to be calculated and specified in the Schedule.

(5) The quantity of the metric in subsection (1) may be evidenced by a bill of lading relating to the transport of liquefied natural gas from the facility.

Division 8—Liquefied natural gas from processed natural gas

32 Liquefied natural gas (from processed natural gas)

(1) Gigajoules of the liquefied natural gas that:
  (a) have a methane content by mass of 70% or more; and
  (b) are produced as part of carrying on the processed natural gas liquefaction activity at the facility; and
  (c) are in a liquid state; and
  (d) have been loaded onto a transport vessel, tanker or other transportation system; and
  (e) are of saleable quality; and
  (f) have not been counted as part of the liquefied natural gas production variable in section 31 of Schedule 2.

(2) The metric in subsection (1) is applicable to a facility that conducts the activity of liquefying processed natural gas through the physical transformation of processed natural gas into liquefied natural gas that:
  (a) has a methane content by mass of 70% or more; and
  (b) is in a liquid state on leaving the facility.

(3) The activity in subsection (2) is the ***processed natural gas liquefaction activity***.

Note: The default emissions intensity for this prescribed production variable is yet to be calculated and specified in the Schedule.

(5) The quantity of the metric in subsection (1) may be evidenced by a bill of lading relating to the transport of liquefied natural gas from the facility.

Division 9—Ethane

33 Ethane

(1) Gigajoules of the ethane that:
  (a) has an ethane content by mass of 95% or more; and
  (b) is in a gaseous state; and
  (c) is produced as part of carrying on the ethane production activity at the facility; and
  (d) is not consumed in carrying on the ethane production activity; and
  (e) is of saleable quality.

(2) The metric in subsection (1) is applicable to a facility that conducts the activity of ethane production through the separation of ethane from a mixture of hydrocarbons to produce ethane that:
  (a) has an ethane content by mass of 95% or more; and
  (b) is in a gaseous state.

(3) The activity in subsection (2) is the ***ethane production activity***.

Note: The default emissions intensity for this prescribed production variable is yet to be calculated and specified in the Schedule.

Division 10—Liquefied petroleum gas

34 Liquefied petroleum gas

(1) Gigajoules of the liquefied petroleum gas that:

(a) is in a liquid state;
(b) is produced as part of carrying on the liquefied petroleum gas production activity at the facility; and
(c) is not consumed in carrying on the liquefied petroleum gas production activity; and
(d) is of saleable quality.

(2) The metric in subsection (1) is applicable to a facility that:
(a) conducts the activity of liquefied petroleum gas production through the separation of propane and butane fractions from a mixture of hydrocarbons to produce liquefied petroleum gas that is in a liquid state (the ***liquefied petroleum gas production activity***); and
(b) includes another activity covered by this Part.

Note: The default emissions intensity for this prescribed production variable is yet to be calculated and specified in the Schedule.

Division 11—Reservoir carbon dioxide

35 Reservoir carbon dioxide

(1) Tonnes of reservoir carbon dioxide that:
(a) were separated in an acid gas removal unit (from natural gas, crude oil mixtures or products produced from extracted hydrocarbons) as part of one of the following activities:
(i) the oil and gas extraction activity;
(ii) the integrated crude oil extraction and stabilisation activity;
(iii) the natural gas processing activity;
(iv) the integrated natural gas extraction and processing activity;
(v) the processed natural gas liquefaction activity;
(vi) the unprocessed natural gas liquefaction activity; and
(b) when separated, consist of a mixture that is overwhelmingly carbon dioxide (CO_2) and may contain incidental associated substances derived from the source material and capture and separation processes; and
(c) have not previously been included as a tonne of reservoir carbon dioxide under this section; and
(d) were not imported as a carbon dioxide stream from another facility.

(2) The metric in subsection (1) is applicable to a facility that separates reservoir carbon dioxide from natural gas, crude oil mixtures or products produced from extracted hydrocarbons as part of one of the following activities:
(a) the oil and gas extraction activity;
(b) the integrated crude oil extraction and stabilisation activity;
(c) the natural gas processing activity;
(d) the integrated natural gas extraction and processing activity;
(e) the processed natural gas liquefaction activity;
(f) the unprocessed natural gas liquefaction activity.

(3) The default emissions intensity is given by the following equation:

EI, reservoir carbon dioxide = 1 – storage rate
where:

EI, reservoir carbon dioxide is the default emissions intensity, in t CO_2-e per tonne of reservoir carbon dioxide.

storage rate is the fraction of the separated reservoir carbon dioxide that is injected into geological storage using a carbon capture and storage, enhanced oil recovery or other petroleum reservoir management purpose, as determined by the Regulator for the facility and included in the baseline determination applicable to the facility.

Part 20—Production variables related to steel manufacturing

Division 1—Definitions

36 Definitions

(1) In this Part, the activity of ***integrated iron and steel manufacturing*** is the chemical and physical transformation of iron ore into crude carbon steel products and hot-rolled carbon steel products involving all of the following processes:

(a) the carbonisation of coal (principally coking coal) into coke oven coke;

(b) the chemical and physical transformation of either or both of limestone or dolomite, into lime (including burnt lime and burnt dolomite);

(c) the chemical and physical transformation of iron ore into iron ore sinter or iron ore pellets;

(d) the chemical and physical transformation of iron ore feed, including iron ore sinter and iron ore pellets, into molten iron that includes the reduction of oxides of iron using carbon as the predominant reducing agent;

(e) the chemical and physical transformation of molten iron and cold ferrous feed, such as pig iron, flat iron and ferrous scrap, into 1 or more of the following:

(i) continuously cast carbon steel products;

(ii) ingots of carbon steel;

(iii) hot-rolled carbon steel products, which commenced hot-rolling at a temperature above 800 °C.

(2) In this Part, the activity of ***manufacture of carbon steel from cold ferrous feed*** is the physical and chemical transformation of cold ferrous feed (such as ferrous scrap, pig iron and flat iron) by heating and melting into liquid steel and the subsequent casting of the liquid steel to produce 1 or more of the following:

(a) continuously cast carbon steel products;

(b) ingots of carbon steel;

(c) hot-rolled carbon steel products, which commenced hot-rolling at a temperature above 800 °C.

(3) In this Part, the activity of ***hot-rolled long products*** is the hot-rolling of continuously cast carbon steel products (originally produced from an integrated iron and steel manufacturing activity or manufacture of carbon steel from cold ferrous feed activity) into carbon steel long products that:

(a) are in coils or straight lengths; and

(b) are generally produced in rod, bar and structural (section) mills; and

(c) generally have a cross sectional shape such as I, T, Y, U, V, H, C, L, square, rectangular, round, flat, hexagonal, angle, channel, structural beam profile or rail profile.

(4) In this Part, the activity of ***hot-rolled flat products*** is the hot-rolling of continuously cast carbon steel products (originally produced from an integrated iron and steel

manufacturing activity or manufacture of carbon steel from cold ferrous feed activity) into carbon steel flat products that:

(a) are flat in profile, such as plate and hot rolled coil; and
(b) are generally produced in hot strip mills and plate mills; and
(c) are generally greater than 600 mm in width; and
(d) are generally less than 150 mm in thickness.

(5) 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) at a high temperature and includes coke breeze and foundry coke.

Division 2—Coke oven coke from integrated iron and steel manufacturing

37 Coke oven coke (integrated iron and steel manufacturing)

(1) Tonnes of coke oven coke on a dry weight basis that:

(a) are produced as part of carrying on the integrated iron and steel manufacturing activity at the facility; and
(b) meet the necessary requirements for use in the integrated iron and steel manufacturing activity.

(2) The metric in subsection (1) is applicable to a facility that conducts the activity of integrated iron and steel manufacturing.

(3) The default emissions intensity is 0.467 t CO_2-e per tonne of coke oven coke.

Division 3—Lime from integrated iron and steel manufacturing

38 Lime (integrated iron and steel manufacturing)

(1) Tonnes of lime on a dry weight basis that:

(a) are produced as part of carrying on the integrated iron and steel manufacturing activity at the facility; and
(b) meet the necessary requirements for use in the integrated iron and steel manufacturing activity.

(2) The metric in subsection (1) is applicable to a facility that conducts the activity of integrated iron and steel manufacturing.

(3) The default emissions intensity is 0.780 t CO_2-e per tonne of lime.

Division 4—Iron ore sinter from integrated iron and steel manufacturing

39 Iron ore sinter (integrated iron and steel manufacturing)

(1) Tonnes of iron ore sinter on a dry weight basis that:

(a) are produced as part of carrying on the integrated iron and steel manufacturing activity at the facility; and

(b) meet the necessary requirements for use in the integrated iron and steel manufacturing activity.

(2) The metric in subsection (1) is applicable to a facility that conducts the activity of integrated iron and steel manufacturing.

(3) The default emissions intensity is 0.233 t CO_2-e per tonne of iron ore sinter.

Division 5—Iron ore pellets from integrated iron and steel manufacturing

40 Iron ore pellets (integrated iron and steel manufacturing)

(1) Tonnes of iron ore pellets on a dry weight basis that:
(a) are produced as part of carrying on the integrated iron and steel manufacturing activity at the facility; and
(b) meet the necessary requirements for use in the integrated iron and steel manufacturing activity.

(2) The metric in subsection (1) is applicable to a facility that conducts the activity of integrated iron and steel manufacturing.

(3) The default emissions intensity is 0.0586 t CO_2-e per tonne of iron ore pellets.

Division 6—Continuously cast carbon steel products and ingots of carbon steel from integrated iron and steel manufacturing

41 Continuously cast carbon steel products and ingots of carbon steel (integrated iron and steel manufacturing)

(1) Tonnes of continuously cast carbon steel products and ingots of carbon steel that:
(a) are produced as part of carrying on the integrated iron and 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 integrated iron and steel manufacturing.

(3) The default emissions intensity is 1.50 t CO_2-e per tonne of continuously cast carbon steel products and ingots of carbon steel.

Division 7—Hot-rolled long products produced at integrated iron and steel manufacturing facilities

42 Hot-rolled long products

(1) Tonnes of hot-rolled carbon steel long products that:
(a) are produced as part of carrying on the hot-rolled carbon steel long products activity at the facility; and
(b) are in coils or straight lengths; and
(c) are generally produced in rod, bar and structural (section) mills; and
(d) generally have a cross sectional shape such as I, T, Y, U, V, H, C, L, square, rectangular, round, flat, hexagonal, angle, channel, structural beam profile or rail profile; and
(e) are of saleable quality.

(2) The metric in subsection (1) is applicable to a facility that conducts:
(a) the hot-rolled long products activity; and
(b) the integrated iron and steel manufacturing activity.

(3) The default emissions intensity is 0.101 t CO_2-e per tonne of long products.

Division 8—Hot-rolled flat products produced at integrated iron and steel manufacturing facilities

43 Hot-rolled flat products

(1) Tonnes of hot-rolled carbon steel flat products that:
(a) are produced as part of carrying on the hot-rolled carbon steel flat products activity at the facility; and
(b) are flat in profile, such as plate and hot rolled coil; and
(c) are generally produced in hot strip mills and plate mills; and
(d) are generally greater than 600 mm in width; and
(e) are generally less than 150 mm in thickness; and
(f) are of saleable quality.

(2) The metric in subsection (1) is applicable to a facility that conducts:
(a) the hot-rolled flat products activity; and
(b) the integrated iron and steel manufacturing activity.

. (3) The activity in subsection (2) is the ***hot-rolled carbon steel flat products activity***.

(4) The default emissions intensity is 0.000358 t CO_2-e per tonne of flat products.

Division 9—Continuously cast carbon steel products and ingots of carbon steel from manufacture of carbon steel products from cold ferrous feed

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

(1) Tonnes of continuously cast carbon steel products and ingots of carbon steel that:
(a) are produced as part of carrying on the manufacture of carbon steel products from cold ferrous feed activity at the facility; and
(b) are not produced as part of carrying on the integrated iron and steel manufacturing 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 the manufacture of carbon steel products from cold ferrous feed.

(3) The default emissions intensity is 0.0981 t CO_2-e per tonne of continuously cast carbon steel products and ingots of carbon steel.

Division 10—Hot-rolled long products not produced at integrated iron and steel manufacturing facilities

45 Hot-rolled long products

(1) Tonnes of hot-rolled carbon steel long products that:
  (a) are produced as part of carrying on the hot-rolled carbon steel long products activity at the facility; and
  (b) are in coils or straight lengths; and
  (c) are generally produced in rod, bar and structural (section) mills; and
  (d) generally have a cross sectional shape such as I, T, Y, U, V, H, C, L, square, rectangular, round, flat, hexagonal, angle, channel, structural beam profile or rail profile; and
  (e) are of saleable quality.

(2) The metric in subsection (1) is applicable to a facility that:
  (a) conducts the hot-rolled long products activity; and
  (b) does not conduct the integrated iron and steel manufacturing activity.

(3) The default emissions intensity is 0.0750 t CO_2-e per tonne of long products.

Division 11—Hot-rolled flat products not produced at integrated iron and steel manufacturing facilities

46 Hot-rolled flat products

(1) Tonnes of hot-rolled carbon steel flat products that:
  (a) are produced as part of carrying on the hot-rolled carbon steel flat products activity at the facility; and
  (b) are flat in profile, such as plate and hot rolled coil; and
  (c) are generally produced in hot strip mills and plate mills; and
  (d) are generally greater than 600 mm in width; and
  (e) are generally less than 150 mm in thickness; and
  (f) are of saleable quality.

(2) The metric in subsection (1) is applicable to a facility that:
  (a) conducts the hot-rolled flat products activity; and
  (b) does not conduct the integrated iron and steel manufacturing activity.

. (3) The activity in subsection (2) is the ***hot-rolled carbon steel flat products activity***.

Note: The default emissions intensity for this prescribed production variable is yet to be calculated and specified in the Schedule.

Division 12—Iron ore pellets not from integrated iron and steel manufacturing

47 Iron ore pellets

(1) Tonnes of iron ore pellets on a dry weight basis that:
  (a) are produced as part of carrying on the iron ore pellet production activity at the facility; and
  (b) have a concentration of iron (Fe) equal to or greater than 63%; and

(c) have a concentration of alumina (aluminium oxide (Al_2O_3)) equal to or less than 2%; and

(d) have a concentration of silicon dioxide (silica (SiO_2)) equal to or less than 7%; and

(e) have an average diameter of between 9 and 16 millimetres; and

(f) are of saleable quality.

(2) The metric in subsection (1) is applicable to a facility that conducts the activity of producing iron ore pellets through the physical and chemical transformation of iron ore into saleable iron ore pellets that are for the production of steel and that have:

(a) a concentration of iron (Fe) equal to or greater than 63%; and

(b) a concentration of alumina (aluminium oxide (Al_2O_3)) equal to or less than 2%; and

(c) a concentration of silicon dioxide (silica (SiO_2)) equal to or less than 7%; and

(d) an average diameter of between 9 and 16 millimetres.

(3) However, the metric in subsection (1) is not applicable to a facility that includes the integrated iron and steel manufacturing activity.

(4) The activity in subsection (2) is the ***iron ore pellets production activity***.

(5) The default emissions intensity is 0.0517 t CO_2-e per tonne of iron ore pellets.

(6) In this section:

iron ore means any form of iron ore product that has not been semi-processed into iron ore balls or exposed to a hardening process by the application of heat or pressure and includes:

(a) magnetite ore that has been concentrated; and

(b) hematite ore that has been crushed to varying extents.

Part 21—Production variables related to rail transport

Division 1—Definitions

48 Definitions

(1) In this Part, the activity of ***rail transport*** is the use of rolling stock that combusts fuels on-board for propulsion and transports passengers or freight on a rail system.

Note: Fuel may be combusted by a drive train or used to generate electricity that runs the drive train.

(2) In this Part:

bulk freight includes goods that consist of large quantities of homogenous product that is generally non-containerised and conveyed in wagons, such as iron ore, coal and grain.

dedicated line includes:

(a) a line that only services the rail transport needs of a single business enterprise or corporate group; and

(b) a vertically integrated rail system:

(i) where the rail infrastructure manager and the user of the rail system is under common control or part of a common corporate group; and

(ii) that wholly or predominantly serves the rail transport needs of a single business enterprise or corporate group.

freight includes a saleable good.

net-tonne-kilometre means the unit of measure representing the movement over a distance of one kilometre of one tonne of freight. The weight of the rolling stock (such as tractive vehicle and rail car) is excluded.

passenger-kilometre means the unit of measure representing the movement over a distance of one kilometre of one passenger.

Division 2—Rail transport of bulk freight on a dedicated line

49 Net-tonne-kilometres of bulk freight on a dedicated line

(1) Net-tonne-kilometres of bulk freight that:
  (a) result from carrying on the rail transport activity at the facility; and
  (b) is transported by rail:
    (i) only using a dedicated line; or
    (ii) using a dedicated line for over 70% of the journey.

(2) The metric in subsection (1) is applicable to a facility that:
  (a) conducts the activity of rail transport; and
  (b) transports bulk freight by rail wholly or partly on one or more dedicated lines; and
  (c) is in the rail freight transport ANZSIC industry classification and code 471.

(3) The default emissions intensity is 0.00000527 t CO_2-e per net-tonne-kilometre of bulk freight.

(4) The net-tonne-kilometres must be measured consistently with relevant industry practice.

Division 3—Rail transport of bulk freight on a non-dedicated line

50 Net-tonne-kilometres of bulk freight on a non-dedicated line

(1) Net-tonne-kilometres of bulk freight that:
  (a) result from carrying on the rail transport activity at the facility; and
  (b) is transported by rail; and
  (c) either:
    (i) does not use a dedicated line; or
    (ii) uses a dedicated line for 70% or less of the journey.

(2) The metric in subsection (1) is applicable to a facility that:
  (a) conducts the activity of rail transport; and
  (b) transports bulk freight by rail wholly or partly on one or more non-dedicated lines; and
  (c) is in the rail freight transport ANZSIC industry classification and code 471.

(3) The default emissions intensity is 0.0000163 t CO_2-e per net-tonne-kilometre of bulk freight.

(4) The net-tonne-kilometres must be measured consistently with relevant industry practice.

Division 4—Rail transport of non-bulk freight

51 Net-tonne-kilometres of non-bulk freight

(1) Net-tonne-kilometres of freight that:

(a) result from carrying on the rail transport activity at the facility; and
(b) is transported by rail; and
(c) is not bulk freight.

(2) The metric in subsection (1) is applicable to a facility that:
(a) conducts the activity of rail transport; and
(b) transports freight that is not bulk freight; and
(c) is in the rail freight transport ANZSIC industry classification and code 471.

(3) The default emissions intensity is 0.0000204 t CO_2-e per net-tonne-kilometre of freight.

(4) The net-tonne-kilometres must be measured consistently with relevant industry practice.

Division 5—Rail passenger transport

52 Passenger-kilometres of rail passenger transport

(1) Passenger-kilometres that result from carrying on the rail transport activity at the facility.

(2) The metric in subsection (1) is applicable to a facility that:
(a) conducts the activity of rail transport; and
(b) transports passengers; and
(c) is in the rail passenger transport ANZSIC industry classification and code 472.

(3) The default emissions intensity is 0.0000710 t CO_2-e per passenger-kilometre.

(4) The passenger-kilometres must be measured consistently with relevant industry practice.

Part 22—Air transport

53 Revenue-tonne-kilometres of air transport

(1) Revenue-tonne-kilometres of air transport that:
(a) result from carrying on the air transport activity at the facility; and
(b) relate to the covered emissions of the facility.

(2) The metric in subsection (1) is applicable to a facility that:
(a) transports passengers and freight by air (the ***air transport activity***); and
(b) is in the air and space transport ANZSIC industry classification and code 490.

(3) The default emissions intensity is 0.00112 t CO_2-e per revenue-tonne-kilometre.

(4) In this section:

freight-tonne-kilometre means the unit of measure representing the movement of a tonne of freight over the distance of one kilometre calculated by multiplying the total tonnes of freight on a flight by the distance flown.

passenger-tonne-kilometre means the unit of measure representing the movement of a revenue-generating passenger over the distance of one kilometre calculated by assuming each passenger and baggage on a flight total 90 kilograms and multiplying by the distance flown.

revenue-tonne-kilometre means the sum of passenger-tonne-kilometres and freight-tonne-kilometres.

Part 23—Production variables related to road transport

Division 1—Passenger road transport

54 Vehicle-kilometres of passenger road transport

(1) Vehicle-kilometres of passenger road transport that result from carrying on the road passenger transport activity at the facility.

(2) The metric in subsection (1) is applicable to a facility that:
  (a) transports passengers by road in registered vehicles (the ***road passenger transport activity***); and
  (b) is in the passenger road transport ANZSIC industry classification and code 462.

(3) The default emissions intensity is 0.00164 t CO_2-e per vehicle-kilometre.

(4) In this section:

vehicle-kilometre means the unit of measure representing the movement of a vehicle over the distance of one kilometre.

Part 24—Production variables related to water transport

Division 1—Mixed passenger and freight water transport

55 Deadweight-tonne-kilometres of mixed passenger and freight water transport

(1) Deadweight-tonne-kilometres of water transport that:
  (a) result from carrying on the mixed passenger and freight water transport activity at the facility; and
  (b) relate to the covered emissions of the facility.

(2) The metric in subsection (1) is applicable to a facility that:
  (a) transports passengers and freight by water (the ***mixed passenger and freight water transport activity***); and
  (b) is in the water freight transport or water passenger transport ANZSIC industry classification and codes 481 or 482.

(3) The default emissions intensity is 0.000103 t CO_2-e per operational deadweight-tonne-kilometre.

(4) The relevant kilometres must be measured:
  (a) using the actual distance travelled and recorded on a ship for a voyage; or
  (b) by using an internationally accepted standard distance between the two ports on a voyage

(5) In this section:

operational deadweight tonne is a tonne of the cargo, passengers, fuel, dry provisions, supplies and other things carried on board a ship for a voyage, but not including the ship itself.

deadweight-tonne-kilometre means the unit of measure representing the movement of an operational deadweight tonne over the distance of one kilometre.

Part 25—Wastewater handling (domestic and commercial)

56 Wastewater handling (domestic and commercial)

(1) Tonnes of the following:
  (a) COD removed, calculated in accordance with subsection (4); and
  (b) nitrogen removed, calculated in accordance with subsection (5).

(2) The metric in subsection (1) is applicable to a facility whose primary activity is the handing of either or both of domestic or commercial wastewater and reports emissions under Division 5.3 of the NGER (Measurement) Determination.

(3) The default emissions intensity is:
  (a) 0.459 t CO_2-e per tonne of COD removed; and
  (b) 5.03 t CO_2-e per tonne of Nitrogen removed.

(4) For paragraph (1)(a), COD removed is given by the following equation:

$$\text{COD removed} = \text{COD}_{\text{measured entering}} - (\text{COD}_{\text{in effluent leaving site}} + \text{COD}_{\text{in sludge leaving site}})$$

where:

COD$_{\textit{measured entering}}$ is the COD entering the site measured consistently with the requirements in Division 5.3 of the NGER (Measurement) Determination.

COD$_{\textit{in effluent leaving site}}$ is the COD leaving the site measured consistently with the requirements in Division 5.3 of the NGER (Measurement) Determination.

COD$_{\textit{in sludge leaving site}}$ is COD in sludge leaving the site measured consistently with the requirements in Division 5.3 of the NGER (Measurement) Determination.

(5) For paragraph (1)(b), Nitrogen removed is given by the following equation:

$$\text{nitrogen removed} = \text{N}_{\text{measured entering}} - (\text{N}_{\text{in effluent leaving site}} + \text{N}_{\text{in sludge leaving site}})$$

where:

N$_{\textit{measured entering}}$ is the nitrogen entering the site measured consistently with the requirements in Division 5.3 of the NGER (Measurement) Determination.

N$_{\textit{in effluent leaving site}}$ is the nitrogen leaving the site measured consistently with the requirements in Division 5.3 of the NGER (Measurement) Determination.

N$_{\textit{in sludge leaving site}}$ is the nitrogen in sludge leaving the site measured consistently with the requirements in Division 5.3 of the NGER (Measurement) Determination.

(6) In this section:

COD or ***chemical oxygen demand*** means the total material available for chemical oxidation (both biodegradable and non-biodegradable) measured in tonnes.

Part 26—Electricity generation

57 Electricity generation

(1) Megawatt hours of electricity that:
  (a) are produced as part of carrying on the electricity generation activity at the facility; and

(b) if electricity generation is the only production variable applicable to the facility—are exported from the facility; and

(c) if the electricity generation occurs on a vehicle:

(i) are not used by the vehicle's propulsion system; or

(ii) are not both generated by a vehicle's propulsion system and used by or on the vehicle for purposes unrelated to propulsion.

(2) The metric in subsection (1) is applicable to a facility that conducts the activity of electricity generation (the ***electricity generation activity***).

(3) The default emissions intensity is 0.538 t CO_2-e:

(a) if paragraph (1)(b) does not apply—per megawatt hour of electricity generated; and

(b) if paragraph (1)(b) applies—per megawatt hour of electricity exported from the facility.

(4) The megawatt hours of electricity under subsections (1) and (3) must:

(a) if a meter is available to measure the electricity—be metered; and

(b) if a meter is not available to measure the electricity—be calculated in a verifiable way in accordance with industry practice; and

(c) if some or all of the electricity is exported to a designated electricity network—be measured consistently with the requirements applicable to the designated electricity network; and

(d) if paragraph (b) applies and the electricity is exported to a designated electricity network—be measured in accordance with the requirements for the export of electricity into the designated electricity network.

Schedule 3—Prescribed (Fixed) Production Variables

Part 1—Preliminary

1 Purpose

This Schedule sets out prescribed (fixed) production variables

2 Structure

(1) Each Part of the Schedule sets out:
  (a) one or more metrics, each of which is a prescribed (fixed) production variable; and
  (b) the units relevant to those metrics; and
  (c) the circumstances in which they are applicable to a facility.

(2) The default emissions intensity is specified in t CO_2-e per unit of the production variable.

(3) A Part may also set out measurement requirements or procedures relevant to the application of the metrics.

(4) The emissions relevant to the development of each production variable and the calculation of its default emissions intensity are explained in the Safeguard Mechanism document.

3 Definitions

In this Schedule:

Saleable quality has the meaning given by section 4 of Schedule 2.

Part 2—Petroleum refining

4 Petroleum refinery feedstocks

(1) Kilolitres of the following substances that are used in carrying on the activity of petroleum refining at the facility in accordance with subsection (2):
  (a) stabilised crude petroleum oil at 15 °C and 1 atmosphere; and
  (b) condensate at 15 °C and 1 atmosphere; and
  (c) tallow at 15 °C and 1 atmosphere; and
  (d) vegetable oil at 15 °C and 1 atmosphere; and
  (e) eligible petroleum feedstocks at 15 °C and 1 atmosphere.

(2) A substance mentioned in paragraphs (1)(a) to (e) is used in carrying on the activity of petroleum refining if the substance is, or is to be, refined:
  (a) by 1 or both of the processes mentioned in paragraphs (3)(a) and (b); and
  (b) into either of the following:
    (i) 1 or more petroleum products mentioned in paragraphs (3)(c) and (d);
    (ii) other by-products that result from carrying on the petroleum refining activity.

(3) The metric in subsection (1) is applicable to a facility that conducts the activity of petroleum refining through the chemical and physical transformation of stabilised crude petroleum oil, which may be supplemented with 1 or more of condensate, tallow,

vegetable oil, eligible petroleum feedstocks or other petroleum feedstocks, to produce a range of refined petroleum products through the following processes:

(a) the distillation of stabilised crude petroleum oil, condensate, tallow, vegetable oil and other petroleum feedstocks;

(b) the adjustment of the molecular weight and structure of hydrocarbons (such as that which occurs through catalytic or hydro-cracking, steam or catalytic reforming, polymerisation, isomerisation or alkylation);

(c) the blending of products from distillation and adjustment of molecular weight and structure to produce Australian and international standard diesel, jet fuel and unleaded petrol;

(d) the production of 2 or more of the following refinery products saleable in Australian or international markets:

(i) hydrogen;

(ii) ethane;

(iii) propane;

(iv) refinery grade propylene;

(v) polymer grade propylene;

(vi) liquefied petroleum gas;

(vii) butane;

(viii) naphtha;

(ix) aviation gasoline;

(x) before oxygenate blend;

(xi) kerosene;

(xii) heating oil;

(xiii) solvents;

(xiv) lubricant base stocks;

(xv) leaded petrol;

(xvi) waxes;

(xvii) bitumen.

(4) However, the metric in subsection (1) is not applicable to a facility unless:

(a) each of the processes mentioned in paragraphs (1)(a) to (d) are conducted within the year at the facility; and

(b) the combined volume of diesel, jet fuel, unleaded petrol, lubricant base stocks and bitumen at 15°C and 1 atmosphere produced from stabilised crude petroleum oil, condensate, tallow, vegetable oil and eligible petroleum feedstocks is equal to or greater than 75% of the total kilolitres of stabilised crude petroleum oil, condensate, tallow, vegetable oil and eligible petroleum feedstocks used in the year at the facility.

(5) The activity in subsection (3) is the ***petroleum refining activity***.

(6) The default emissions intensity is 0.136 t CO_2-e per kilolitre of the substances mentioned in paragraphs (1)(a) to (e).

(7) In this section:

condensate has the same meaning as in the *Excise Act 1901*.

eligible petroleum feedstocks means any 1 or more of the following that were not produced through the conduct of the petroleum refining activity carried on at another facility in Australia:

(a) catalytic cracker feedstocks that are processed in the catalytic cracker in carrying on the petroleum refining activity and have a density of 0.84 to 0.98 kg/L at 15 °C and 1 atmosphere;

(b) hydro-cracker unit feedstocks that are processed in the hydro-cracking unit in carrying on the petroleum refining activity and have a density of 0.84 to 0.98 kg/L at 15 °C and 1 atmosphere;

(c) reformer unit feedstocks that are used to produce reformate in carrying on the petroleum refining activity and have a density of 0.6 to 0.80 kg/L at 15 °C and 1 atmosphere;

(d) alkylation unit feedstocks that are used to produce alkylate in carrying on the petroleum refining activity and have a density of 0.55 to 0.62 kg/L at 15 °C and 1 atmosphere;

(e) bitumen feedstocks that are used to produce bitumen in carrying on the petroleum refining activity and have a density greater than or equal to 0.95 kg/L at 15 °C and 1 atmosphere;

(f) lubricant base stock feedstocks that are used to produce lubricant base stocks in carrying on the petroleum refining activity and have a density of 0.84 to 0.98 kg/L at 15 °C and 1 atmosphere.

stabilised crude petroleum oil has the meaning given in the Australian Taxation Office Interpretative Decision, ATO ID 2008/154, published on 18 November 2008.

Note: In 2020, the decision could be accessed from http://www.ato.gov.au.

unleaded petrol means all grades of unleaded petrol meeting Australian or international standards, including standard unleaded petrol, premium unleaded petrol and other proprietary forms of unleaded petrol.