Carbon Credits (Carbon Farming Initiative—Industrial and Commercial Emissions Reduction) Methodology Determination 2021

Consultation draft

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Part 1—Preliminary

1 Name

This is the *Carbon Credits (Carbon Farming Initiative—Industrial and Commercial Emissions Reduction) Methodology Determination 2021*.

2 Commencement

This determination commences on the day after it is registered.

3 Authority

This determination is made under subsection 106(1) of the *Carbon Credits (Carbon Farming Initiative) Act 2011*.

4 Duration

This determination remains in force for the period that:

(a) begins when this determination commences; and

(b) unless this determination is sooner revoked, ends on the day before this determination would otherwise be repealed under subsection 50(1) of the *Legislation Act 2003*.

5 Definitions

In this determination:

accuracy factor has the meaning given by section 56.

Act means the *Carbon Credits (Carbon Farming Initiative) Act 2011*.

application day, for a project, means the day on which the section 22 application was made in relation to the project.

baseline emissions, for an implementation, has the meaning given by section 6.

baseline emissions model, for an implementation, means a baseline emissions model worked out for the purposes of Part 4.

Note: A baseline emissions model may be either:

(a) a regression baseline emissions model; or

(b) an engineering baseline emissions model.

baseline measurement period, for an implementation, has the meaning given by section 22.

biomass means organic matter other than:

(a) fossil fuel, for example, coal, lignite, petroleum or natural gas; and

(b) biofuel, for example, ethanol or biodiesel.

boundary, for an implementation, means the boundary identified in accordance with section 19.

completed: an implementation is ***completed*** when the equipment within the upgraded boundary for the implementation has begun operating under normal conditions.

effective range, of a relevant variable, has the meaning given by section 8.

eligible measurement time interval, for an implementation, means a measurement time interval for the implementation, in a reporting period for the project, in which:

(a) either:
  (i) static factors are at their normal values; or
  (ii) a non-routine adjustment applies under section 48; and

Note: If static factors are not at their normal values and the project proponent has not made a non-routine adjustment to account for the emissions change that occurs as a result of static factors not being at their normal value, then the measurement time interval is not an eligible measurement time interval. Non-routine adjustments to baseline emissions can be made in accordance with section 48.

(b) for all relevant variables in a regression baseline emissions model—the measured value of the relevant variable in the measurement time interval is an amount that is:
  (i) at least 95% of the minimum value of the effective range for the variable; and
  (ii) no more than 105% of the maximum value of the effective range for the variable; and
(c) for all relevant variables in an engineering baseline emissions model—the measured value of the relevant variable in the measurement time interval is an amount that is within the effective range for the relevant variable; and
(d) the value of the dependent variable for the measurement time interval worked out using the baseline emissions model reasonably reflects the emissions that would have occurred in the measurement time interval if the implementation had not been undertaken.

eligible renewable electricity:

(a) means renewable electricity generated by equipment within the boundary for the implementation, that was installed as part of the implementation; but
(b) does not include renewable energy generated by equipment that, under the legislative rules (if any) made for subparagraph 27(4A)(c)(ii) of the Act, must not be included in an eligible offsets project.

eligible renewable energy source means an eligible renewable energy source for the purposes of the *Renewable Energy (Electricity) Act 2000*.

emissions-producing equipment means equipment that produces:

(a) energy emissions; or
(b) industrial process emissions.

energy emissions means emissions from:

(a) the consumption of electricity; or
(b) the combustion of fuel to produce:
  (i) electricity; or
  (ii) useful physical work; or

(iii) cooling, heat or steam for use.

Examples: The following are examples of useful physical work:

(a) running a diesel engine to create shaft power;

(b) pumping water to a higher location;

(c) compressing gases.

engineering baseline emissions model means a baseline emissions model developed using engineering modelling that complies with sections 34, 35, 36 and 52.

IEFE method means the *Carbon Credits (Carbon Farming Initiative—Industrial Electricity and Fuel Efficiency) Methodology Determination 2015* or an earlier version of that determination applicable to a project in accordance with sections 125, 126, 127 or 130 of the Act.

implementation means an implementation activity or group of implementation activities of a kind referred to in subsection 12(2) undertaken at a location.

implementation activity has the meaning given by subsections 12(2) and (3).

independent measurement and verification professional has the meaning given by section 10.

industrial and commercial emissions reduction project has the meaning given by section 12.

industrial process emissions means emissions of the kind referred to in Chapter 4 of the NGER (Measurement) Determination that are of a kind required to be reported under the NGER Act.

interactive effect: a change in energy emissions or industrial process emissions in a reporting period at the site of an implementation is an ***interactive effect*** if:

(a) the change in emissions in the reporting period occurs as a result of the implementation having been undertaken; and

(b) the change occurs outside the boundary for the implementation.

interactive effect abatement has the meaning given by subsection 50(2).

interactive equipment: equipment is ***interactive equipment*** for an implementation if:

(a) the emissions produced by the equipment change as a result of the implementation having been undertaken; and

(b) the equipment has not been included within the boundary for the implementation.

measurement time interval has the meaning given by section 24.

monitoring requirements means the requirements set out in Division 3 of Part 5.

NGA Factors document means the document entitled "National Greenhouse Accounts Factors", published by the Department and as in force from time to time.

NGER Act means the *National Greenhouse and Energy Reporting Act 2007*.

NGER (Measurement) Determination means the *National Greenhouse and Energy Reporting (Measurement) Determination 2008*.

NGER method means a method in the NGER (Measurement) Determination.

non-monitored period has the meaning given by subsection 69(1).

non-routine adjustment means a calculated adjustment to baseline emissions to account for a change in baseline emissions that occurs because static factors are not at their normal value in the measurement time interval.

normal value, for a static factor, has the meaning given by section 9.

off-grid, in relation to a project, means an area that is not connected to a grid named in the NGA Factors document that is in force on the application day for which that document includes an emissions factor.

operating emissions, for an implementation, has the meaning given by section 7.

operational control has the same meaning as in the NGER Act.

original boundary, for an implementation, means the boundary in its form before the implementation has commenced, identified in accordance with paragraph 19(3)(a).

partly unaffected emissions-producing equipment means emissions-producing equipment specified as partly unaffected in accordance with section 20.

regression baseline emissions model means a baseline emissions model developed using statistical regression modelling that complies with sections 31, 32, 33 and 51.

relative precision:

(a) of the emissions level predicted by a regression baseline emissions model—has the meaning given by section 54; or

(b) of the emissions abated by an implementation—has the meaning given by section 55.

relevant industrial process emissions, for an implementation, are industrial process emissions produced in circumstances where:

(a) the equipment within the boundary for the implementation creates or impacts industrial process emissions for the facility which includes the implementation; and

(b) the activities that constitute the implementation are likely to materially impact those industrial process emissions.

relevant variable, for an implementation, is a parameter:

(a) that can be measured or derived from one or more measurements using a mathematical formula with no observable loss of precision; and

(b) whose value causes or explains changes in baseline emissions.

responsible financial officer, of a person with operational control of a site, means any of the following:

(a) if the person with operational control of the site is an individual—that person;

(b) a person who holds or performs the duties of the position of the chief executive officer, chief financial officer or chief operating officer for the person with operational control of the site;
(c) a person who holds or performs the duties of a position with equivalent or similar responsibilities to a person with a position in paragraph (b);
(d) an individual employed by the person with operational control of the site who:
    (i) makes, or participates in making, decisions that affect the whole, or a substantial part, of the business or affairs of the person; or
    (ii) has the capacity to significantly affect the person's financial standing.

restarting ICER project has the meaning given by section 17A.

section 22 application, in relation to an offsets project, means an application under section 22 of the Act to declare the project as an eligible offsets project under this determination.

section 128 application, in relation to an eligible offsets project, means an application under section 128 of the Act to approve the application of this determination to the project.

site, of an implementation, means the physical locations of:
(a) the equipment within the boundary for the implementation; and
(b) the interactive equipment for the implementation.

statement of activity intent has the meaning given by section 15.

static factor: a parameter is a ***static factor*** for an implementation in a measurement time interval if:
(a) varying the parameter would change:
    (i) for a measurement time interval in the baseline measurement period for the implementation—the baseline emissions for the implementation in the measurement time interval;
    (ii) for a measurement time interval in a reporting period—the operating emissions for the implementation in the measurement time interval; and
(b) under normal operating conditions for equipment within the boundary for the implementation, the only variations in the value of the parameter in the measurement time interval are:
    (i) for a measurement time interval in the baseline measurement period for the implementation—those that have no observable effect on the baseline emissions for the implementation in the measurement time interval;
    (ii) for a measurement time interval in a reporting period—those that have no observable effect on the operating emissions for the implementation in the measurement time interval; and
(c) the parameter has not been included as a relevant variable in the baseline emissions model for the implementation.

transfer date, for a transferring IEFE project or transferring Facilities project, means the date of the start of the reporting period during which a project proponent made a section 128 application in relation to the project.

transferring IEFE project means an eligible offsets project:

(a) for which the IEFE method was the applicable methodology determination immediately before the transfer date for the project; and

(b) to which this determination applies pursuant to an approval given by the Regulator under section 130 of the Act.

transferring Facilities project means an eligible offsets project:

(a) for which the *Carbon Credits (Carbon Farming Initiative—Facilities) Methodology Determination 2015* was the applicable methodology determination immediately before the transfer date for the project; and

(b) to which this determination applies pursuant to an approval given by the Regulator under section 130 of the Act; and

(c) for which the section 128 application was made during the reporting period under subsection 76(1) of the Act.

updated statement of activity intent has the meaning given by section 42.

upgraded boundary for an implementation means the boundary in its form after the implementation has been completed, identified in accordance with paragraph 19(3)(b).

6 Meaning of *baseline emissions*

(1) The ***baseline emissions*** for an implementation are the energy emissions and industrial process emissions produced by equipment within the original boundary for the implementation.

Note: Energy emissions or industrial process emissions, or both, that are impractical or disproportionally costly to measure may be excluded under section 43.

(2) However, if electricity generated at the site of the implementation is consumed by equipment within the original boundary for the implementation, only one of the following, as chosen by the project proponent, is part of ***baseline emissions*** for the implementation:

(a) emissions from the electricity generated at the site consumed by the equipment worked out using the relevant electricity emissions factor;

(b) emissions from the fuel used to generate that electricity.

7 Meaning of *operating emissions*

(1) The operating emissions for an implementation are the energy emissions and industrial process emissions produced by equipment within the upgraded boundary for the implementation.

Note: If the implementation involves removing equipment within the boundary for the implementation, the energy emissions and industrial process emissions produced by that equipment will be zero for the purposes of determining operating emissions for the implementation.

(2) However, if electricity generated at the site of the implementation is consumed by equipment within the upgraded boundary for the implementation, only one of the following, as chosen by the project proponent, is part of ***operating emissions*** for the implementation:

(a) emissions from the electricity generated at the site consumed by the equipment worked out using the relevant electricity emissions factor;

(b) emissions from the fuel used to generate that electricity.

8 Meaning of *effective range* for a relevant variable

Regression baseline emissions modelling

(1) The ***effective range*** of a relevant variable for an implementation, if worked out using regression baseline emissions modelling, is the range of measured values for the relevant variable used in the regression analysis to develop the baseline emissions model for the implementation.

Note: Under subsection 31(2), no values of relevant variables that are outliers can be used in the statistical regression analysis to develop an emissions model. Therefore, outliers are excluded from the effective range of a relevant variable.

Engineering baseline emissions modelling

(2) The ***effective range*** of a relevant variable for an implementation, if worked out using engineering baseline emissions modelling, is the range of values for which the model is valid and for which values are physically possible.

9 Meaning of *normal value* for a static factor

(1) A static factor for an implementation is at its ***normal value*** in a measurement time interval in a reporting period for the project if the value of the static factor in the measurement time interval is the same as the value in the baseline measurement period.

(2) For subsection (1), the value of the static factor in the measurement time interval is taken to be the same as in the baseline measurement period if the only variations in the value of the static factor in the measurement time interval are those that have no observable effect on the level of baseline emissions or operating emissions for the implementation in the measurement time interval.

10 Meaning of *independent measurement and verification professional*

(1) A person is ***an independent measurement and verification professional*** in relation to a project if:

(a) the person is independent of the project proponent; and

(b) the person is:

(i) a professional energy services contractor or consultant; or

(ii) a professional engineer; or

(iii) a measurement and verification professional; and

(c) the person is:

(i) a member of Engineers Australia with the status of Chartered Professional Engineer (CPEng, or equivalent); or

(ii) a professional engineer (that is, registered under a law that provides for the registration of professional engineers or entered on the National Professional Engineers Register administered by the Institution of Engineers Australia) with:

(A) a university degree that is accredited for the grade of Professional Engineer by Engineers Australia; and

(B) at least 3 years' professional experience that includes energy auditing, energy measurement and verification or energy system project design, analysis and installation; or

(iii) if the person is not carrying out the function envisaged in section 36 in relation to an engineering baseline emissions model—certified by the Association of Energy Engineers as a Certified Measurement and Verification Professional (CMVP).

(2) A person is ***independent of the project proponent*** if the person:

(a) does not have a financial interest in the project or any implementation involved in the project; and

(b) does not have any interest that could reasonably be regarded as capable of affecting the person's ability to carry out functions envisaged in this determination in relation to the project in good faith; and

(c) is not involved in the operation of the project or any business or undertaking involved in the project; and

(d) is not an officer or employee of the project proponent; and

(e) is not a partner, employee, spouse, de facto partner or immediate family member of a person who is an officer or employee of the project proponent.

11 References to factors and parameters from external sources

(1) If a calculation in this determination includes a factor or parameter that is defined or calculated by reference to another instrument or writing, the factor or parameter to be used for a reporting period is the factor or parameter referred to in, or calculated by reference to, the instrument or writing as in force at the end of the reporting period.

(2) Subsection (1) does not apply if:

(a) this determination specifies otherwise; or

(b) it is not possible to define or calculate the factor or parameter by reference to the instrument or writing as in force at the end of the reporting period.

Part 2—Industrial and commercial emissions reduction projects

12 Industrial and commercial emissions reduction projects

(1) For paragraph 106(1)(a) of the Act, this determination applies to an offsets project that satisfies the following:

(a) the project involves undertaking one or more implementations;

(b) each implementation consists of one or more implementation activities, the combined effect of which could reasonably be expected to do either or both of the following:

(i) reduce energy emissions produced within the boundary for the implementation;

(ii) reduce industrial process emissions produced within the boundary for the implementation;

(c) each implementation could reasonably be expected to result in eligible carbon abatement.

(2) The ***implementation activities*** are the following:

(a) modifying, removing or replacing existing emissions-producing equipment;

(b) installing equipment as part of replacing, modifying or augmenting existing emissions-producing equipment;

(c) changing the way existing emissions-producing equipment is controlled or operated;

Example 1: Optimising compression or pre-heating cycles.

Example 2: Using catalysts to reduce the industrial process emissions produced during chemical manufacture.

(d) changing the energy sources or mix of energy sources used by existing emissions-producing equipment;

(e) modifying, installing, removing or replacing equipment that affects the production of emissions by existing emissions-producing equipment;

(f) installing equipment that generates electricity at a location for the primary purpose of:

(i) providing electricity to existing emissions-producing equipment that, in the absence of the implementation activity, would obtain electricity from an electricity grid; or

(ii) replacing existing off-grid electricity generation with lower emissions-intensity off-grid electricity generation.

(3) However, activities relating to the following are not implementation activities:

(a) equipment that generates electricity at a location if, after the proposed implementation:

(i) the combined stated capacity of all generating equipment at the location will be 30 megawatts or more according to the manufacturers' nameplates; and

(ii) that location will have the capacity to export electricity to an electricity grid that is a grid in relation to which the NGA Factors document, in force on the application day in relation to the project, includes an emissions factor; and

(iii) either:

(A) the export of the electricity to the grid is regarded as "scheduled" or "semi-scheduled" by the market operator of the grid; or

(B) the generation equipment will have the annual capacity to generate more electricity than the total electricity use of the location in the 12 months before the application day in relation to the project;

(b) a vehicle that could be covered by a land and sea transport project under the *Carbon Credits (Carbon Farming Initiative—Land and Sea Transport) Methodology Determination 2015*;

(c) an aircraft that could be covered by an aviation project under the *Carbon Credits (Carbon Farming Initiative—Aviation) Methodology Determination 2015*;

(d) the use, as an energy source, of biomass that is not an eligible renewable energy source;

(e) the use of off-grid electricity, heat, steam or cooling that is produced using biomass that is not an eligible renewable energy source;

(f) emissions-producing equipment:

(i) that uses, as an energy source, biomass that is not an eligible renewable energy source; or

(ii) that uses off-grid electricity, heat, steam or cooling that is produced using biomass that is not an eligible renewable energy source;

(g) equipment at residential premises (within the meaning of section 195.1 of the *A New Tax System (Goods and Services Tax) Act 1999*) that are not commercial residential premises, or a retirement village (within the meaning of that section);

(h) anything that leads, or is likely to lead, to a material increase in emissions of the kind referred to in Chapter 3 of the NGER (Measurement) Determination that are of a kind required to be reported under the NGER Act;

(i) lighting equipment that is replaced in a way that can reasonably be expected to decrease the energy usage of lighting equipment by increasing its energy efficiency.

(4) A project covered by subsection (1) is an ***industrial and commercial emissions reduction project***.

(5) Paragraph (3)(a) applies to a transferring IEFE project, in relation to implementations completed before the transfer date, as if:

(a) the phrase "after the proposed implementation" is replaced with the phrase "at the time of the section 22 application in relation to the project"; and

(b) subparagraph (3)(a)(iii) is omitted.

(6) Paragraphs (3)(g) and (h) do not apply to a transferring IEFE project in relation to implementations completed before the transfer date.

(7) In this section:

lamp means equipment that delivers artificial light to any area.

lighting equipment means any lamp or luminaire.

luminaire means an apparatus that distributes, filters or transforms the light transmitted from one or more lamps and includes, except the lamps themselves, all the parts necessary for fixing and protecting the lamps and, where necessary, circuit auxiliaries together with the means for connecting them to the electric supply.

Part 3—Project requirements

Division 1—Operation of this Part

13 Operation of this Part

For paragraph 106(1)(b) of the Act, this Part sets out requirements that must be met for an industrial and commercial emissions reduction project to be an eligible offsets project.

Division 2—General requirements about proposed projects

14 Information required to be included in section 22 application

(1) The section 22 application in relation to a project must include the following for each implementation that is identified at the time of making the application:

(a) a statement of activity intent prepared in compliance with section 15;

(b) a description of the proposed implementation activities that constitute the implementation;

(c) a detailed description of the proposed boundary for the implementation prepared in compliance with section 19;

(d) an explanation of how the implementation could reasonably be expected to result in eligible carbon abatement;

(e) if biomass will be, or is likely to be:

(i) used as an energy source in equipment within the upgraded boundary for the implementation; or

(ii) used to produce off-grid electricity, heat, steam or cooling that will be used in equipment within the upgraded boundary for the implementation;

—a declaration that the biomass will comply with the definition of ***eligible renewable energy source*** in section 5.

(2) Paragraphs (1)(a) and (c) do not apply to a transferring IEFE project.

(3) Subsection (1) does not apply to a transferring Facilities project.

(4) Paragraph (1)(a) does not apply to a restarting ICER project.

15 Statements of activity intent about implementations in proposed projects

A ***statement of activity intent*** for an implementation that is proposed to be included in a proposed project is a statement, signed by the responsible financial officer, or by an individual holding a relevant delegation from that officer, for the person with operational control over the site of the implementation, that any specified implementation activity included in the implementation would not likely be undertaken at the site during the crediting period for the project in the absence of the declaration of the project as an eligible offsets project.

Note: No statements of activity intent will have been signed and included in the section 22 application made in relation to a transferring IEFE project (since the section 22

application for that project was made before the requirement was imposed) or a restarting ICER project.

Although that does not give rise to a breach of this determination, it engages the operation of section 41, which makes provision for the signing of updated statements of activity intent in relation to an activity or implementation that has not been previously described to the Regulator (in the section 22 application in relation to the project or in a statement of activity intent included in such an application).

Division 3—General requirements about ongoing projects

16 Heat etc. for use at site of implementation not to be substituted

Heat, steam, cooling or other useful physical work for use at the site of an implementation must not be imported from another site in substitution for any heat, steam, cooling or other useful physical work produced by:

(a) emissions-producing equipment within the boundary for the implementation; or

(b) interactive equipment for the implementation.

Division 4—General requirements for transferring projects

17 Information required to be included in section 128 application for transferring projects

(1) The section 128 application in relation to a transferring IEFE project must include a detailed description of the boundary for each implementation that has been completed before the transfer date, prepared in compliance with section 19.

(2) The section 128 application in relation to a transferring Facilities project must include the following for each implementation that is identified at the time of making the application:

(a) a description of the proposed implementation activities that constitute the implementation;

(b) a detailed description of the proposed boundary for the implementation prepared in compliance with section 19;

(c) an explanation of how the implementation could reasonably be expected to result in eligible carbon abatement;

(d) either of the following:

(i) if the implementation activities described under paragraph 17(2)(a) are activities that were, as project abatement activities, the subject of a statement of activity intent prepared in compliance with the *Carbon Credits (Carbon Farming Initiative—Facilities) Methodology Determination 2015* and included in the section 22 application in relation to the project—a copy of that statement of activity intent;

(ii) otherwise—a statement of activity intent prepared in compliance with section 15 as if, in section 15:

(A) the reference to "a proposed project" were a reference to "the project"; and

(B) the phrase "in the absence of the declaration of the project as an eligible offsets project" were the phrase "in the absence of the implementation being included in the project";

(e) if biomass will be, or is likely to be:

(i) used as an energy source in equipment within the original boundary for the implementation; or

(ii) used to produce off-grid electricity, heat, steam or cooling that will be used in equipment within the original boundary for the implementation;

—a declaration that the biomass will comply with the definition of ***eligible renewable energy source*** in section 5.

Division 4A—Additionality requirements

17A Requirement in lieu of newness requirement

(1) For subparagraph 27(4A)(a)(ii) of the Act, the requirement in subsection (2) is in lieu of the newness requirement for a restarting ICER project.

(2) The requirement is that the project must be a restarting ICER project.

(3) A project is a ***restarting ICER project*** if:

(a) the proposed implementation activities described in the section 22 application in relation to the project are activities that constituted an implementation identified in the section 22 application in relation to an eligible offsets project (the ***original project***) for which the *Carbon Credits (Carbon Farming Initiative—Industrial Electricity and Fuel Efficiency) Methodology Determination 2015* was the applicable methodology determination; and

Note: Activities described in the section 22 application in relation to the original project as likely to constitute an implementation but not identified at the time of making the application can be included in a restarting ICER project through the provision of an updated statement of activity intent with the offsets report for the reporting period in which the activities are completed.

(b) after the commencement of this determination but before the start time for the crediting period for the original project, the Regulator revoked, under section 30 or item 3 of subsection 32(1) of the *Carbon Credits (Carbon Farming Initiative) Rule 2015*, the declaration made under section 27 of the Act in relation to the original project.

Division 5—Making choices for a project

Subdivision 1—Identifying the boundary for each implementation

18 Summary

An industrial and commercial emissions reduction project consists of one or more implementations. An implementation represents one or more discrete implementation activities that relate to existing emissions-producing equipment at a site.

The concept of implementation is central to this determination:

(a) project proponents must define a boundary for each implementation (Part 3); and

(b) the baseline emissions are modelled, and operating emissions are measured at the extent of the implementation boundary (Part 3); and

(c) net abatement for the project in a reporting period is calculated as the sum of abatement achieved in each implementation (Part 4); and

(d) reports and records are prepared on the basis of implementations (Part 5).

19 Identifying the boundary for each implementation

(1) A project proponent must identify a ***boundary*** for each implementation included in the project.

(2) The boundary for each implementation must include:

(a) at least one item of emissions-producing equipment; and

(b) each item of equipment that is the subject of the implementation activities that constitute the implementation that has not been identified as interactive equipment; and

(c) for an implementation that includes the implementation activity referred to in paragraph 12(2)(f)—the existing emissions-producing equipment referred to in that paragraph; and

(d) each other item of equipment that could reasonably be expected to experience an increase in emissions that is not immaterial or minor because of the implementation.

Note: All increases in emissions that occur because of the implementation must be accounted for in the net abatement calculations unless the change in emissions is excluded under section 43. If an item of equipment experiences an increase in emissions because of the implementation that is an immaterial or minor increase, the project proponent may choose to account for that change by including the item of equipment in the boundary for the implementation or by identifying the change in emissions as an interactive effect. For example, if, as part of a large gas turbine optimisation, associated electricity-consuming equipment experiences a small increase in electricity-consumption emissions, the proponent may choose whether to include the electricity consuming equipment in the boundary for the implementation or account for the electricity-consumption emissions change as an interactive effect.

(3) The project proponent must separately identify:
   (a) the boundary in its form before the implementation has commenced (the ***original boundary*** for the implementation); and
   (b) the boundary in its form after implementation activities have been completed (the ***upgraded boundary*** for the implementation).

(4) The original boundary and upgraded boundary for the implementation need not be identical but can only differ to the extent necessary to accommodate changes due to the implementation activities included in the project.

   Example: An upgraded boundary may differ from the original boundary as a result of the removal of equipment or the installation of additional equipment or components.

(5) When defining the boundary for an implementation, the project proponent may specify emissions-producing equipment within the boundary for the implementation as partly unaffected, in accordance with section 20.

(6) A project proponent must prepare a detailed description of any boundary identified under this section, in the form of a description of the items of equipment that the project proponent is treating as being within the boundary and any equipment specified as being partly unaffected. This may be supported by diagrams such as site maps or plant schematics.

Subdivision 2—Specifying equipment as partly unaffected

20 Emissions-producing equipment may be specified as partly unaffected

(1) A project proponent may, in the section 22 application or the section 128 application in relation to the project or in the first offsets report that relates to a reporting period in which an implementation has been completed, specify emissions-producing equipment within the boundary for an implementation as ***partly unaffected***.

(2) Emissions-producing equipment within the boundary for an implementation may be specified as partly unaffected only if:
   (a) the equipment provides, as an output, steam, heated fluid, cooled fluid, or compressed air; and
   (b) part of the output is used by other equipment within the boundary for the implementation and part is not (the internal output and the external output of the equipment respectively); and
   (c) the equipment does not supply energy to other equipment in the boundary for the implementation, other than in the form of its output; and
   (d) the energy content of the internal and external outputs can be monitored in accordance with section 53; and
   (e) the efficiency of the equipment is not affected by the implementation activities that constitute the implementation; and
   (f) the equipment does not consume energy from other equipment within the boundary for the implementation other than lower-grade energy returned to the emissions-producing equipment that originally created it.

   Example: The implementation site generates steam from a large central plant that is used for a number of processes. Some of these processes are already efficient, but others are not. The implementation will upgrade machinery used in the less efficient processes. To make use of existing metering, the project proponent may choose to include the steam

generation plant within the boundary for the implementation. However, much of the steam output from the generation plant is used in ways that do not interact with the equipment subject to the upgrade.

If the project proponent is able to specify the steam generation plant as partly unaffected emissions-producing equipment under this section, the proportion of the fuel input that is attributable to the steam used by emissions-producing equipment that does not interact with the upgrade can be deducted. This means that the abatement calculations focus on those processes that are affected.

(3) If equipment is specified as partly unaffected, the fuel or electricity consumed by the equipment and attributable to the external output is taken not to be fuel or electricity consumed by equipment within the boundary for the implementation for the purposes of the abatement calculations under Part 4.

Note: If the boundary for an implementation includes emissions-producing equipment that provides steam, heat, cooling or compressed air partly to other equipment in the boundary and partly to external equipment, the project proponent will be able to deduct the fuel of electricity attributable to the output provided to the external equipment from the abatement calculations.

Attribution of fuel or electricity

(4) The fuel or electricity consumed by partly unaffected emissions-producing equipment is attributed to the internal and external outputs:

(a) in the same proportion as the energy content of those outputs; and

Example: If a boiler supplies two-thirds of its steam output (by energy content) to other equipment in the boundary for the implementation and one-third to equipment outside of the boundary, then the energy content of one-third of the steam output can be excluded from the boundary.

(b) if the partly unaffected emissions-producing equipment consumes lower grade energy originally created by the equipment and returned to it—the net of the energy content of any lower grade energy being returned to the partly unaffected emissions-producing equipment.

Example: If a boiler produces and supplies steam to the rest of the equipment in the boundary and lower temperature steam is returned to the boiler for re-use, then the fuel consumption by the equipment should be attributed based on the net difference between the original and returned steam.

Subdivision 3—Choices involved in modelling and measuring emissions for an implementation

21 Sources of baseline emissions

For each implementation, the project proponent must identify the fuel combusted, electricity consumed, and industrial process emissions produced by equipment within the original boundary for the implementation for the purposes of developing the baseline emissions model for the implementation.

22 Baseline measurement period

(1) For each implementation, the project proponent must choose a measurement period (a ***baseline measurement period***) for the purposes of developing the baseline emissions model for the implementation.

(2) The baseline measurement period chosen must be a period that:

(a) accounts for the typical range of operating conditions for the equipment within the original boundary for the implementation; and

(b) reasonably represents operating conditions for the equipment where, having undertaken the implementation, it is likely that the emissions produced by equipment within the upgraded boundary for the implementation would increase.

Note: If the equipment produces different levels of emissions in different seasons, the baseline measurement period chosen must cover all relevant seasons.

(3) The baseline measurement period chosen must, wherever possible, be a continuous period.

(4) The project proponent must choose a start date and time and an end date and time for the baseline measurement period.

(5) The start date for the baseline measurement period must be no earlier than 36 months before the date the implementation commences.

(6) The end date for the baseline measurement period must be before the date the implementation commences.

23 Sources of operating emissions

For each implementation, the project proponent must identify the fuel combusted, electricity consumed, and industrial process emissions produced by equipment within the upgraded boundary for the implementation, for the purposes of working out the total measured operating emissions for the implementation.

24 Measurement time intervals

(1) For each implementation, the project proponent must choose the length of the ***measurement time interval*** for the purposes of working out the carbon dioxide equivalent net abatement amount for the implementation for a reporting period.

(2) The start of the first measurement time interval in a time period (whether the baseline measurement period or a reporting period) is the start of the time period. The start of the second or subsequent measurement time interval is immediately after the end of the previous measurement time interval.

(3) The same measurement time interval must be used for every parameter for the purposes of working out the carbon dioxide equivalent net abatement amount for the implementation for a reporting period. This measurement time interval must be used throughout the baseline measurement period for the implementation and the reporting period.

Note 1: This means that all the measurement time intervals in a period for every parameter in that period will coincide.

Note 2: Only eligible measurement time intervals are taken into account when working out the emissions abated by an implementation.

25 Interactive effects

(1) The project proponent must identify the interactive effects and interactive equipment for each implementation.

(2) If a change in emissions is an interactive effect for the baseline measurement period, the change is to be treated as an interactive effect for each reporting period for the implementation.

Note: For the purposes of calculating emissions abated by the implementation under Part 4, a change in emissions that is either a reduction in emissions or an immaterial or minor increase in emissions may be accounted for within the boundary for the implementation or identified as an interactive effect.
As required under subsection 19(2), a change in emissions that is a material increase in emissions must be accounted for within the boundary for the implementation if it was reasonable to expect an emissions change of this kind as a result of having undertaken the implementation.
If, as a result of undertaking the implementation, there is an increase in emissions outside of the boundary for the implementation that could not reasonably have been expected, that emissions change must be accounted for as an interactive effect unless it can be excluded under section 43.

(3) For each interactive effect, the project proponent must choose an approach for estimating the interactive effect that:
  (a) uses data from the records of the site of the implementation; and
  (b) uses either:
    (i) regression baseline emissions modelling or engineering baseline emissions modelling that is consistent with this determination; or
    (ii) a generally accepted energy efficiency measurement and verification practice that applies to changes of that kind; and
  (c) is consistent with relevant measuring and estimation requirements under the NGER (Measurement) Determination that apply to the combustion of fuel, consumption of electricity and production of industrial process emissions; and
  (d) results in an estimate that is measurable, capable of being verified and conservative; and
  (e) is credible and robust.

(4) However, in estimating the interactive effect using an approach chosen in accordance with subsection (3), the project proponent must:
  (a) work out emissions factors for each greenhouse gas j released due to the consumption of fuel type i using the approach that applies for working out $EF_{i,j}$ in section 53; and
  (b) work out the energy content factor of fuel type i using the approach that applies for working out EC_i in section 53; and
  (c) work out emissions factors for the consumption of electricity using the approach that applies for EF_{Elec} in section 53; and
  (d) work out industrial process emissions using the approach that applies for $E_{Proc,h,m}$ in section 53.

26 Relevant variables

(1) The project proponent must choose one or more relevant variables for the purposes of developing the baseline emissions model for an implementation.

(2) Without limiting the choice of the project proponent, the project proponent may choose any of the following relevant variables:
  (a) the service levels provided by equipment at the site of the implementation;
  (b) the quality of inputs to equipment at the site of the implementation;

(c) the types of inputs to equipment at the site of the implementation;
(d) the quality of outputs from equipment at the site of the implementation;
(e) the types of outputs from equipment at the site of the implementation.

(3) The relevant variables must be measurable in both the baseline measurement period and the reporting period.

27 Static factors

(1) For each implementation, the project proponent must identify the parameters that are static factors for the purposes of working out the emissions abated by an implementation.

(2) If a parameter is a static factor for the implementation for the baseline measurement period, the parameter is to be treated as a static factor for each reporting period for the implementation.

Division 6—Developing baseline emissions models

Subdivision 1—Obligation to develop baseline emissions model

28 Baseline emissions model must be developed for each implementation

(1) The project proponent must develop a baseline emissions model for each implementation that is either:

(a) a regression baseline emissions model that is consistent with the requirements of Subdivision 2 and able to be used to make calculations in accordance with section 51; or

(b) an engineering baseline emissions model that is consistent with the requirements of Subdivision 3 and able to be used to make calculations in accordance with section 52.

Note: The model may have to be revised from one reporting period to another, as necessary: see section 30 and subsection 37(3).

(2) A baseline emissions model must include any relevant industrial process emissions.

(3) This section applies to a transferring IEFE project only for reporting periods that end after the transfer date.

29 New baseline emissions model may be developed for subsequent reporting periods

(1) The project proponent may develop a new baseline emissions model for an implementation for the purposes of any reporting period after the first reporting period for the project.

(2) In developing the new baseline emissions model, the project proponent:

(a) may choose a new baseline measurement period in accordance with section 22; and

(aa) may choose a new measurement time interval in accordance with section 24; and

(b) may choose different relevant variables in accordance with section 26.

(3) If a project proponent uses a baseline emissions model to calculate the modelled baseline emissions for an implementation in an eligible measurement time interval in a reporting period for the project, they must use the same baseline emissions model to calculate the modelled baseline emissions for that implementation in each eligible measurement time interval for that reporting period.

(4) The statistical tests and approaches used to identify outliers for the purpose of developing a baseline emissions model for an implementation must be used to identify outliers for each baseline emissions model subsequently developed for the implementation.

(5) This section applies to a transferring IEFE project as if the reference in subsection (1) to the first reporting period for a project is a reference to the first reporting period for the project ending after the transfer date.

30 Baseline emissions model must be revised each reporting period

The baseline emissions model for an implementation must be revised each reporting period:

(a) to incorporate the electricity emissions factor ($\boldsymbol{EF_{Elec}}$) in force at the end of the reporting period; or

(b) if an engineering baseline emissions model has been used and circumstances change such that one or more parameters or equations relevant to the model are no longer valid—to address those circumstances.

Note: In addition to the circumstances described in this section, a baseline emissions model may also be required to be revised from one reporting period to another based on subsection 37(3).

Subdivision 2—Regression baseline emissions model requirements

Note: This Subdivision imposes requirements relating to regression baseline emissions models. Section 51 sets out how to calculate $\boldsymbol{E_{BM,h,m}}$ using regression baseline emission models.

31 Regression baseline emissions model requirements

(1) A baseline emissions model for an implementation that is a regression baseline emissions model must be developed using statistical regression modelling to relate relevant variables to the baseline emissions for the implementation.

Note: Baseline emissions is the dependent variable in the regression baseline emissions model.

(2) The values of the relevant variables and baseline emissions used in the regression analysis to develop the model must be values from measurement time intervals in the baseline measurement period in which:

(a) static factors for the implementation are at their normal values; and

(b) no values of the relevant variables are outliers (as identified using standard statistical tests and approaches).

(3) The value of the baseline emissions for a measurement time interval used to develop the baseline emissions model is the value of total measured baseline emissions for the implementation worked out under section 53.

(4) The regression baseline emissions model for an implementation may use linear or non-linear functions of a relevant variable.

(5) The modelled relationship between the baseline emissions and the relevant variables for the model must not be disproportionately affected by a small number of high leverage data points (worked out using standard statistical tests and approaches).

(6) This section applies to a transferring IEFE project only for reporting periods that end after the transfer date.

32 Minimum statistical requirements for regression baseline emissions models

(1) A regression baseline emissions model for an implementation must, at a minimum, meet the following statistical requirements:

(a) each relevant variable coefficient must have a t-statistic that is greater than the value for the 2-tailed t-distribution at the 95% confidence level for the number of degrees of freedom in the regression (equivalent to 97.5% confidence in a 1-tailed distribution);

(b) the adjusted coefficient of determination (adjusted R^2) must be greater than 0.75;

(c) variation in each relevant variable must affect the dependent variable in a way that can be explained by reference to an effect on either:

(i) the amount of fuel combusted, or electricity consumed, by equipment within the boundary for the implementation; or

(ii) the level of industrial process emissions produced by emissions-producing equipment within the boundary for the implementation;

(d) the residuals of the baseline emissions model must be (confirmed using standard statistical tests and approaches):

(i) homoscedastic; and

(ii) normally distributed; and

(iii) free of auto-correlation;

(e) the relative precision of the emissions level predicted by the baseline emissions model for the baseline measurement period for the model (as the case may be) calculated using equation 27 must be within $\pm$ 100%.

(2) A revised regression baseline emissions model need not be tested for compliance with subsection (1) if:

(a) it has only been revised to account for a change in the electricity emissions factor (EF_{Elec}); and

(b) the original regression baseline emissions model complied with subsection (1) (or was the subject of a declaration that complies with section 33).

33 Declaration relating to non-compliance with minimum statistical requirements

(1) A regression baseline emissions model need not comply with subsection 32(1) (the ***minimum statistical requirements***) if an independent measurement and verification professional has made a declaration that complies with this section declaring that:

(a) the regression baseline emissions model substantially complies with the minimum statistical requirements; and

(b) the areas of non-compliance with the minimum statistical requirements are not material to the integrity and accuracy of the regression baseline emissions model; and

(c) the regression baseline emissions model is satisfactory for the purposes of calculating the emissions abated by the implementation despite the model not fully meeting the minimum statistical requirements for the reasons outlined in the declaration.

(2) A declaration complies with this section if:

(a) the declaration is signed by the independent measurement and verification professional; and

(b) before signing the declaration, the independent measurement and verification professional had been provided with all the information about

the relevant regression baseline emissions model reasonably required for the professional to be satisfied of the matters specified in paragraphs (1)(a) to (c); and

(c) the information provided was accurate and did not contain anything that is false or misleading in a material particular; and

(d) the project proponent obtained from the independent measurement and verification professional written evidence supporting the making of the declaration and calculations made for that purpose:

(i) at the same time as the signed declaration was provided to the project proponent by the independent measurement and verification professional; or

(ii) as soon as reasonably practicable after the declaration was provided but, in any event, before the end of the reporting period in which the implementation to which the declaration relates is completed; and

(e) the declaration is provided to the project proponent before the end of the reporting period in which the implementation to which it relates is completed.

(3) This section applies to a transferring IEFE project only for reporting periods that end after the transfer date.

Subdivision 3—Engineering baseline emissions model requirements

Note: This Subdivision imposes requirements relating to engineering baseline emissions models. Section 52 sets out how to calculate $E_{BM,h,m}$ using engineering baseline emission models.

34 Engineering baseline emissions model requirements

(1) A baseline emissions model for an implementation that is an engineering baseline emissions model must be developed using engineering modelling to relate relevant variables to the baseline emissions for the implementation.

(2) An engineering baseline emissions model must be based on the application of mathematical approaches to solving problems based on physics, chemistry and other sciences, where:

(a) the modelling approach must be explainable in terms of the underlying scientific principles; and

(b) the modelling approach must be based on actual site data and other verifiable scientific parameters; and

(c) the modelling approach can be subjected to sensitivity analysis with different parameters and assumptions.

Note: Models may consist of multiple equations, calculated in an appropriate sequence, simultaneously, or by iteration using a scientifically valid method. Commercially available modelling packages may be employed provided they enable the use of specific site and equipment data, and provided they allow different assumptions and parameters to be used. Engineering baseline emissions modelling may combine several engineering disciplines or theories.

(3) An engineering baseline emissions model must make use of and account for specific data relating to, where applicable:

(a) the characteristics of the specific equipment operating at the site; and

(b) energy balances and material balances; and

(c) the load profiles of the equipment at the site, such as operating times, operating loads and operating parameters, variation in performance with load; and

(d) equipment set points or control system settings; and

(e) energy consumption associated with processing and characteristics of materials, including:

(i) energy consumption associated with heating and cooling of materials, and heat transfer; and

(ii) chemical reactions or phase changes; and

(iii) materials handling; and

(f) relevant ambient or external conditions materially affecting energy consumption and emissions, such as:

(i) ambient temperatures and humidity; and

(ii) cooling water temperatures; and

(g) any changes in the boundary for the implementation; and

(h) industrial process emissions.

35 Minimum statistical requirements for engineering baseline emissions models

An engineering baseline emissions model for an implementation must estimate baseline emissions in the baseline measurement period for the implementation with:

(a) a normalised mean bias error within:

(i) for data with measurement time intervals that are monthly or longer—±5%; or

(ii) for data with measurement time intervals that are less than a month and more than a day—±8%; or

(iii) for data with measurement time intervals that daily or are between a day and an hour—±12%; or

(iv) for data with measurement time intervals of an hour or less—±15%; and

(b) a coefficient of variation of the root mean square error (Cv RMSE) up to:

(i) for data with measurement time intervals that are monthly or longer—15%; or

(ii) for data with measurement time intervals that are less than a month and more than a day—20%; or

(iii) for data with measurement time intervals that daily or are between a day and an hour—25%; or

(iv) for data with measurement time intervals of an hour or less—30%.

36 Declaration about compliance of engineering baseline emissions model

(1) An engineering baseline emissions model for an implementation must be the subject of a declaration made by an independent measurement and verification professional that the model complies with the requirements of this determination.

(2) A declaration complies with this section if:

(a) the declaration is signed by the independent measurement and verification professional; and

(b) before signing the declaration, the independent measurement and verification professional had been provided with all the information about the engineering baseline emissions model reasonably required to be satisfied that the model complies with the requirements of this determination; and

(c) the information provided was accurate and did not contain anything that was false or misleading in a material particular; and

(d) the project proponent obtained any documents supporting the making of the declaration from the independent measurement and verification professional:

(i) at the same time as the signed declaration was provided to the project proponent by the independent measurement and verification professional; or

(ii) as soon as reasonably practicable after the declaration was provided but, in any event, before the end of the reporting period in which the implementation to which the declaration relates is completed; and

(e) the declaration is provided to the project proponent before the end of the reporting period in which the implementation to which it relates is completed.

(3) If a new engineering baseline emissions model for an implementation is developed under subsection 29(1), or if an existing engineering baseline emissions model for an implementation is revised other than to account for a change in the electricity emissions factor, the new or revised model must be the subject of a new declaration made under this section.

(4) This section applies to a transferring IEFE project only for reporting periods that end after the transfer date.

Division 7—Using NGER methods to work out factors

37 Using NGER methods to work out factors

(1) This section applies to working out the following parameters for the purposes of calculating the emissions abated by an implementation for a reporting period:

(a) the energy content factor of fuel type i;

(b) the emissions factor for greenhouse gas type j released due to the combustion of fuel type i;

(c) an industrial process emission.

Same NGER method to be used for baseline and operating emissions

(2) If, for an implementation, a project proponent works out a parameter in accordance with an NGER method, the project proponent must use the method to work out the parameter for the purposes of:

(a) developing the baseline emissions model for the implementation; and

(b) working out total measured operating emissions for the implementation during a reporting period.

Note 1: The project proponent may choose to use an NGER method in accordance with the monitoring requirements or be required to use one as a consequence of failing to monitor a parameter as required (see Division 3 of Part 5).

Note 2: This means that the analysis used in a regression baseline emissions model or engineering baseline emissions model may need to be revised if a different method is used or if the method has been amended.

Current version of NGER method to be used if possible

(3) If it is not possible to use the version of the NGER method as in force at the end of the reporting period for the purposes of paragraph (2)(a) or (b), the project proponent must use the most recent version of the NGER method that it is possible to use for the purposes of that paragraph.

(4) To avoid doubt, subsection (3) has effect despite paragraph 11(2)(b).

Emissions-weighted average of factor to be used for emissions models

(5) If, in using a version of an NGER method for the purposes of a baseline emissions model in accordance with this section, more than one factor would apply in the baseline measurement period, the factor to be used for the period is the emissions-weighted average of all the factors that would have applied during the period.

Part 4—Net abatement amount

Division 1—Preliminary

38 Operation of this Part

For paragraph 106(1)(c) of the Act, this Part specifies the method for working out the carbon dioxide equivalent net abatement amount for a reporting period for an industrial and commercial emissions reduction project that is an eligible offsets project.

39 Overview of gases accounted for in abatement calculations

(1) The following table provides an overview of the greenhouse gases and emissions sources that are relevant to working out the carbon dioxide equivalent net abatement amount for an industrial and commercial emissions reduction project.

Greenhouse gases and emissions sources

Item	Relevant emissions calculation	Emissions source	Greenhouse gas
1	Baseline emissions for an implementation	Fuel consumption emissions	Carbon dioxide (CO_2) Methane (CH_4) Nitrous oxide (N_2O)
2	Baseline emissions for an implementation	Electricity consumption emissions	Carbon dioxide (CO_2) Methane (CH_4) Nitrous oxide (N_2O)
3	Baseline emissions for an implementation	Industrial process emissions	The greenhouse gases listed in regulation 2.02 of the NGER Regulations
4	Operating emissions for an implementation	Fuel consumption emissions	Carbon dioxide (CO_2) Methane (CH_4) Nitrous oxide (N_2O)
5	Operating emissions for an implementation	Electricity consumption emissions	Carbon dioxide (CO_2) Methane (CH_4) Nitrous oxide (N_2O)
6	Operating emissions for an implementation	Industrial process emissions	The greenhouse gases listed in regulation 2.02 of the NGER Regulations
7	Emissions from interactive effects	Fuel consumption emissions	Carbon dioxide (CO_2) Methane (CH_4) Nitrous oxide (N_2O)
8	Emissions from interactive effects	Electricity consumption emissions	Carbon dioxide (CO_2) Methane (CH_4) Nitrous oxide (N_2O)

Greenhouse gases and emissions sources			
Item	**Relevant emissions calculation**	**Emissions source**	**Greenhouse gas**
9	Emissions from interactive effects	Industrial process emissions	The greenhouse gases listed in regulation 2.02 of the NGER Regulations

(2) In this section, ***NGER Regulations*** means the *National Greenhouse and Energy Reporting Regulations 2008*.

Division 2—Working out the net abatement amount

40 When an implementation may be included in calculating the net abatement amount

(1) For the purposes of working out the carbon dioxide equivalent net abatement amount for a reporting period, the project proponent may calculate abatement for an implementation for the reporting period if the implementation has been completed.

(2) However, if:

(a) the project proponent calculates abatement for an implementation for a reporting period; and

(b) the project proponent chooses not to calculate abatement for the implementation in a subsequent reporting period (the ***later period***); and

(c) it would have been practicable for the project proponent to calculate abatement for the implementation in the later period;

the project proponent must not calculate abatement for the implementation for any reporting period subsequent to the later period.

41 When an implementation must not be included in calculating the net abatement amount

(1) For the purposes of working out the carbon dioxide equivalent net abatement amount for a reporting period, the project proponent must not calculate abatement for an implementation for the reporting period if Scenario 1 or Scenario 2 applies.

Scenario 1: When an activity that has not been described to the Regulator is carried out at the site of an existing implementation

(2) Scenario 1 applies if:

(a) the project proponent has undertaken an activity (whether the activity is an implementation activity or otherwise) at the site of an implementation; and

(b) the site of that implementation has previously been described to the Regulator as being part of the project; and

(c) the activity was not described to the Regulator as an activity, or one of the activities, that constitute the implementation (whether in the section 22 application in relation to the project, or in a statement of activity intent accompanying such an application); and

(d) the activity contributes more than 10% of the abatement calculated for the implementation in the reporting period; and

(e) the activity has not been described in an updated statement of activity intent provided to the Regulator together with the offsets report relating to the reporting period in which the activity was completed.

Scenario 2: When an implementation that has not been described to the Regulator is carried out

(3) Scenario 2 applies if:

(a) after a project was declared to be an eligible offsets project, the project proponent has undertaken an implementation; and

(b) that implementation was not described to the Regulator as being part of the project before the implementation commenced (whether in the section 22 application in relation to the project, or in a statement of activity intent accompanying such an application); and

(c) the implementation has not been described in an updated statement of activity intent provided to the Regulator together with the offsets report relating to the reporting period in which the implementation was completed.

42 Updated statements of activity intent about implementations in current projects

An ***updated statement of activity intent*** for an implementation that is included in a project is a statement, signed by the responsible financial officer, or by an individual holding a relevant delegation from that officer, for the person with operational control over the site of the implementation, that any specified implementation activity included in the implementation would not likely have been undertaken at the site during the crediting period for the project in the absence of the implementation being included in the project.

Note 1: No statements of activity intent will have been signed and provided to the Regulator in relation to activities completed as part of a transferring IEFE project in a reporting period that ended before the transfer date.

However, if a transferring IEFE project completes implementations or implementation activities after the transfer date that were not identified in the section 22 application for the project, then the abatement from those implementations or implementation activities cannot be claimed unless updated statements of activity intent are provided for such implementations or implementation activities to the Regulator together with the offsets report relating to the reporting periods in which the implementations or implementation activities are completed—see section 41.

Note 2: No statements of activity intent will have been signed and included in the section 22 application made in relation to a restarting ICER project.

If a restarting ICER project completes implementations or implementation activities that were not identified in the section 22 application for the project, then the abatement from those implementations or implementation activities cannot be claimed unless updated statements of activity intent are provided for such implementations or implementation activities to the Regulator together with the offsets report relating to the reporting periods in which the implementations or implementation activities are completed—see section 41

43 Certain emissions that may be excluded in calculating the emissions abated by an implementation

For the purposes of working out the emissions abated by an implementation for a reporting period, the project proponent may choose not to account for one or more changes in energy emissions or industrial process emissions that occur as a result of the implementation being undertaken if:

(a) it is impractical or disproportionally costly to account for those changes in energy emissions or industrial process emissions (including accounting for those changes as interactive effects); and

(b) not accounting for the total of those changes in energy emissions or industrial process emissions would be reasonably likely to result in a

difference of 5% or less in the emissions abated by the implementation for the reporting period; and

(c) the energy emissions or industrial process emissions are excluded from both baseline emissions and operating emissions.

44 Negative final carbon dioxide equivalent net abatement amount taken to be zero

If the carbon dioxide equivalent net abatement amount for the final reporting period in the crediting period is a negative amount the carbon dioxide equivalent net abatement amount for the reporting period is taken to be zero.

Division 3—Method for calculating net abatement amount

45 Carbon dioxide equivalent net abatement amount

The carbon dioxide equivalent net abatement amount for a reporting period, in tonnes CO_2-e, is worked out using the formula (***equation 1***):

$$A_N = \sum_h A_h + A_{Neg}$$

where:

$\boldsymbol{A_N}$ means the carbon dioxide equivalent net abatement amount for the reporting period, in tonnes CO_2-e.

$\boldsymbol{A_h}$ means the emissions abated by implementation h for the reporting period, in tonnes CO_2-e, worked out using the calculations in this Part.

$\boldsymbol{A_{Neg}}$ means the value of A_N for the previous reporting period if A_N was negative in the previous reporting period.

h is an implementation included in the project.

Division 4— Calculating baseline emissions and operating emissions

46 Emissions abated

Working out emissions abated

(1) The emissions abated by implementation h for a reporting period, in tonnes CO_2-e, is worked out using subsection (9) to (16), as required.

Defined terms

(2) In this section:

$\boldsymbol{A_{bound,h}}$ means the boundary abatement for implementation h for the reporting period, worked out using equation 2.

$\left|\boldsymbol{A_{bound,h}}\right|$ means the absolute value of $\boldsymbol{A_{bound,h}}$.

$\boldsymbol{AF_h}$ means the accuracy factor for implementation h for the reporting period, worked out in accordance with section 56.

$\boldsymbol{A_h}$ means the emissions abated by implementation h for the reporting period, in tonnes CO_2-e, worked out using the calculations in this Part.

$\mathbf{A_{IN,h}}$ means the interactive effect abatement for implementation h for the reporting period, in tonnes CO_2-e, worked out using equation 21.

$\boldsymbol{E_{BM,h}}$ means the total baseline emissions for implementation h for the reporting period, in tonnes CO_2-e, worked out using equation 18.

$\boldsymbol{E_{Meas,h}}$ means the total measured operating emissions for implementation h for the reporting period, in tonnes CO_2-e, worked out using equation 19.

h means an implementation included in the project.

Boundary abatement

(3) The abatement that occurs inside the boundary for implementation h for a reporting period, in tonnes CO_2-e, is the ***boundary abatement*** ($\boldsymbol{A_{bound,h}}$) worked out using the following formula (***equation 2***):

$$A_{bound,h} = E_{BM,h} - E_{Meas,h}$$

Positive boundary abatement

(4) There is ***positive boundary abatement*** for implementation h for a reporting period if the following formula (***equation 3***) is satisfied for the reporting period:

$$A_{bound,h} > 0$$

In that case, the emissions abated by implementation h for the reporting period, in tonnes CO_2-e, is worked out using subsection (9), (10) or (11), as required.

Negative boundary abatement

(5) There is ***negative boundary abatement*** for implementation h for a reporting period if the following formula (***equation 4***) is satisfied for the reporting period:

$$A_{bound,h} < 0$$

In that case, the emissions abated by implementation h for the reporting period, in tonnes CO_2-e, is worked out using subsection (12), (13) or (14), as required.

Zero boundary abatement

(6) There is ***zero boundary abatement*** for implementation h for a reporting period if the following formula (***equation 5***) is satisfied for the reporting period:

$$A_{bound,h} = 0$$

In that case, the emissions abated by implementation h for the reporting period, in tonnes CO_2-e, is worked out using subsection (15) or (16), as required.

Positive interactive effect abatement

(7) There is ***positive interactive effect abatement*** for implementation h for a reporting period if the following formula (***equation 6***) is satisfied for the reporting period:

$$A_{IN,h} \geq 0$$

Negative interactive effect abatement

(8) There is ***negative interactive effect abatement*** for implementation h for a reporting period if the following formula (***equation 7***) is satisfied for the reporting period:

$$A_{IN,h} < 0$$

Positive boundary abatement and positive interactive effect abatement

(9) If there is positive boundary abatement and positive interactive effect abatement for implementation h for a reporting period and the following formula (***equation 8***) is satisfied for the reporting period:

$$A_{IN,h} \geq 0.1\, A_{bound,h}$$

—then the emissions abated by implementation h for the reporting period, in tonnes CO_2-e, is worked out using the formula (***equation 9***):

$$A_h = 1.1\, A_{bound,h} \times AF_h$$

(10) If there is positive boundary abatement and positive interactive effect abatement for implementation h for a reporting period and equation 8 is not satisfied for the reporting period, then the emissions abated by implementation h for the reporting period, in tonnes CO_2-e, is worked out using the formula (***equation 10***):

$$A_h = \left(A_{bound,h} + A_{IN,h}\right) \times AF_h$$

Positive boundary abatement and negative interactive effect abatement

(11) If there is positive boundary abatement and negative interactive effect abatement for implementation h for a reporting period, then the emissions abated by implementation h for the reporting period, in tonnes CO_2-e, is worked out using the formula (***equation 11***):

$$A_h = \left(A_{bound,h} + A_{IN,h}\right) \times AF_h$$

Negative boundary abatement and positive interactive effect abatement

(12) If there is negative boundary abatement and positive interactive effect abatement for implementation h for a reporting period and the following formula (***equation 12***) is satisfied for the reporting period:

$$A_{IN,h} \geq 0.1\left|A_{bound,h}\right|$$

—then the emissions abated by implementation h for the reporting period, in tonnes CO_2-e, is worked out using the following formula (***equation 13***):

$$A_h = A_{bound,h} + 0.1\left|A_{bound,h}\right|$$

(13) If there is negative boundary abatement and positive interactive effect abatement for implementation h for a reporting period and equation 12 is not satisfied for the reporting period, then the emissions abated by implementation h for the reporting period, in tonnes CO_2-e, is worked out using the formula (***equation 14***):

$$A_h = A_{bound,h} + A_{IN,h}$$

Negative boundary abatement and negative interactive effect abatement

(14) If there is negative boundary abatement and negative interactive effect abatement for implementation h for a reporting period, then the emissions abated by implementation h for the reporting period, in tonnes CO_2-e, is worked out using the formula (***equation 15***):

$$A_h = A_{bound,h} + A_{IN,h}$$

Zero boundary abatement and positive interactive effect abatement

(15) If there is zero boundary abatement and positive interactive effect abatement for implementation h for a reporting period, then the emissions abated by implementation h for the reporting period, in tonnes CO_2-e, is worked out using the formula (***equation 16***):

$$A_h = 0$$

Zero boundary abatement and negative interactive effect abatement

(16) If there is zero boundary abatement and negative interactive effect abatement for implementation h for a reporting period, then the emissions abated by

implementation h for the reporting period, in tonnes CO_2-e, is worked out using the formula (***equation 17***):

$$A_h = A_{IN,h}$$

47 Baseline emissions

The total baseline emissions for implementation h for a reporting period, in tonnes CO_2-e, is worked out using the formula (***equation 18***):

$$E_{BM,h} = \sum_m (E_{BM,h,m} + E_{NRA,h,m})$$

where:

$\boldsymbol{E_{BM,h}}$ means the total baseline emissions for implementation h for the reporting period, in tonnes CO_2-e.

$\boldsymbol{E_{BM,h,m}}$ means the modelled baseline emissions for implementation h for eligible measurement time interval m in the reporting period, in tonnes CO_2-e, worked out:

(a) if a regression baseline emissions model is used—under section 51; and

(b) if an engineering baseline emissions model is used—under section 52.

$\boldsymbol{E_{NRA,h,m}}$ means:

(a) if a non-routine adjustment has been made for implementation h for eligible measurement time interval m in the reporting period—the change in baseline emissions because of that non-routine adjustment, in tonnes CO_2-e, worked out under section 48;

(b) otherwise—zero.

48 Non-routine adjustments

(1) For the purpose of section 47, $\boldsymbol{E_{NRA,h,m}}$ is the change in baseline emissions resulting from the non-routine adjustment for implementation h in eligible measurement time interval m in a reporting period, in tonnes CO_2-e, worked out using either:

(a) regression baseline emissions modelling or engineering baseline emissions modelling approaches consistent with this determination; or

(b) a generally accepted energy efficiency measurement and verification practice that applies to changes of that kind.

(2) The modelling approach or practice used for the purposes of subsection (1) must be the subject of a declaration that complies with this section that the modelling approach or practice complies with the requirements of this determination.

(3) A declaration complies with this section if:

(a) the declaration is made and signed by an independent measurement and verification professional; and

(b) before making the declaration, the independent measurement and verification professional had been provided with all the information about the modelling approach or practice reasonably required for the professional to be satisfied that the model complies with the requirements of this determination; and

(c) the information provided was accurate and did not contain anything that was false or misleading in a material particular; and

(d) the project proponent obtained any documents supporting the making of the declaration from the independent measurement and verification professional:

(i) at the same time as the signed declaration was provided to the project proponent by the independent measurement and verification professional; or

(ii) as soon as reasonably practicable after the declaration was provided but, in any event, before the end of the reporting period in which the implementation to which the declaration relates is completed; and

(e) the declaration is provided to the project proponent before the end of the reporting period in which the implementation to which it relates is completed.

(4) To avoid doubt, this section applies to a transferring IEFE project only for reporting periods that end after the transfer date.

49 Measured operating emissions

The total measured operating emissions for implementation h for a reporting period, in tonnes CO_2-e, is worked out using the formula (***equation 19***):

$$E_{Meas,h} = \sum_m E_{Meas,h,m}$$

where:

$\boldsymbol{E_{Meas,h}}$ means the total measured operating emissions for implementation h for the reporting period, in tonnes CO_2-e.

$\boldsymbol{E_{Meas,h,m}}$ means the total measured operating emissions for implementation h for eligible measurement time interval m in the reporting period, in tonnes CO_2-e, worked out under section 53.

Division 5—Calculating interactive effects

50 Interactive effects

(1) The net interactive effects for implementation h for a reporting period, in tonnes CO_2-e, is worked out using the formula (***equation 20***):

$$E_{IN,h} = \sum_{u} E_{I,h,u}$$

$E_{IN,h}$ means the net interactive effects for implementation h for the reporting period, in tonnes CO_2-e.

$E_{I,h,u}$ means interactive effect u for implementation h for the reporting period, in tonnes CO_2-e, worked out in accordance with subsection 25(3).

Note: If the change in emissions that is an interactive effect is a reduction in emissions, the value of the interactive effect (***$E_{I,h,u}$***) will be negative.

(2) The abatement that occurs outside the boundary for implementation h for a reporting period because of the net interactive effects for that implementation for the reporting period is the ***interactive effect abatement***, in tonnes CO_2-e worked out using the formula (***equation 21***):

$$A_{IN,h} = -E_{IN,h}$$

where:

$A_{IN,h}$ means the interactive effect abatement for implementation h for the reporting period, in tonnes CO_2-e.

$E_{IN,h}$ means the net interactive effects for implementation h for the reporting period, in tonnes CO_2-e.

Division 6—Calculating modelled baseline emissions for an eligible measurement time interval in a reporting period

Note: Sections 32, 33 and 34 impose requirements about regression baseline emissions models and sections 35, 36 and 37 impose requirements about engineering baseline emissions models.

51 Calculating modelled baseline emissions for an eligible measurement time interval in a reporting period using a regression baseline emissions model

The modelled baseline emissions for implementation h for eligible measurement time interval m in a reporting period (***$E_{BM,h,m}$***), in tonnes CO_2-e, is worked out by entering the values of the relevant variables ($x_{1,m}$, $x_{2,m}$,…,$x_{k,m}$) measured in the eligible measurement time interval into a regression baseline emissions model that is the baseline emissions model for the implementation (***equation 22***):

$$E_{BM,h,m} = f(x_{1,m}, x_{2,m}, \dots, x_{k,m})$$

where:

$E_{BM,h,m}$ means the modelled baseline emissions for implementation h for eligible measurement time interval m in a reporting period, in tonnes CO_2-e.

Note: $E_{BM,h,m}$ is the dependent variable for the emissions model.

$x_{1,m}$ means the measured value of the relevant variable x_1 for eligible measurement time interval m in the reporting period.

k means the number of relevant variables in the regression baseline emissions model.

52 Calculating modelled baseline emissions for an eligible measurement time interval in a reporting period using an engineering baseline emissions model

The modelled baseline emissions for implementation h for eligible measurement time interval m in a reporting period (***$E_{BM,h,m}$***), in tonnes CO_2-e, is worked out by entering the values of the relevant variables ($x_{1,m}$, $x_{2,m}$,…,$x_{k,m}$) measured in the eligible measurement time interval into an engineering baseline emissions model that is the baseline emissions model for the implementation.

Division 7—Calculating measured emissions

53 Measured emissions

(1) This section sets out how to work out the total measured emissions for the purposes of:

(a) if this section is used to develop the baseline emissions model for implementation h—calculating total measured baseline emissions for implementation h for measurement time interval m in the baseline measurement period; or

(c) if this section is used otherwise—calculating total measured operating emissions for implementation h for eligible measurement time interval m in a reporting period.

(2) The total measured emissions for implementation h for measurement time interval m, in tonnes CO_2-e, is worked out using the formula (***equation 23***):

$$E_{Meas,h,m} = E_{Fuel,h,m} + E_{Elec,h,m} + E_{Proc,h,m}$$

where:

$E_{Meas,h,m}$ means the total measured emissions for implementation h for measurement time interval m, in tonnes CO_2-e.

$E_{Fuel,h,m}$ means the total emissions from the combustion of fuel for implementation h for measurement time interval m, in tonnes CO_2-e, worked out using equation 24.

$E_{Elec,h,m}$ means the total emissions from the consumption of electricity for implementation h for measurement time interval m, in tonnes CO_2-e, worked out using equation 26.

$E_{Proc,h,m}$ means:

(a) if there are relevant industrial process emissions for implementation h, the total relevant industrial process emissions for implementation h for measurement time interval m, not accounted for through combustion of fuel or consumption of electricity, as worked out using a method consistent with Chapter 4 of the NGER (Measurement) Determination, in tonnes CO_2-e; or

(b) otherwise—zero.

(3) The total emissions from the combustion of fuel for implementation h for measurement time interval m, in tonnes CO_2-e, is worked out using the formula (***equation 24***):

$$E_{Fuel,h,m} = \sum_i \sum_j E_{h,m,i,j}$$

where:

$E_{Fuel,h,m}$ means the total emissions from the combustion of fuel for implementation h for measurement time interval m, in tonnes CO_2-e.

$E_{h,m,i,j}$ means the total emissions from the combustion of fuel type i of greenhouse gas j for implementation h for measurement time interval m, in tonnes CO_2-e, worked out using equation 25.

(4) The total emissions from the combustion of fuel type i of greenhouse gas j for implementation h for measurement time interval m, in tonnes CO_2-e, is worked out using the formula (***equation 25***):

$$E_{h,m,i,j} = \frac{Q_{h,m,i} \times EC_i \times EF_{i,j}}{1000}$$

where:

$E_{h,m,i,j}$ means the total emissions from the combustion of fuel type i of greenhouse gas j for implementation h for measurement time interval m, in tonnes CO_2-e.

$Q_{h,m,i}$ means the total quantity of fuel type i combusted by equipment within the boundary for implementation h for measurement time interval m, in appropriate units, worked out in accordance with the monitoring requirements.

EC_i means the energy content factor of fuel type i, in appropriate units, worked out in accordance with the monitoring requirements.

$EF_{i,j}$ means the emissions factor for each greenhouse gas type j released due to the combustion of fuel type i by equipment within the boundary for implementation h for measurement time interval m, in kilograms of CO_2-e per gigajoule or other appropriate unit, worked out in accordance with the monitoring requirements.

(5) However, if $Q_{h,m,i}$ is measured in gigajoules, then the value of EC_i is taken to be 1.

(6) The total emissions from the consumption of electricity for implementation h for measurement time interval m, in tonnes CO_2-e, is worked out using the formula (***equation 26***):

$$E_{Elec,h,m} = \max(0, Q_{Elec,h,m} - Q_{Ren,h,m}) \times \frac{EF_{Elec}}{1000}$$

where:

$E_{Elec,h,m}$ means the total emissions from the consumption of electricity for implementation h for measurement time interval m, in tonnes CO_2-e.

$Q_{Elec,h,m}$ means the quantity of electricity that is consumed by equipment within the boundary for implementation h for measurement time interval m, in kilowatt hours, worked out in accordance with the monitoring requirements.

$Q_{Ren,h,m}$ means the quantity of eligible renewable electricity that is consumed by equipment within the boundary for implementation h for measurement time interval m, in kilowatt hours, worked out in accordance with the monitoring requirements.

EF_{Elec} means:

(a) for electricity obtained from an electricity grid that is a grid in relation to which the NGA Factors document, includes an emissions factor—that factor, in kilograms CO_2-e per kilowatt hour; or

(b) for electricity obtained from an electricity grid not covered by paragraph (a) or obtained from a source other than an electricity grid:

(i) if the supplier of the electricity is able to provide an emissions factor that reflects the emissions intensity of the electricity (worked out in accordance with subsection (7)) applicable at the end of the reporting period and that is updated for any major changes in electricity supply—that updated factor; or

(ii) otherwise—the emissions factor, in kilograms CO_2-e per kilowatt hour (or its equivalent of tonnes CO_2-e per megawatt hours), for off-grid electricity included in the NGA Factors document.

(7) For subparagraph (b)(i) of the definition of $\boldsymbol{EF_{Elec}}$ in subsection (6), the emissions factor must be worked out:

(a) on a sent-out basis; and

(b) using a measurement or estimation approach that is consistent with the NGER (Measurement) Determination.

Division 8—Calculation of relative precision

54 Relative precision of the emissions level predicted by a regression baseline emissions model

(1) This section sets out how to work out the ***relative precision*** of the emissions level predicted by the regression baseline emissions model for implementation h for the baseline measurement period.

Note: The relative precision value under this section is calculated for the purposes of the minimum statistical requirements for regression baseline emissions models as set out in section 32.

(2) The relative precision of the emissions level predicted by the regression baseline emissions model for implementation h for the baseline measurement period is worked out using the formula (***equation 27***):

$$RP_{E,h} = \frac{t \times \sqrt{n_{MI,Mod,h}} \times SE_{E,h}}{E_h} \times 100$$

where:

$RP_{E,h}$ means the relative precision of the emissions level (expressed as a percentage) predicted by the regression baseline emissions model for implementation h for the baseline measurement period.

t means the critical tabulated student's t value for the appropriate number of degrees of freedom at the 95% confidence level.

Note: The number of degrees of freedom means the number of data points (measurement time intervals) in the regression minus the number of relevant variables in the regression minus 1.

$n_{MI,Mod,h}$ means the number of data points, which is the number of measurement time intervals for which data was used in the statistical regression analysis to develop the regression baseline emissions model in the baseline measurement period.

$SE_{E,h}$ means the standard error of the regression baseline emissions model for implementation h per measurement time interval in the baseline measurement period.

E_h means the emissions level for implementation h for the baseline measurement period, worked out using the regression baseline emissions model for implementation h.

55 Relative precision of emissions abated by an implementation

(1) The ***relative precision*** of the emissions abated by implementation h for a reporting period is worked out using the formula (***equation 28***):

$$RP_{A,h} = \frac{t \times SE_{A,h}}{|A_{RP,h}|} \times 100$$

where:

***RP**$_{A,h}$* means the relative precision (expressed as a percentage) of the emissions abated by implementation h for the reporting period.

t means the critical tabulated student's t value for the appropriate number of degrees of freedom at the 95% confidence level.

Note: The number of degrees of freedom means the number of data points (measurement time intervals) in the baseline emissions model minus the number of relevant variables in the baseline emissions model minus 1.

***SE**$_{A,h}$* means the standard error of the emissions abated by implementation h for the reporting period, in tonnes CO_2-e, worked out using equation 29.

$|A_{RP,h}|$ means the absolute value of the emissions abated by implementation h for the reporting period worked out using equation 30.

Standard error

(2) The standard error of the emissions abated by implementation h for a reporting period, in tonnes CO_2-e, is worked out using the formula (***equation 29***):

$$SE_{A,h} = \sqrt{\left(n_{MI,Rep,h} \times SE_{B,h}^2\right) + SE_{instr,h}^2}$$

where:

***SE**$_{A,h}$* means the standard error of the emissions abated by implementation h for the reporting period, in tonnes CO_2-e.

***n**$_{MI,Rep,h}$* means the number of eligible measurement time intervals in the reporting period.

***SE**$_{B,h}$* means the standard error of the baseline emissions model for implementation h per measurement time interval, in tonnes CO_2-e.

***SE**$_{instr,h}$* means the standard error of the measurement uncertainty of the emissions attributable to the accuracy class of the instruments used to measure the values of parameters for implementation h for the reporting period, in tonnes CO_2-e, worked out using standard approaches for assessing the impacts of instrument accuracies on the standard error of emissions calculated (subject to subsection (3)).

(3) For subsection (2), the value of $SE_{instr,h}$:

(a) must be worked out in relation to instruments used for the purposes of:

(i) developing the baseline emissions model; and

(ii) working out total baseline emissions for the reporting period; and

(iii) working out total measured operating emissions for the reporting period; and

(b) if the project proponent chooses—may be taken to be zero if the same instruments and the same instrument configurations are used to measure the values of parameters in both the baseline measurement period and the reporting period.

Emissions abated

(4) The emissions abated by implementation h for a reporting period is worked out using the formula (***equation 30***):

$$A_{RP,h} = \left(E_{BM,h} - E_{Meas,h} - E_{IN,h}\right)$$

where:

$\boldsymbol{A_{RP,h}}$ means the emissions abated by implementation h for the reporting period, in tonnes CO_2-e.

$\boldsymbol{E_{BM,h}}$ means the total baseline emissions for implementation h for the reporting period, in tonnes CO_2-e, worked out using equation 18.

$\boldsymbol{E_{Meas,h}}$ means the total measured operating emissions for implementation h for the reporting period, in tonnes CO_2-e, worked out using equation 19.

$\boldsymbol{E_{IN,h}}$ means the net interactive effects for implementation h for the reporting period, in tonnes CO_2-e, worked out using equation 20.

Division 9—Calculating accuracy factors

56 Accuracy factor

(1) The accuracy factor for implementation h for a reporting period is worked out using the following table.

Accuracy factors

Item	Relative precision of the emissions abated by implementation h for the reporting period at 95% confidence level	Accuracy factor
1	less than 25%	1.0
2	25% to 200%	The factor AF_h calculated under subsection (2)
3	greater than 200%	0

(2) The factor AF_h is worked out using the formula (***equation 31***):

$$AF_h = \frac{8}{7} - \left(\frac{1}{175} \times RP_{A,h}\right)$$

where:

AF_h means the accuracy factor for implementation h for a reporting period.

$RP_{A,h}$ means the relative precision of the emissions abated by implementation h for the reporting period, calculated using equation 28.

(3) For subsection (1), the relative precision of the emissions abated by implementation h for the reporting period at 95% confidence level, worked out using equation 28, should be rounded to the nearest whole percentage (rounding up if the first decimal place is 5 or more).

Part 5—Reporting, record-keeping and monitoring requirements

Division 1—Offsets report requirements

57 Operation of this Division

For paragraph 106(3)(a) of the Act, this Division sets out information that must be included in an offsets project report about an industrial and commercial emissions reduction project that is an eligible offsets project.

58 General reporting requirements

(1) The required information must be included in an offsets report for the project if the information:

(a) is different from what has previously been provided to the Regulator (whether in the section 22 application in relation to the project, a previous offsets report or otherwise); or

(b) has not previously been provided to the Regulator (whether in the section 22 application in relation to the project, a previous offsets report or otherwise).

(2) The following is the ***required information***:

(a) for each implementation that was completed during the reporting period:

(i) details of the completion of the implementation; and

(ii) details of the boundary for the implementation; and

(iii) details of any emissions-producing equipment within the boundary for the implementation that is specified as partly unaffected;

(b) the interactive effects for each implementation for the reporting period;

(c) details of any energy emissions or industrial process emissions excluded under section 43, including evidence as to how the exclusion met the requirements of that section;

(d) if biomass was used during the reporting period:

(i) as an energy source in equipment within the boundary for the implementation; or

(ii) to produce off-grid electricity, heat, steam or cooling that was used in equipment within the boundary for the implementation;

—a declaration that the biomass used in the reporting period complied with the definition of ***eligible renewable energy source*** in section 5;

(e) if a baseline emissions model for an implementation has been revised since the last reporting period other than to account for a change in the electricity emissions factor – a description of the revised baseline emissions model and how it meets the requirements of this determination;

(f) for each implementation included in the offsets report—details of any measurement time intervals that are not eligible measurement time intervals and are therefore not included in the net abatement calculations for the implementation;

(g) for each implementation included in the offsets report for which the site of the implementation includes a facility (within the meaning of the NGER

Act) the operations of which were the subject of a report to the Regulator under that Act during the reporting period—details of that implementation including the name of the facility and controlling corporation (within the meaning of that Act);

(h) details of any declarations provided to the project proponent by an independent measurement and verification professional:

(i) under section 33, about a regression baseline emissions model not complying with minimum statistical requirements for regression baseline emissions models; or

(ii) under section 36, about an engineering baseline emissions model; or

(iii) under section 48, about any non-routine adjustments.

(3) If an implementation that was not described in:

(a) if the project is a transferring Facilities project—the section 128 application in relation to the project;

(b) otherwise—the section 22 application in relation to the project;

has been completed after:

(c) if the project is a transferring IEFE project or transferring Facilities project—the transfer date;

(d) otherwise—the date the project was declared as an eligible offsets project;

the offsets report that relates to the reporting period in which the implementation was completed must include:

(e) a detailed description of the boundary for the implementation (prepared in accordance with section 19); and

(f) an updated statement of activity intent in relation to the implementation (prepared in compliance with section 42); and

(g) a description of the implementation activities that constitute the implementation; and

(h) a description of how those implementation activities meet the criteria set out in section 41; and

(i) an explanation of how those implementation activities, when included in the implementation, could reasonably be expected to result in eligible carbon abatement.

(4) If an implementation activity that was not described in:

(a) if the project is a transferring Facilities project—the section 128 application in relation to the project;

(b) otherwise—the section 22 application in relation to the project;

has been undertaken after:

(c) if the project is a transferring IEFE project or transferring Facilities project—the transfer date;

(d) otherwise—the date the project was declared as an eligible offsets project;

at the site of an implementation that was described in that section 128 application, section 22 application or an earlier offsets report, the offsets report that relates to the first reporting period in which the implementation activity was completed must include:

(e) an updated statement of activity intent in relation to the implementation (prepared in compliance with section 42); and

(f) a description of the implementation activity; and

(g) a description of how the implementation activity meets the criteria set out in section 41; and

(h) an explanation of how the implementation activity, when included in the implementation, could reasonably be expected to result in eligible carbon abatement.

(5) Subparagraphs (2)(a)(i) and (ii) do not apply to an implementation of a transferring IEFE project that was completed before the transfer date.

59 Determination of certain factors and parameters

(1) If, in the circumstances described in paragraph 11(2)(b), a factor or parameter is defined or calculated for a reporting period by reference to an instrument or writing as in force from time to time, the offsets report about the project for the reporting period must include the following information for the factor or parameter:

(a) the versions of the instrument or writing used;

(b) the start and end dates of each use;

(c) the reasons why it was not possible to define or calculate the factor or parameter by reference to the instrument or writing as in force at the end of the reporting period.

(2) If, in the circumstances described in subsection 37(3), a parameter is not worked out for a reporting period using the version of an NGER method as in force at the end of the reporting period, the offsets report about the project for the reporting period must include the following information for the parameter:

(a) the versions of the NGER method used;

(b) the start and end dates of each use;

(c) the reasons why it was not possible to use the version of the NGER method as in force at the end of the reporting period.

(3) If a parameter is determined under section 69 for the purpose of working out the carbon dioxide equivalent net abatement amount for the project for a reporting period, the offsets report about the project for the reporting period must include the following information for the parameter:

(a) the name of the parameter;

(b) the start and end dates of the non-monitored period for which the parameter was determined;

(c) the value of the parameter and how that value was calculated;

(d) the reasons why the project proponent failed to monitor the parameter as required by the monitoring requirements.

60 Division of project into smaller parts

For subsection 77A(2) of the Act, the smallest part into which an industrial and commercial emissions reduction project may be divided for the purposes of giving the Regulator an offsets report in relation to the part is a part made up of a single implementation.

Division 2—Record-keeping requirements

61 Operation of this Division

For paragraph 106(3)(c) of the Act, this Division sets out record-keeping requirements for an industrial and commercial emissions reduction project that is an eligible offsets project.

62 General record-keeping requirements

(1) The project proponent must keep records about the following for each implementation:

(a) technical specifications of equipment that was modified or installed as part of the implementation;

(b) the completion of the implementation activities that constitute the implementation.

(2) As well as keeping any other relevant records, the project proponent must keep records in the form of a schematic or diagram of the site of each implementation that identifies the location of:

(a) all equipment within the boundary for the implementation, all interactive equipment for the implementation and any other equipment relevant to the implementation; and

(b) equipment that measures the energy consumed or emissions produced by that equipment; and

(c) where relevant, the supply of energy that leads to the production of those emissions.

(3) If, as part of an implementation, existing emissions-producing equipment within the boundary for the implementation is re-used or is disposed of, the project proponent must keep records about:

(a) how the equipment was re-used or disposed; and

(b) the person (if any) to whom the equipment was provided.

63 Records relating to declarations made by professionals

The project proponent must keep records about any declaration made by an independent measurement and verification professional:

(a) under section 33 about a regression baseline emissions model for an implementation; or

(b) under section 36 about an engineering baseline emissions model for an implementation; or

(c) under section 48 about non-routine adjustments.

Division 3—Monitoring requirements

64 Operation of this Division

For paragraph 106(3)(d) of the Act, this Division sets out requirements to monitor an industrial and commercial emissions reduction project that is an eligible offsets project.

65 General monitoring requirements

(1) The energy used, or industrial process emissions produced, by equipment within the original boundary for an implementation during the baseline measurement period for the implementation must be monitored separately to other energy use and emissions production at the site of the implementation during that period.

(2) The energy used, or industrial process emissions produced, by equipment within the upgraded boundary for the implementation during the reporting period for the implementation must be monitored separately to other energy use and emissions production at the site of the implementation during that period.

(3) The equipment that calculates or monitors the energy used or industrial process emissions produced, as the case may be, by equipment within the boundary for the implementation during the reporting period for the implementation must be monitored separately and must also be monitored during the same relevant period, including monitoring of:

(a) verification of data; and

(b) evidence of bias or drift; and

(c) the integrity of any anti-tampering measures applied to the equipment.

66 Measuring and monitoring requirements

(1) The following must have been measured or monitored during the baseline measurement period:

(a) the energy used, or industrial process emissions produced, by equipment within the original boundary for an implementation;

(b) relevant variables for the baseline emissions model for the implementation;

(c) static factors for the implementation;

(d) interactive effects for the implementation.

(2) The following must be measured or monitored during the reporting period:

(a) the energy used, or industrial process emissions produced by equipment within the upgraded boundary for an implementation;

(b) relevant variables for the baseline emissions model for the implementation;

(c) static factors for the implementation;

(d) interactive effects for the implementation.

67 Requirement to monitor certain parameters

(1) The project proponent for an industrial and commercial emissions reduction project must monitor a parameter set out in an item in the following table in accordance with the instructions in the item.

Monitored parameters					
Item	**Parameter**	**Description**	**Unit**	**Measurement procedure (including frequency as required)**	**Determination of parameter from measurements**
1	$Q_{Elec,h,m}$	The quantity of electricity consumed by equipment within the boundary for implementation h for time interval m	kWh If $Q_{Elec,h,m}$ is measured in gigajoules, the quantity of kilowatt hours must be calculated by dividing the amount of gigajoules by the conversion factor of 0.0036	Measured using (subject to subsection (2)): (a) a commercial grade meter; or (b) relevant purchase records; or (c) if it is not practicable to use a method referred to in paragraph (a) or (b)—in accordance with industry practice. Frequency—throughout each measurement time interval, at a frequency such that variance within the measurement interval is less than variance between intervals.	Where multiple measurements of a variable are taken in a measurement time interval, the variable is worked out by multiplying the average value of those measurements during the time interval by the period of the time interval

Monitored parameters					
Item	**Parameter**	**Description**	**Unit**	**Measurement procedure (including frequency as required)**	**Determination of parameter from measurements**
2	$Q_{Ren,h,m}$	The quantity of eligible renewable electricity consumed by equipment within the boundary for implementation h for the time interval m	kWh	Measured using (subject to subsection (2)): (a) a commercial grade meter; or (b) relevant generation records, such as records from an energy retailer or network operator; or (c) an inverter that incorporates an electricity meter: (i) that satisfies the requirements of AS/NZS 4777.2 as in force from time to time; or (ii) is on the list of approved inverters, maintained by the Clean Energy Council, as it exists from time to time. (The list of approved inverters could in 2021 be viewed on the Clean Energy Council's website (http://www.cleanenergycouncil.org.au)). Frequency—continuously.	Where multiple measurements of a variable are taken in a measurement time interval, the variable is worked out by multiplying the average value of those measurements during the time interval by the period of the time interval

Monitored parameters					
Item	**Parameter**	**Description**	**Unit**	**Measurement procedure (including frequency as required)**	**Determination of parameter from measurements**
3	$Q_{h,m,i}$	The total quantity of fuel type i combusted by equipment within the boundary for implementation h for the time interval m	Appropriate units	Measured using (subject to subsection (2)): (a) a commercial grade meter; or (b) relevant purchase records; or (c) if it is not practicable to use a method referred to in paragraph (a) or (b)—in accordance with industry practice. Frequency—throughout each measurement time interval, at a frequency: (d) such that variance within the measurement interval is less than variance between intervals; and (e) that meets or exceeds the requirements in Schedule 2 to the NGER (Measurement) Determination.	Where multiple measurements of a variable are taken in a measurement time interval, the variable is worked out by multiplying the average value of those measurements during the time interval by the period of the time interval

Monitored parameters					
Item	**Parameter**	**Description**	**Unit**	**Measurement procedure (including frequency as required)**	**Determination of parameter from measurements**
4	EC_i, where i is liquid fuel	The energy content factor of fuel type i	Appropriate units	Worked out in accordance with: (a) Schedule 1 to the NGER (Measurement) Determination; or (b) section 2.4.3.2 of the NGER (Measurement) Determination; or (c) section 2.4.4 of the NGER (Measurement) Determination. However, the same option must be used for all reporting periods.	
5	EC_i, where i is gaseous fuel	The energy content factor of fuel type i	Appropriate units	Worked out in accordance with: (a) Schedule 1 to the NGER (Measurement) Determination; or (b) section 2.3.3.2 of the NGER (Measurement) Determination; or (c) section 2.3.4 of the NGER (Measurement) Determination. However, the same option must be used for all reporting periods.	

Monitored parameters					
Item	**Parameter**	**Description**	**Unit**	**Measurement procedure (including frequency as required)**	**Determination of parameter from measurements**
6	EC_i, where i is solid fuel	The energy content factor of fuel type i	Appropriate units	Worked out in accordance with: (a) Schedule 1 to the NGER (Measurement) Determination; or (b) Schedule 2 and Subdivision 2.2.3.3 of the NGER (Measurement) Determination. However, the same option must be used for all reporting periods.	
7	$EF_{i,j}$	The emissions factor for each greenhouse gas type j released due to the combustion of fuel type i by equipment within the boundary for implementation h for the time interval	kg CO_2-e/GJ or appropriate unit	Worked out in accordance with the NGER method for the greenhouse gas and fuel type. However, the same option must be used for all reporting periods.	
8	$E_{Proc,h,m}$	The relevant industrial process emissions	t CO_2-e	In accordance with Chapter 4 of the NGER (Measurement) Determination as relevant to the period the emissions are being measured.	

Monitored parameters					
Item	**Parameter**	**Description**	**Unit**	**Measurement procedure (including frequency as required)**	**Determination of parameter from measurements**
9	Relevant variables	See section 26	Appropriate units	Measured using measuring equipment in accordance with industry practice (see also subsection (4)). Frequency—throughout each measurement time interval, at a frequency such that variance within the measurement interval is less than variance between intervals.	Where multiple measurements of a variable are taken in a measurement time interval, the variable is worked out by multiplying the average value of those measurements during the time interval by the period of the time interval
10	Static factors	See section 27	Appropriate units	Measured using measuring equipment in accordance with industry practice (see also subsection (4)). Frequency—as appropriate.	As appropriate

(2) $Q_{Elec,h,m}$, $Q_{Ren,h,m}$ and $Q_{h,m,i}$ must be measured using an approach that is consistent with:

(a) relevant measuring and estimation requirements that apply to the parameter under the NGER (Measurement) Determination; or

(b) the *National Measurement Act 1960*; or

(c) if it is not practicable to use an approach consistent with paragraph (a) or (b)—relevant Australian, international or industry standards.

(3) If, under subsection (1), a parameter is measured in a period using measuring equipment in accordance with industry practice, the same practice (as applicable at the time of measurement) must be used in any future period that the parameter is measured in accordance with industry practice.

(4) The project proponent may measure relevant variables and static factors:

(a) directly; or

(b) by using a proxy method that enables the value of the parameter to be reliably calculated.

Note: An example of a proxy method is measuring the temperature and pressure of steam flow to calculate energy flow.

(5) If, under subsection (4), a proxy method is used to calculate the value of a parameter in a period, the same method must be used in any future period that the parameter is not measured directly.

(6) In this section, ***AS/NZS 4777.2*** means the Australian and New Zealand Standard entitled *AS/NZS 4777.2—Grid connection of energy systems via inverters, Part 2: Inverter requirements.*

68 Monitoring equipment

(1) Equipment used for monitoring under section 67 must be:
  (a) tested and, if necessary, calibrated by an accredited technician in accordance with the manufacturer's specifications for the equipment; and
  (b) installed and operated in accordance with the manufacturer's specifications for the equipment.

(2) If, during a measurement time interval, the equipment requires re-calibration, or does not operate normally, for the purposes of working out the carbon dioxide equivalent net abatement amount for the project for a reporting period, the project proponent must:
  (a) for a measurement time interval in the baseline measurement period for the implementation—exclude the values of all parameters from the time interval from the analysis used for any relevant baseline emissions model; or
  (b) for a measurement time interval in a reporting period—either:
    (i) not treat the measurement time interval as an eligible measurement time interval; or
    (ii) determine the value of the parameter under section 69.

Note 1: For example, the equipment would not be operating normally if it is:
  (a) operating inconsistently with the manufacturer's specifications for the equipment; or
  (b) giving measurements that do not reflect the actual value of the parameter monitored.

Note 2: By not treating the measurement time interval as an eligible measurement time interval the values of all parameters from the time interval will be excluded from the calculation of total measured emissions under Part 4.

69 Consequences of not meeting requirement to monitor certain parameters

(1) If, during a particular period (the ***non-monitored period***) in a reporting period, a project proponent for an industrial and commercial emissions reduction project fails to monitor a parameter as required by the monitoring requirements, the value of the parameter for the purpose of working out the carbon dioxide net equivalent for the reporting period is to be determined for the non-monitored period in accordance with the following table.

Consequences of not meeting requirement to monitor certain parameters		
Item	**Parameter**	**Determination of parameter for non-monitored period**
1	Each of the following: (a) $Q_{Elec,h,m}$; (b) $Q_{Ren,h,m}$; (c) $Q_{h,m,i}$; (d) relevant variables; (e) static factors; (f) industrial process emissions	The project proponent must make a conservative estimate of the parameter having regard to: (a) any relevant measurement or estimation approaches or requirements that apply to the parameter under the NGER (Measurement) Determination; and (b) any relevant historical data for the project; and (c) any other data for the project that relates to the parameter; and (d) any other matter the project proponent considers relevant
2	Either of the following: (a) $EF_{i,j}$, if worked out otherwise than by using a method specified in Schedule 1 to the NGER (Measurement) Determination (apart from during the non-monitored period); (b) EC_i, if worked out otherwise than by using a method specified in Schedule 1 to the NGER (Measurement) Determination (apart from during the non-monitored period)	The project proponent must use the estimate of the parameter where: (a) if the failure relates to baseline emissions —the factor for fuel type i and greenhouse gas j in Schedule 1 to the NGER (Measurement) Determination; and (b) if the failure relates to operating emissions — (i) for any cumulative period of up to 3 months in any 12 months of a crediting period for the project— the factor for fuel type i and greenhouse gas j in Schedule 1 to the NGER (Measurement) Determination multiplied by 1.1; and (ii) for any cumulative period of up to 3 months in excess of that 3 months—the factor for fuel type i and greenhouse gas j in Schedule 1 to the NGER (Measurement) Determination multiplied by 1.5

(2) The project proponent must make all practicable efforts to minimise the non-monitored period during a reporting period.

(3) To avoid doubt, this section does not prevent the Regulator from taking action under the Act, the regulations or legislative rules made under the Act, in relation to the project proponent's failure to monitor a parameter as required by the monitoring requirements.

Note: Examples of action that may be taken include the following:

(a) if the failure constitutes a breach of a civil penalty provision in section 194 of the Act (which deals with project monitoring requirements), the Regulator may apply for a civil penalty order in respect of the breach;

(b) if false or misleading information was given to the Regulator in relation to the failure, the Regulator may revoke the project's section 27 declaration under regulations or legislative rules made for the purposes of section 38 of the Act;

(c) if the giving of false or misleading information in relation to the failure led to the issue of Australian carbon credit units, the Regulator may require all or some of those units to be relinquished under section 88 of the Act.