



Safeguard Mechanism: Prescribed production variables and default emissions intensities

This draft document refers only to production variables that are proposed to be amended in the *National Greenhouse and Energy Reporting (Safeguard Mechanism) Amendment (Best Practice Emissions Intensities Update) Rules 2024*

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Abbreviations and acronyms

Abbreviation	Definition
CO ₂	Carbon dioxide
CCS	Carbon Capture and Storage
CMWG	Coal mine waste gas
GJ	Gigajoules
LNG	Liquefied Natural Gas
LPG	Liquefied Petroleum Gas
NGER	National Greenhouse and Energy Reporting
t	tonnes
t CO ₂ -e	tonnes of CO ₂ equivalent

PURPOSE OF THIS DOCUMENT

This document is an extract of the ‘Safeguard Mechanism document’ ([Safeguard Mechanism document - DCCEEW](#)), containing material relevant to production variables that are being updated as a result of the Department of Climate Change, Energy, the Environment and Water (the Department) review that Safeguard Mechanism production variables incentivise low emissions production.

The Safeguard Mechanism document is referred to in section 16 of the *National Greenhouse and Energy Reporting (Safeguard Mechanism) Rule 2015* (Safeguard Rule) ([Federal Register of Legislation - Australian Government](#)). It is available on the Department of Climate Change, Energy, the Environment and Water (the Department) website. The purpose of this document is to **define production variables** for use in baselines made under the Safeguard Mechanism and determine what emissions are relevantly associated with each production variable in accordance with section 16 of the Safeguard Rule.

There are three types of emissions intensity values associated with production variables:

- **Default emissions intensity values:** are set by the Government and represent the industry average emissions intensity of production, calculated in accordance with the Framework.
- **Facility-specific emissions intensity values:** are set by the Clean Energy Regulator, after an application by a responsible emitter. They represent the emissions intensity of production at an individual facility.
- **Benchmarks:** are set by the Government and represent international best practice, adapted for an Australia context, and apply to new facilities and new products.

Production variable definitions, default emissions intensity values and benchmarks are published in Schedule 1 of the Safeguard Rule.

Background

Defining prescribed production variables and default emissions intensities

The process of defining the production variables and default emissions intensity values was undertaken in accordance with the *Framework for developing default production variables and emissions-intensity values* (the Framework document). It involved extensive stakeholder consultation and independent technical expert review. As part of the reforms to the Safeguard Mechanism in 2023, production variables were reviewed to ensure they remain appropriate and effective in the context of declining baselines to contribute to Australia’s emissions reduction targets.

Production variable definitions and emissions source boundaries

Section 16 of the Safeguard Rule requires that when emissions are relevantly associated to production variables in an emissions intensity determination application, that must be done in a way that has regard to this document. This ensures that covered emissions are consistent between the facility-specific emissions intensity and the default emissions intensity for the same production variable.

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It is intended that all scope 1 NGER-reported emissions from a facility can be assigned to a production variable. Where a facility produces multiple products, emissions must be apportioned in a justifiable manner, making sure no emissions are counted more than once and the total emissions counted cannot be more than the total emissions from the facility. In some cases, emissions from a particular process will need to be apportioned among two or more production variables.

This document provides guidance for businesses and auditors on the emissions sources used in the development of default emissions intensity values, which emissions sources can be used in facility-specific emissions intensity calculations and how apportioning should be done.

The following sections set out the emissions sources that should be included in or excluded from emissions intensity calculations.

Note: Throughout this document, the terms ‘on-site’ and ‘off-site’ refer to the site of a facility

12B. Phosphoric acid

12B.1 Production variable definition

1. Kilolitres of 100% equivalent phosphoric acid (H_3PO_4) 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.

12B.2 Inclusions

Scope 1 emissions from the following processes at the facility are included:

- the use of machinery, equipment and processes for the physical and/or chemical transformation described in the activity definition, including, for example:
 - machinery used to move materials within the facility and as part of the activity, including mobile equipment;
 - control rooms, laboratories, maintenance workshops;
 - machinery used to create non-electrical energy for use in the activity;
 - the processing of by-products where they involve the recovery of materials for re-use within the activity or are necessary for the activity to proceed as described;
 - processing of by-products and waste materials from the activity;
 - onsite production and processing of feedstocks and intermediate products necessary for the activity to proceed, including sulfuric acid.
- waste heat recovery within the facility;
- the supply of utilities such as, but not limited to, natural gas used in heating baths, compressed air, nitrogen, steam and water where these are used in support of the activity and within the activity boundary; and
- other incidental, ancillary or supporting processes which are not included in another default or estimated emissions intensity value.

12B.3 Exclusions

Scope 1 emissions from the following processes must be excluded:

- processes which do not occur within the facility; and

- on-site electricity generation.

24. Processed natural gas (processing only)

1.1. Production variable definition

1. Gigajoules of 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***).

Definition of processed natural gas

Where 'processed natural gas' means a substance that:

- is in a gaseous state at standard temperature and pressure; and
- consists of:
 - (a) naturally occurring hydrocarbons; or
 - (b) a naturally occurring mixture of hydrocarbons and non-hydrocarbons; and
- is mainly methane; and
- has been:
 - (a) injected into a natural gas transmission pipeline; or
 - (b) supplied to a third party for injection into a natural gas transmission pipeline; or
 - (c) supplied to a downstream user after processing the substance to an agreed specification, such that the gas has at least the following qualities:
 - (i) water content of 150 mg/Sm³ or less;
 - (ii) inert gases (including carbon dioxide) of 12 molar per cent or less;
 - (iii) hydrocarbon cricondenthem of 10 °C or lower;
 - (iv) sulphur content (including any sulphur from odourant) of 60 mg/Sm³ or less.

1.2. Scope of the activity

This production variable applies to facilities that produce processed natural gas, typically as one of multiple hydrocarbon products. Facilities that extract the unprocessed natural gas and subsequently produce processed natural gas as the only saleable hydrocarbon product should use the ***processed natural gas (production and processing)*** production variable. These facilities can also use the processed natural gas (processing only) production variable for the processing of any unprocessed natural gas they import from outside the facility.

The processing of natural gas is the treatment of an unprocessed natural gas stream, which may contain some hydrocarbon and/or non-hydrocarbon liquids, to produce a gaseous stream for injection into a natural gas transmission pipeline, or for supply to another downstream user with a specification meeting the requirements of the processed natural gas definition.

The activity involves the receipt of unprocessed natural gas from a facility (which may be the same facility) conducting the activity of natural gas extraction, and processing it to a quality suitable for injection into a natural gas transmission pipeline or for supply to a downstream user with a specification meeting the requirements of the processed natural gas definition. The processing may involve separation from hydrocarbon and/or non-hydrocarbon liquids, dehydration, acid gas removal, mercury removal, and any other processes required to bring the gas to pipeline quality or the user specification meeting the requirements of the processed natural gas definition. Compression of the gas to allow injection into the pipeline is also included in the activity, if the equipment used for compression is included within the facility for the purpose of reporting under the NGER scheme.

The inputs of the activity are a stream of unprocessed natural gas that may contain gas, crude oil, condensate, natural gas liquids and non-hydrocarbon components, in a gaseous, liquid and/or mixed liquid and gaseous state.

The outputs of the activity are GJ of processed natural gas injected into the natural gas transmission pipeline or supplied to a downstream user with a specification meeting the requirements of the processed natural gas definition. The measurement of this output is expected to be conducted so that it does not include any GJ of processed natural gas that are consumed within the activity.

The activity does not include the upstream extraction or production of unprocessed natural gas to feed the activity. Further, the activity also does not include transportation of the processed natural gas, from the point where it is injected into a natural gas transmission pipeline, to downstream users or processors.

1.3. Inclusions

Scope 1 emissions from the following processes at the facility are included:

- the use of machinery, equipment and processes for the physical transformation described in the activity definition, including, for example:
 - machinery used to move materials within and as part of the activity;
 - control rooms, laboratories, and maintenance workshops;
 - machinery used to create non-electrical energy for use in the activity;
 - the processing of by-products where they involve the recovery of materials for re-use within the activity or are necessary for the activity to proceed as described; unless the by-product is being reported as a separate production variable, in which case, refer to section 1.5 below;
 - on-site processing and/or disposal of waste materials, such as wastewater, from the activity;
- recovery/capture and use of waste heat/energy within the activity;
- treatment of the unprocessed natural gas stream that is subsequently transformed into processed natural gas, using processes including, for example:

- bulk water removal (such as emissions associated with the separation of water from the natural gas and flaring of entrained hydrocarbons in this water);
- separation of gas from liquids;
- removal of sulphur compounds;
- removal of reservoir CO₂ (the separated reservoir CO₂ is not included and must be reported separately, but the emissions associated with the process of separating the reservoir CO₂ are included);
- mercury removal;
- dehydration, for example by glycol absorption and/or molecular sieves;
- removal of ethane and heavier hydrocarbons;
- odourisation of the processed natural gas;
- any flaring, leaks or venting of greenhouse gases associated with the activity, except reservoir CO₂;
- the supply of utilities such as, but not limited to, compressed air, nitrogen, steam and water where these are used in support of the activity and within the activity boundaries;
- the regeneration of any catalysts or solvents, if the regeneration is undertaken within the activity;
- compression of the gas process stream (as part of or subsequent to the processing activity), including where the processed gas is then injected into a gas transmission pipeline and the compression contributes to the gas reaching the required pressure for transmission, if such equipment is included within the facility for the purpose of NGER; and
- other incidental, ancillary or supporting processes which are not included in another default or estimated emissions intensity value.

1.4. Exclusions

Scope 1 emissions from the following processes at the facility must be excluded:

- reservoir CO₂ that is separated from the natural gas mixture as part of the processing activity, as reservoir CO₂ is reported under its own production variable;
- the processing or transfer of other production variables such as ethane and/or LPG, or crude oil and condensate (processed) (if hydrocarbon liquids separated from the natural gas stream are incorporated into a crude oil or condensate stream);
- processes which do not occur within the facility; and
- on-site electricity generation.

1.5. Multiple production variables from the same facility

It is intended that all scope 1 NGER-reported emissions from a facility can be assigned to a production variable. Where a facility produces multiple products, emissions must be apportioned in a justifiable manner, making sure no emissions are counted more than once and the total emissions counted cannot be more than the total emissions from the facility.

The method for determining the amount of emissions to be apportioned to each reported production variable may be one of the following options:

1. Apportion emissions from the activity to each production variable using a whole-of-activity mass balance method that assigns emissions at each step to the associated material stream, tracked through the activity to its transportation out of the activity location. For example, for a processed natural gas activity that also produces ethane:
 - apportion emissions from the processing steps between the two production variables, using a mass balance method
 - apportion the emissions from facility activities such as generation of utilities, venting and flaring, treatment of waste streams, between the two production variables, using a mass balance method
 - apportion the emissions from remaining, general facility activities such as the control rooms, laboratories, and maintenance workshops between the two production variables, in the ratio of the amount of that production variable produced, for example on an energy basis, unless there is another justifiable basis.
2. Apportion all emissions unique to the processed natural gas activity to the processed natural gas production variable. Similarly, apportion all emissions unique to other production variables produced at the same facility to the relevant production variable. Apportion all emissions involved in processing steps prior to the separation of natural gas amongst the various production variables on an energy basis, unless there is another justifiable basis. For example, for a processed natural gas activity that also produces ethane and/or liquefied petroleum gas:
 - apportion all emissions from the pre-processing, such as bulk water separation, amongst the various production variables in the ratio of the amount of each production variable produced, for example on an energy basis, unless there is another justifiable basis
 - apportion all emissions from processed natural gas production and further gas processing unit operations to the processed natural gas production variable
 - apportion all emissions from activities such as generation of utilities, venting and flaring, treatment of waste streams, associated with the production of processed natural gas to the processed natural gas production variable
 - apportion all emissions from the ethane production unit operations, such as the fractionation step that produced the ethane and/or liquefied petroleum gas, to the ethane/liquefied petroleum gas production variable
 - apportion all emissions from the further processing of the ethane/liquefied petroleum gas, such as further CO₂ removal and compression to storage or the facility discharge pipeline, to the ethane/liquefied petroleum gas production variable
 - apportion all emissions from activities such as generation of utilities, venting and flaring, treatment of waste streams, associated with each of the other production variables, to the relevant production variable
 - apportion the emissions from remaining, general facility activities such as general utilities, the control rooms, laboratories, and maintenance amongst the

various production variables in the ratio of the amount of each production variable produced, for example on an energy basis, unless there is another justifiable basis.

25. Processed natural gas (integrated extraction and processing)

1.6. Production variable definition

1. Gigajoules of 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 oil and gas production variable in Schedule 2 (other than the reservoir CO₂ or processed natural gas (processing only) production variables).

Definition of processed natural gas

Where 'processed natural gas' means a substance that:

- is in a gaseous state at standard temperature and pressure; and
- consists of:
 - (a) naturally occurring hydrocarbons; or
 - (b) a naturally occurring mixture of hydrocarbons and non-hydrocarbons; and
- is mainly methane; and
- has been:
 - (a) injected into a natural gas transmission pipeline; or
 - (b) supplied to a third party for injection into a natural gas transmission pipeline; or
 - (c) supplied to a downstream user after processing the substance to an agreed specification, such that the gas has at least the following qualities:

- (i) water content of 150 mg/Sm³ or less;
- (ii) inert gases (including carbon dioxide) of 12 molar per cent or less;
- (iii) hydrocarbon cricondenthem of 10 °C or lower;
- (iv) sulphur content (including any sulphur from odourant) of 60 mg/Sm³ or less.

1.7. Scope of the activity

This production variable applies to facilities that both extract unprocessed natural gas and subsequently produce processed natural gas as the only saleable hydrocarbon product.

The extraction of natural gas is the production of a fluid stream that is predominantly gaseous from a naturally occurring petroleum reservoir, which may also contain water and/or non-hydrocarbon components, in a gaseous and/or mixed liquid and gaseous state, and transportation of the fluid stream for processing within the same integrated facility.

The processing of natural gas is the treatment of the extracted natural gas stream to produce a gaseous stream for injection into a natural gas transmission pipeline or for supply to another downstream user with a specification meeting the requirements of the processed natural gas definition.

The activity involves the extraction of natural gas from a naturally occurring petroleum reservoir. The produced fluid may also include water, CO₂ and other non-hydrocarbon gases. The produced stream may undergo a treatment stage where water is separated from the gas stream. The gas stream may then be compressed to allow transportation to a downstream location for processing, which is part of the same integrated facility.

The processing involves transforming the natural gas into a quality suitable for injection into a natural gas transmission pipeline, or for supply to another downstream user with a specification meeting the requirements of the processed natural gas definition. The processing may involve separation from water, dehydration, and any other processes required to bring the gas to pipeline quality or the user specification meeting the requirements of the processed natural gas definition. Compression of the gas to allow injection into the pipeline is included in the activity, if the equipment used for compression was included within the facility for the purpose of National Greenhouse and Energy Reporting (NGER).

The outputs of the activity are GJ of processed natural gas injected into a natural gas transmission pipeline or supplied to another downstream user with a specification meeting the requirements of the processed natural gas definition. The measurement of this output is expected to be conducted so that it does not include any GJ of processed natural gas that are consumed within the facility. The measurement of the production variable is as GJ of processed natural gas that are transported, as a gas, away from the facility where the natural gas was processed.

The activity does not include transportation of the processed natural gas, from the point where it is injected into a natural gas supply pipeline, to downstream users or processors.

1.8. Inclusions

Scope 1 emissions from the following processes at the facility are included:

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- the use of machinery, equipment and processes for the extraction and physical transformation described in the activity definition, including, for example:
 - machinery used to move materials within and as part of the activity;
 - control rooms, laboratories, and maintenance workshops;
 - machinery used to create non-electrical energy for use in the activity;
 - the processing of by-products where they involve the recovery of materials for re-use within the activity or are necessary for the activity to proceed as described;
 - on-site processing and/or disposal of waste materials, such as wastewater, from the activity;
- field compression of the unprocessed natural gas associated with the gathering of the gas upstream of processing;
- compression of the gas process stream (as part of or subsequent to the processing activity), including where the processed gas is then injected into a gas transmission pipeline and the compression contributes to the gas reaching the required pressure for transmission, if such equipment is included within the facility for the purpose of NGER;
- recovery/capture and use of waste heat/energy within the activity;
- treatment of the unprocessed natural gas stream that is subsequently transformed into processed natural gas, using processes including, for example:
 - bulk water removal (such as emissions associated with the separation of water from the natural gas and flaring of entrained hydrocarbons in this water);
 - removal of sulphur compounds;
 - removal of reservoir CO₂ (the separated reservoir CO₂ is not included and must be reported separately, but the emissions associated with the process of separating the reservoir CO₂ are included);
 - dehydration, for example by glycol absorption and/or molecular sieves;
 - mercury removal;
 - odourisation of the processed natural gas;
- any flaring, leaks or venting of greenhouse gases associated with the activity, except reservoir CO₂;
- the regeneration of any catalysts or solvents, if the regeneration is undertaken within the activity;
- the supply of utilities such as, but not limited to, compressed air, nitrogen, steam and water where these are used in support of the activity and within the activity boundaries; and
- other incidental, ancillary or supporting processes which are not included in another default or estimated emissions intensity value.

1.9. Exclusions

Scope 1 emissions from the following processes at the facility must be excluded:

- reservoir CO₂ that is separated from the natural gas mixture as part of the extraction and/or processing activities, as reservoir CO₂ is reported under its own production variable;
- processing of imported unprocessed natural gas from outside the facility;
- processes which do not occur within the facility; and
- on-site electricity generation.

1.10. Multiple production variables from the same facility

It is intended that all scope 1 NGER-reported emissions from a facility can be assigned to a production variable.

The ***processed natural gas (extraction and processing)*** production variable does not allow for the use of multiple production variables from the same activity, except for reservoir CO₂, processed natural gas (processing only) and electricity. If other hydrocarbon products identified as production variables are produced in the activity, the separate production variables of unprocessed natural gas and processed natural gas must be used, along with the other production variable(s).

41. Primary steel

41.1 Production variable definition

1. Subject to subsection (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 into crude carbon steel products and hot-rolled carbon steel products.
3. 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, where up to 30 per cent of the steel is from cold ferrous feed that has not been counted as:
 - (a) Primary iron
 - (b) Primary steel
 - (c) Hot-rolled long products, or
 - (d) Hot-rolled flat product

Note: Paragraph 23(2)(d) is not applicable to the activity of producing continuously cast carbon steel products and ingots of carbon steel.
4. The activity in subsection (2) is the ***primary steel manufacturing activity***.
 - (a) 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.

5. 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 iron production 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 = $Q_p + 0.900 Q_i$

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.

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: The 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. 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 $95,000 + 0.900 \times 5,000$, or 99,500 tonnes.

41.2 Inclusions

Scope 1 emissions from the following processes at the facility are included:

- processing of feed material, including;
 - coke production that is used in steelmaking at the facility;
 - lime production that is used in steelmaking at the facility;
 - sinter production;
 - pellet production.
- iron production that is used in steelmaking at the facility;

- steelmaking;
- the component of emissions from the activity of primary steel manufacturing that is attributable to the production of continuously cast carbon steel products by:
 - the methods used to calculate the emissions of continuously cast carbon steel in accordance with the requirements in the *National Greenhouse and Energy Reporting (Measurement) Determination 2008*; and
 - the apportioning method used by the responsible emitter in their data submission to the Department for the purposes of calculating the default emissions intensity; and
- other incidental, ancillary or supporting processes which are not included in another default or facility-specific emissions intensity value.

41.2 Exclusions

Scope 1 emissions from the following processes at the facility are excluded:

- processes included in (or apportioned to) another production variable (e.g. hot-rolling into flat or long products) other than primary iron (steelmaking) or ferrous feed (steelmaking), where emissions may be apportioned to those production variables and primary steel in accordance with subsections 14A(3) and 14A(4) of the Safeguard Rule;
- processes which do not occur within the facility (e.g. the production of coke that is imported to the facility); and
- on-site electricity generation.

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

Note: In accordance with sections 14A and 19A of the Safeguard Rule, if a facility has primary steel as a historical production variable, an emissions intensity determination for that facility may specify a facility-specific emissions intensity number for primary iron using covered emissions relevantly associated with the ferrous feed (steelmaking) production variable.

44.1 Production variable definition

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 from cold ferrous feed 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 the manufacture of carbon steel from cold ferrous feed.
3. The metric in subsection (1) is applicable to a facility that conducts the activity of the manufacture of carbon steel from cold ferrous feed, where more than 30 per cent of the steel is from cold ferrous feed that has not been counted as:
 - (a) Primary iron
 - (b) Primary steel
 - (c) Hot-rolled long products, or
 - (d) Hot-rolled flat products.

Note: Paragraph 23(2)(d) is not applicable to the activity of producing continuously cast carbon steel products and ingots of carbon steel.

44.2 Inclusions

Scope 1 emissions from the following processes at the facility are included:

- processing of cold ferrous feed;
- the component of emissions from the activity of manufacture of carbon steel from cold ferrous feed that is attributable to the production of continuously cast carbon steel products and ingots of carbon steel by:
 - the methods used to calculate the emissions of continuously cast carbon steel in accordance with the requirements in the *National Greenhouse and Energy Reporting (Measurement) Determination 2008*; and
 - the apportioning method used by the responsible emitter in their data submission to the Department for the purposes of calculating the default emissions intensity; and

- other incidental, ancillary or supporting processes which are not included in another default or facility-specific emissions intensity value.

44.3 Exclusions

Scope 1 emissions from the following processes at the facility are excluded:

- processes included in (or apportioned to) another production variable e.g. hot-rolling into flat or long products;
- for the purpose of calculating a facility-specific emissions intensity value for this production variable based on information provided in relation to the ferrous feed (steelmaking) production variable in accordance with section 14A of the Safeguard Rule, emissions from the production of molten iron are excluded;
- processes which do not occur within the facility; and
- on-site electricity generation.

Rare earth processing

General definitions

In this Part:

Rare earth elements means lanthanides (including lanthanum (La), cerium (Ce), praseodymium (Pr), neodymium (Nd), samarium (Sm), europium (Eu), gadolinium (Gd), terbium (Tb), dysprosium (Dy), holmium (Ho), erbium (Er), thulium (Tm), ytterbium (Yb) and lutetium (Lu)), yttrium (Y) and scandium (Sc).

Rare earth oxides means oxides of rare earth elements and can include mixtures of oxides or rare earth elements.

TREO means total rare earth oxide

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

105. Separated rare earth products

105.1 Production variable definition

1. Tonnes of total rare earth oxide (TREO) equivalent contained in separated rare earth products that:
 - (a) has weight by weight TREO greater than 95%; 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 rare earth oxides 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 rare earth products through the transformation of metal ore (the ***separated rare earth products production activity***).

105.2 Inclusions

Scope 1 emissions from the following processes at the facility are included:

- the use of machinery, equipment and processes for the physical and/or chemical transformation described in the activity definition, including, for example:
 - machinery used to move materials within the facility and as part of the activity, including mobile equipment;
 - control rooms, laboratories, maintenance workshops;
 - machinery used to create non-electrical energy for use in the activity;

- the processing of by-products where they involve the recovery of materials for re-use within the activity or are necessary for the activity to proceed as described;
- processing of by-products and waste materials from the activity;
- onsite production and processing of feedstocks and intermediate products necessary for the activity to proceed, including sulfuric acid.
- waste heat recovery within the facility;
- the supply of utilities such as, but not limited to, natural gas used in heating baths, compressed air, nitrogen, steam and water where these are used in support of the activity and within the activity boundary; and
- other incidental, ancillary or supporting processes which are not included in another default or estimated emissions intensity value.

105.3 Exclusions

Scope 1 emissions from the following processes at the facility are excluded:

- processes which do not occur within the facility;
- the production of phosphoric acid for export from the facility; and
- on-site electricity generation.