REPLACEMENT EXPLANATORY STATEMENT

Issued by the Minister for Climate Change and Energy

Carbon Credits (Carbon Farming Initiative) Act 2011

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

Background to the Emissions Reduction Fund

The *Carbon Credits (Carbon Farming Initiative) Act 2011* (the Act) enables the crediting of greenhouse gas abatement from emissions reduction activities across the economy. Greenhouse gas abatement is achieved either by reducing or avoiding emissions or by removing carbon from the atmosphere and storing it in soil or vegetation.

In 2014, the Australian Parliament passed the *Carbon Farming Initiative Amendment Act 2014*, which established the Emissions Reduction Fund (ERF). Further information on the ERF is available at: https://www.dcceew.gov.au/climate-change/emissions-reduction/emissions-reduction-fund or https://www.cleanenergyregulator.gov.au/ERF.

Emissions reduction activities are undertaken as offsets projects. The process involved in establishing an offsets project is set out in Part 3 of the Act. An offsets project must be covered by, and undertaken in accordance with, a methodology determination.

Subsection 106(1) of the Act empowers the Minister to make, by legislative instrument, a methodology determination. The purpose of a methodology determination is to establish procedures for estimating abatement (emissions avoidance or sequestration) from eligible projects and rules for monitoring, record keeping and reporting. These determinations will ensure that emissions reductions are genuine—that they are both real and additional to business as usual.

In deciding to make a methodology determination, the Minister must have regard to the advice of the Emissions Reduction Assurance Committee (the Committee), an independent expert panel established to advise the Minister on proposals for methodology determinations. The Minister must not make or vary a methodology determination if the Committee considers it inconsistent with the offsets integrity standards, which are set out in section 133 of the Act. The Minister must also consider whether any adverse environmental, economic, or social impacts are likely to arise as a result of projects to which a methodology determination applies.

Offsets projects undertaken in accordance with a methodology determination and approved by the Clean Energy Regulator (the Regulator) can generate Australian carbon credit units (ACCUs). These units represent emissions reductions from the project.

Background to the Industrial and Commercial Emissions Reduction Methodology Determination

Industrial and commercial operations can generate: direct (scope 1) greenhouse gas emissions from on-site fuel combustion in equipment such as boilers, furnaces, and generators; indirect (scope 2) greenhouse gas emissions from electricity consumption in electrically powered

equipment such as motors and heating elements; and industrial process emissions (scope 1 and scope 2) generated in processes such as chemical and cement manufacturing. A broad range of opportunities exist to reduce these emissions.

The *Carbon Credits (Carbon Farming Initiative—Industrial and Commercial Emissions Reduction) Methodology Determination 2021* (the Determination) responds to stakeholder feedback on the *Carbon Credits (Carbon Farming Initiative—Industrial Electricity and Fuel Efficiency) Methodology Determination 2015* (the IEFE method). The Determination builds on aspects of the IEFE method and makes a number of enhancements including introducing new abatement opportunities and improving method usability by providing project proponents greater flexibility when conducting projects and calculating abatement.

The Determination provides for project proponents to undertake and generate ACCUs from activities that reduce the energy emissions and industrial process emissions produced by existing emissions-producing equipment (ICER projects). The Determination provides project proponents flexibility to determine what eligible activities would be most appropriate for their site.

Projects established under the Determination may include replacement or modification of boilers or heating, ventilation and air conditioning systems, improving control systems and processes, waste heat capture and re-use, improving the efficiency of crushing or grinding equipment on mining sites, replacing low efficiency motors, fans and pumps with high efficiency versions, installing variable speed drives (VSDs), improving compressed air processes, fuel and feedstock switching, and modifying the operation of industrial processes such as chemical manufacture. The Determination also covers installing electricity generation equipment, for example, co-generation and tri-generation plants, where the generated electricity will be used by existing electricity-consuming equipment instead of using grid electricity, or to provide less emissions-intensive off-grid electricity.

The measurement and modelling approaches used in the Determination are generally consistent with standard energy and emissions efficiency calculation techniques, such as those under the New South Wales Energy Savings Scheme Project Impact Assessment with Measurement and Verification method and the International Performance Measurement and Verification Protocol (IPMVP).

Under the Determination, project proponents must develop a baseline emissions model that estimates the emissions level that would have occurred in the absence of the project. Baseline emissions models may be developed using either statistical regression or engineering modelling techniques. The abatement generated by a project is then calculated by comparing the modelled baseline emissions level to the actual level of measured emissions produced by equipment after the project activities are implemented.

Accordingly, the Determination does not credit abatement to projects that involve the installation of new equipment where there was no existing emissions-producing equipment for which a baseline emissions model can be developed (‘greenfield projects’).

Application of the Determination

The Determination sets out the detailed rules for implementing and monitoring ICER projects, and to enable ICER projects to generate ACCUs.

The rules set out in the Determination have been designed to reflect the requirements of the offsets integrity standards and ensure that emissions reductions are real and additional to

business as usual. The offsets integrity standards require that an eligible project should result in carbon abatement that is unlikely to occur in the ordinary course of events and is eligible carbon abatement under the Act. In summary, the offsets integrity standards also require that:

- amounts are measurable and capable of being verified;
- the methods used are supported by clear and convincing evidence;
- material emissions which are a direct consequence of the project are deducted; and
- estimates, assumptions or projections used in a methodology determination should be conservative.

Project proponents wishing to implement projects under the Determination must make an application to the Regulator under section 22 of the Act. They must also meet the general eligibility requirements for an offsets project set out in subsection 27(4) of the Act, which include compliance with the requirements set out in the Determination, and the additionality requirements in subsection 27(4A) of the Act. The additionality requirements are:

- the newness requirement;
- the regulatory additionality requirement; and
- the government program requirement.

The government program requirement is provided for in the *Carbon Credits (Carbon Farming Initiative) Rule 2015* (the Rule). Subsection 27(4A) of the Act provides that a methodology determination may specify requirements in lieu of the newness requirement or the regulatory additionality requirement. The Determination specifies a requirement in lieu of the newness requirement for projects (referred to in the Determination as "restarting ICER projects") whose declaration as an eligible offsets project under the IEFE method was revoked in specified circumstances before their crediting period commenced and thereafter those projects are declared as eligible offsets projects under the Determination for the same implementations for which they were declared under the IEFE method (see section 17A). The in lieu of newness requirement for restarting ICER projects recognises that such projects may have started their project activities before their crediting period commenced while they were subject to the IEFE method.

Document incorporated by reference

The Determination incorporates the document entitled "National Greenhouse Accounts Factors" (which is referred to as the ***NGA Factors document*** in the Determination). The NGA Factors document is prepared by the Department of Climate Change, Energy, the Environment and Water (the Department) previously the Department of Industry, Science, Energy and Resources (DISER). It provides methods that help companies and individuals to estimate greenhouse gas emissions.

The NGA Factors document is incorporated by referring to the document in several provisions of the Determination, instead of by reproducing the text of the incorporated document in those provisions. The document is incorporated as in force from time to time (see the definition of ***NGA Factors document*** in section 5).

The NGA Factors document is referred to in several provisions of the Determination, which require relevant emissions factors set out in the NGA Factors document to be used:

- to determine whether any location of a project is "off-grid" (as defined in section 5 of the Determination), by reference to the version of the NGA Factors document that is in force on the day on which the section 22 application for the project was made (defined in section 5 as the "application day");
- to determine that an activity is not an implementation activity (see subparagraph 12(3)(a)(ii) of the Determination), by reference to the version of the NGA Factors document that is in force on the application day;
- to work out a factor used in the calculation of total emissions from the consumption of electricity for an implementation (see equation 26, which is set out in subsection 53(6) of the Determination). That equation must be read with subsection 11(1) of the Determination, which provides that if a calculation in the Determination includes a factor that is defined by reference to another document, the factor to be used for a reporting period for an industrial and commercial emissions reduction project is the factor referred to in the document as in force at the end of the reporting period for the project.

This manner of incorporating documents in a methodology determination is authorised by subsection 106(8) of the Act.

The NGA Factors document is available on the internet, where it can be freely accessed and used by the public at no cost. When this Replacement Explanatory Statement was made, the document was available on the Department's website (www.dcceew.gov.au).

Public Consultation

The Determination was developed by the Regulator building on prior development work undertaken by DISER.

Across 2019 and 2020, DISER consulted on proposed changes to the IEFE method through a technical working group of experts from the industrial, commercial and energy efficiency sectors. The technical working group reviewed several versions of a draft IEFE method variation prepared by the Department.

Feedback provided by the technical working group on the draft IEFE method variation was considered and incorporated by the Regulator in developing the Determination. The Determination also responds to feedback provided during the crediting period extension review of the IEFE method completed by the Committee in June 2021, as required under section 255A of the Act.

The exposure draft of the Determination was published on DISER's website for public consultation from 20 July 2021 to 17 August 2021. Twelve submissions were received. Overall, the majority of submissions indicated broad support for the draft Determination. In response to specific feedback received during the public consultation period, the draft Determination was amended to:

- provide projects registered under the IEFE method whose crediting period has not commenced the option to revoke and reapply as a new project under the Determination despite having potentially commenced their project activities

- enable delegation of the authority to provide a statement of activity intent that the activities included in the project would not likely occur in the absence of the project being registered under the ERF

- allow projects registered under the *Carbon Credits (Carbon Farming Initiative—Facilities) Methodology Determination 2015* (the Facilities method) to transfer to the Determination in their first reporting period

- make the implementation boundary concepts more practical and applicable to diverse project scenarios.

A number of minor structural changes were also made to improve the operation and usability of the Determination.

Details of the non-confidential submissions are provided on the Department of Industry, Science and Resources's website, https://www.industry.gov.au.

Determination details

Details of the Determination are at Attachment A. Numbered sections in this explanatory statement align with the relevant sections of the Determination. The definition of terms highlighted in ***bold italics*** can be found in the Determination.

For the purpose of subsections 106(4), (4A) and (4B) of the Act, in making this Determination the Minister has had regard to, and agrees with, the advice of the Committee that the Determination complies with the offsets integrity standards and that the Determination should be made. The Minister is satisfied that the carbon abatement used in ascertaining the carbon dioxide equivalent net abatement amount for a project is eligible carbon abatement from the project. The Minister also had regard to whether any adverse environmental, economic or social impacts are likely to arise from the carrying out of the kind of project to which the Determination applies and other relevant considerations.

A Statement of Compatibility with Human Rights prepared in accordance with the *Human Rights (Parliamentary Scrutiny) Act 2011* is at Attachment B.

Attachment A

Details of the Determination

Part 1 – Preliminary

1 Name

Section 1 sets out the full name of the Determination, which is the *Carbon Credits (Carbon Farming Initiative—Industrial and Commercial Emissions Reduction) Methodology Determination 2021*.

2 Commencement

Section 2 provides that the Determination commences on the day after it is registered on the Federal Register of Legislation.

3 Authority

Section 3 provides that the Determination is made under subsection 106(1) of the Act.

4 Duration

Under subparagraph 122(1)(b)(i) of the Act, a methodology determination remains in force for the period specified in the determination. The Determination will remain in force for the duration set out in this section unless revoked in accordance with section 123 of the Act or section 42 of the *Legislation Act 2003*.

Paragraph 4(a) provides that the Determination begins on commencement (as set out in section 2).

Paragraph 4(b) provides that, unless sooner revoked, the Determination ends on the day before it would otherwise be repealed under subsection 50(1) of the *Legislation Act 2003*.

Instruments are repealed under that provision on 1 April or 1 October following the tenth anniversary of registration on the Federal Register of Legislative Instruments. Paragraph 4(b) ensures that the Determination will expire in accordance with subparagraph 122(1)(b)(i) of the Act.

If the Determination expires in accordance with section 122 of the Act or is revoked under section 123 of the Act during a crediting period for a project to which the Determination applies, the Determination will continue to apply to the project during the remainder of the crediting period under subsections 125(2) and 127(2) of the Act. Project proponents may apply to the Regulator during a reporting period to have a different methodology determination apply to their projects from the start of that reporting period (see subsection 128(1) of the Act).

Under section 27A of the Act the Committee may also suspend the processing of applications under a methodology determination if there is reasonable evidence that the determination does not comply with one or more of the offsets integrity standards. This does not impact applications for declaration already received by the Regulator before such a suspension or declared eligible offset projects which apply the methodology determination.

5 Definitions

Section 5 defines terms and expressions used in the Determination. Generally, where terms and expressions are not defined in the Determination, they have the meaning given by section 5 of the Act.

Under section 23 of the *Acts Interpretation Act 1901*, words in a legislative instrument in the singular number include the plural and words in the plural number include the singular.

The following terms and expressions in the Determination, the operation of which is explained in broad terms below, are particularly important because they underpin the eligibility and project requirements in Parts 2 and 3, and the operation of the abatement calculations in Part 4.

A ***baseline emissions model*** is a model that estimates the level of emissions that would have been produced within the ***original boundary*** for an ***implementation*** if the implementation had not taken place (the ***baseline emissions***). Project proponents must use either statistical regression analysis or engineering-based modelling techniques to relate one or more ***relevant variables*** (parameters that cause or explain changes in baseline emissions for example, production rates per energy unit, tonnes of material processed, operating hours, and ambient temperature) to baseline emissions. Baseline emissions models must be developed or calibrated using the values of relevant variables and baseline emissions observed during the baseline measurement period.

The ***baseline measurement period*** is a period before the implementation has commenced that is representative of the typical range of operating conditions for equipment within the original boundary for the implementation. The period must also be representative of the 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. For example, if an inefficient cooling system that provides cooling only in summer is to be replaced by a highly efficient system that provides cooling in summer and heating in winter, the baseline measurement period must include both summer and winter. ***Biomass*** means organic matter other than fossil fuels (e.g. coal, lignite, petroleum or natural gas) and biofuel (e.g. ethanol or biodiesel). Fossil fuels are excluded to avoid any doubt that they are biomass due to the presence of organic matter. Biofuels are excluded because for these processed fuels, often used in transport, it is generally impractical for a proponent to verify the sources of the fuels.

The definition of ***eligible measurement time interval*** sets the requirements for a measurement time interval in a reporting period for a project to be included in the calculation of the net abatement amount in Part 4 of the Determination. Project proponents can only claim abatement generated during eligible measurement time intervals.

If the conditions of paragraphs (a) to (d) are not met, the calculated value of baseline emissions will not be an accurate estimate of the actual value of baseline emissions for the measurement time interval.

For example, paragraph (a) prevents a baseline emissions model being used to calculate abatement when the effect of a static factor not being at its normal value has not been accounted for. If a static factor is not at its normal value, the level of baseline emissions predicted by the baseline emissions model will not be an accurate estimate of the true level of emissions that would have been produced in the absence of the implementation activities.

This is because static factors are not expected to change, so their influence on baseline emissions is not incorporated into the baseline emissions model. Under section 48 of the Determination, a project proponent can make a ***non-routine adjustment*** to baseline emissions to account for a static factor not being at its normal value. If a static factor is not at its normal value and a non-routine adjustment has not been made to account for this fact, then the measurement time interval is not an eligible measurement time interval.

Paragraphs (b) and (c) ensure a baseline emissions model is only used to calculate abatement over the range of relevant variables for which the model can be relied upon to accurately estimate baseline emissions. The restrictions imposed by paragraph (b) on regression baseline emissions models reflect that extrapolation of a fitted regression equation beyond the range of data used to develop the equation can lead to inaccurate estimates if the assumed relationship does not hold for the range of values over which extrapolation occurs. No buffer is provided in paragraph (c) for relevant variables in engineering baseline emissions models because to do so would be to treat as eligible the use of values that are not physically possible or valid. Paragraph (d) prevents a baseline emissions model being used where, for any other reason, it may be inaccurately estimating baseline emissions.

Eligible renewable energy source means an eligible renewable energy source for the purpose of the *Renewable Energy (Electricity) Act 2000.* That concept is defined in section 17 of the *Renewable Energy (Electricity) Act 2000* and is subject to a number of regulations which include additional requirements for whether a particular source is eligible or not under the Renewable Energy Target (RET) scheme. The concept is used throughout section 12 of the Determination to restrict the use of biomass that is not an eligible renewable energy source renewable energy as part of an ICER project.

Emissions-producing equipment defines the type of equipment that can be the subject of an implementation activity.

Energy emissions means emissions from the consumption of electricity (scope 2 emissions) or emissions from the combustion of fuel (scope 1 emissions) to produce electricity, useful physical work, or cooling, heating, or steam for use. Useful physical work is intended to cover forms of fuel consumption that do not directly relate to production of electricity, cooling, heat, or steam, but that have a productive or business use at a site. The definition provides examples of useful physical work such as running a diesel engine to create shaft power or compressing gases. Cooling, heating, or steam for use does not cover activities such as gas flaring or fuel incineration that dissipate heat into the atmosphere without putting the heat to a productive use.

An ***interactive effect*** for an implementation is a change in energy emissions or industrial process emissions in a reporting period that occurs as a result of the implementation activities but outside the boundary for the implementation. By defining interactive effects as occurring outside the boundary for the implementation, the interactive effect emissions change is not accounted for through the difference between modelled baseline emissions and measured operating emissions. Instead, project proponents must identify and estimate all interactive effects and ***interactive equipment*** in accordance with section 25 and account for all interactive effects when calculating the net abatement amount in Part 4.

In some circumstances, project proponents will have a choice as to whether to include an emissions change within the implementation boundary or to treat it as an interactive effect. This provides project proponents flexibility in how they model, measure and account for the emissions changes that occur as a result of their project.

In deciding whether to treat an emissions change as an interactive effect or within the implementation boundary, project proponents should consider:

- section 19, which imposes requirements about the setting of an implementation boundary
- section 43, which allows certain emissions to be excluded when calculating the emissions abated by an implementation
- section 46, which sets a limit on the amount of positive abatement that can be claimed from interactive effects.

Off-grid describes an area not connected to a named grid with an emissions factor under the NGA Factors document. Examples of a named grid include the National Electricity Market, South West Interconnected System in Western Australia, North Western Interconnected System in Western Australia, and Darwin-Katherine Interconnected System in the Northern Territory.

Relevant industrial process emissions are industrial process emissions produced within the boundary for an implementation that are likely to be materially impacted by the implementation activities for the implementation. This definition is used in subsection 28(2) and section 53 to set out the circumstances under which industrial process emissions must be included in a baseline emissions model and in measured emissions.

Restarting ICER project has been defined in section 17A of the Determination. This definition is intended to allow projects that were registered under the IEFE method and started project activities before their crediting period had commenced, to be declared under the Determination after their previous declaration is revoked on the grounds specified.

A ***static factor*** for an implementation is a parameter that if varied would change the baseline emissions or operating emissions for the implementation. However, under normal operating conditions, static factors do not vary over time, or their variation is small enough to have no observable effect on emissions. Examples of static factors may be floor space for a commercial building, the rated power of an installed motor, the storage capacity of a refrigeration unit, the size of a boiler, or number of operating shifts.

An example of a change in a static factor that has no observable effect on emissions could be the pressure of a compressed air distribution system. If the pressure is measured using a meter that operates in accordance with the monitoring requirements and has a measurement tolerance within ±2 per cent, variations within this tolerance could be considered to have no observable effect on baseline or operating emissions.

Distinguishing between relevant variables and static factors allows static factors to be excluded from regression baseline emissions models. This is appropriate, as a static factor cannot cause variation in emissions in a regression baseline emissions model. For an engineering baseline emissions model, project proponents may have a choice between including parameters whose value is not expected to change in their model, or treating those parameters as static factors.

For a simple example of a static factor not being at its normal value and the impact this has on the baseline emissions estimated by a baseline emissions model, consider an implementation that involves improving the efficiency of the cooling system in an office building. Throughout the baseline measurement period the building occupancy is constant or

only changes to an extent that it has no observable effect on the emissions produced by the cooling system. As such, the project proponent develops a regression baseline emissions model with ambient air temperature and number of daylight hours as relevant variables and identifies building occupancy as a static factor. During a measurement time interval in a reporting period, building occupancy reduces to 25 per cent of the level observed during the baseline measurement period. The reduced building occupancy reduces the cooling load on the cooling system, thereby reducing its energy consumption emissions. The value of operating emissions in this measurement time interval will be reduced but because building occupancy is not a relevant variable in the regression baseline emissions model its influence on baseline emissions cannot be captured. The difference between modelled baseline emissions and measured operating emissions will increase (an apparent increase in positive abatement) but not as a result of the implementation activities.

For this reason, if static factors are not at their normal value, the Determination allows for baseline emissions models to be revised using a period of baseline data for which static factors were at the observed level (see section 29), or for project proponents to make non-routine adjustments (see section 48). This enables a like-for-like comparison between baseline emissions and operating emissions. Otherwise, any time periods in which static factors are not at their normal value must be excluded when calculating the net abatement amount (see the definition of ***eligible measurement time interval***).

Transferring IEFE project means a project that transfers to the Determination from the IEFE method as a consequence of an approval given by the Regulator under section 130 of the Act.

Transferring Facilities project means a project that transfers to the Determination from the the Facilities methodas a consequence of an approval given by the Regulator under section 130 of the Act to a section 128 application that was made in the first reporting period. An eligible offsets project to which the Facilities method applies and is not a transferring Facilities project, is not eligible under the Determination because such a project will not comply with the requirements of subsection 14(1) of the Determination.

6 Meaning of *baseline emissions*

Baseline emissions for an implementation are the energy emissions and industrial process emissions produced by equipment within the original boundary for the implementation. Baseline emissions must be measured during the baseline measurement period to enable the development of the baseline emissions model. During a reporting period for the project, baseline emissions are estimated using the baseline emissions model.

Subsection 6(2) covers instances where electricity is generated at the site of the implementation and is consumed by equipment within the original boundary for the implementation. In these instances, baseline emissions include either the emissions associated with the consumption of the electricity or the emissions associated with the fuel used to generate the electricity, but not both. This avoids double counting as the relevant emissions factor for the electricity consumption accounts for the fuel used in generating the electricity.

7 Meaning of *operating emissions*

Operating emissions for an implementation are the energy emissions and industrial process emissions produced by equipment within the ***upgraded boundary*** for the implementation. Operating emissions must be measured during each reporting period for the project.

Subsection 7(2) covers instances where electricity is generated at the site of the implementation and is consumed by equipment within the upgraded boundary for the implementation. In these instances, operating emissions include either the emissions associated with the consumption of the electricity or the emissions associated with the fuel used to generate the electricity, not both. This avoids double counting, as the relevant emissions factor for the electricity consumption accounts for the fuel used in generating the electricity.

If an implementation involves installing electricity generation equipment for the primary purpose of providing electricity to existing emissions-producing equipment that would otherwise obtain electricity from a grid, the emissions associated with any exported electricity (i.e., generated electricity that is not consumed by equipment within the boundary) is not included in operating emissions. For such implementations, project proponents may make use of subsection 7(2) to treat electricity consumed by equipment in the upgraded boundary as contributing to operating emissions, instead of the fuel consumed by the generation equipment. This enables proponents to be credited for substituting on-site use of grid electricity for lower emissions electricity produced by generation equipment installed for the implementation. It also ensures that operating emissions do not include emissions associated with combusting fuel to produce exported electricity.

8 Meaning of *effective range* of a relevant variable

Regression baseline emissions modelling

Regression baseline emissions models must be developed using statistical regression analysis applied to actual measurements of relevant variables taken during the baseline measurement period (for example, measurements of production levels or ambient air temperature). As relevant variables vary, proponents will record a range of values for each variable when taking measurements to develop a baseline emissions model. The range of measurements – based on the maximum and minimum measured values of relevant variables used to develop the model – is the ***effective range*** of the relevant variable.

To ensure the model is only used where it is valid, the effective range is determined after any values determined to be outliers have been removed.

The concept of effective range is used in the definition of eligible measurement time interval which describes those measurement time intervals that can be used to calculate abatement from the implementation.

Engineering baseline emissions modelling

Unlike regression baseline emissions models, engineering baseline emissions models are based on scientifically proven relationships and principles and can be accurate for values that were not included in the data set used to develop or calibrate the model. Subsection 8(2) sets out that the effective range of a relevant variable in an engineering baseline emissions model is the range of values for which the model is valid and for which values are physically possible in the context in which it is applied. For example, an engineering baseline emissions model of a boiler system would not be considered valid for values of temperature and pressure beyond the physical operating limits of the equipment. Some engineering modelling approaches may have a specified operating range, such as fluid flow equations valid for turbulent flows rather than laminar flow regimes.

9 Meaning of *normal value* of a static factor

A static factor for an implementation is taken to be at its ***normal value*** if its value is the same as that observed or measured during the baseline measurement period.

Section 9 provides for static factors to depart from the value observed or measured during the baseline measurement period by an amount that has no observable effect on emissions. This is explained in more detail under the definition of static factor in this Explanatory Statement.

Potential reasons for a static factor not being at its normal value include operational, maintenance or environmental changes. For example, planned and unplanned maintenance, changes in site behaviour, equipment changes and extreme weather events.

10 Meaning of *independent measurement and verification professional*

Section 10 sets out the requirements for a person to be considered an ***independent measurement and verification professional*** (independent MVP). An independent MVP may make a declaration under sections 33B, 36 and 48 in the Determination.

Under paragraph 10(1)(a), an independent MVP must be ***independent of the project proponent***, the definition of which is set out in subsection 10(2). Paragraphs 10(1)(b) and 10(1)(c) ensure an independent MVP is suitably experienced and qualified to carry out their functions envisaged under the Determination. An independent MVP who is certified by the Association of Energy Engineers as a Certified Measurement and Verification Professional (CMVP) can make declarations under sections 33 and 48 of the Determination. Under subparagraph 10(1)(c)(iii), certification by the Association of Energy Engineers as a CMVP does not sufficiently qualify a person to make a declaration as an independent MVP under section 36 in relation to an engineering baseline emissions model. An independent MVP making a declaration under section 36 in relation to an engineering baseline emissions model must have engineering qualifications and experience that meet the requirements set out in subparagraphs 10(1)(c)(i) or (ii). For subparagraph 10(1)(c)(ii), an example of a law that provides for the registration of professional engineers is the *Professional Engineers Act 2002* (Qld), which provides for registration as a Registered Professional Engineer of Queensland.

An example of someone who is independent of the project proponent is an externally contracted energy consultant.

11 References to factors and parameters from external sources

Section 11 refers to factors or parameters used in calculations that are derived from external sources. Several parameters are derived from the *National Greenhouse and Energy Reporting Regulations 2008* (the NGER Regulations) or the *National Greenhouse and Energy Reporting (Measurement) Determination 2008 (*NGER (Measurement) Determination) made under subsection 10(3) of the *National Greenhouse and Energy Reporting Act 2007*.

The effect of subsection 11(1) is that if those legislative instruments are amended during a project's reporting period, then the project proponent will be required to use the factor or parameter prescribed in the instrument that is in force at the end of the reporting period.

Paragraph 11(2)(a) provides that subsection 11(1) does not apply if the Determination sets out other requirements.

Paragraph 11(2)(b) provides that subsection 11(1) does not apply where it is not possible to retrospectively apply a factor or parameter in an instrument that is in force at the end of the reporting period. An example of where this may occur is where the monitoring approach defined in an external source is amended to require additional or different monitoring practices after the reporting period has commenced. In this circumstance, it is not possible to retrospectively undertake monitoring activities in accordance with the new requirement.

Where the Determination refers to an external document that is a legislative instrument (such as the NGER (Measurement) Determination) then the reference is to the version of the instrument in force from time to time unless the reference specifies otherwise (see section 10 of the *Acts Interpretation Act 1901* and section 13 of the *Legislation Act 2003*).

In circumstances where paragraph 11(2)(b) applies, it is expected that project proponents will use the version of legislative instruments in force at the time at which monitoring or other actions were conducted. Section 59 sets out reporting requirements to be followed when paragraph 11(2)(b) applies.

Part 2 – Industrial and commercial emissions reduction projects

12 Industrial and commercial emissions reduction projects

The effect of paragraphs 27(4)(b) and 106(1)(a) of the Act is that a project must be covered by a methodology determination, and that the methodology determination must specify the kind of offsets project to which it applies.

Section 12 provides that the Determination applies to an offsets project that involves undertaking one or more implementations. Each implementation consists of one or more of the ***implementation activities*** set out in subsection 12(2), the combined effect of which could reasonably be expected to reduce the energy emissions and/or industrial process emissions produced within the boundary for the implementation.

An example of the activity described in paragraph 12(2)(a) is replacing existing emissions-producing equipment with higher efficiency versions.

Activities covered by paragraph 12(2)(b) would commonly involve upgrading equipment by installing additional components, such as upgrading the cooling system on a diesel generator.

Examples of the activity described in paragraph 12(2)(c) include: optimising pre-heating cycles; using catalysts to reduce the industrial process emissions produced during chemical manufacture; and switching to lower emissions feedstocks in metal production.

Activities covered by paragraph 12(2)(d) may include fuel switching in a boiler, for example, from coal to a type of biomass that is an eligible renewable energy source.

The activity described in paragraph 12(2)(e) could include: making control system improvements; installing heat recovery systems; replacing piping, valves, or other connecting equipment; installing activity sensors on a lighting system; or installing VSDs to target the output of motors more closely. For example, an implementation might involve the installation of ventilation fans to reduce cooling requirements in the roof of a factory building. In this case, the emissions abated could be measured as a reduction in the emissions associated with fuel or electricity consumed by the building's cooling system.

The activity described in paragraph 12(2)(f) covers implementations that install electricity generation equipment for the primary purpose of providing electricity to existing emissions-producing equipment that would otherwise obtain electricity from an electricity grid. It also covers the installation of equipment to replace existing off-grid electricity generation with less emissions-intensive off-grid electricity. This activity includes combined heat and power systems that generate electricity onsite and capture and allow for the use of associated waste heat.

The activity covered by subparagraph 12(2)(f)(i) is enabled because the NGA Factors document provides emissions factors for the relevant grid or off-grid generators (see section 53), which can be used to determine baseline emissions based on electricity consumption for the reporting period.

For the purposes of subparagraph 12(2)(f)(ii), off-grid electricity generation means the generation and supply of electricity through a dedicated power line as opposed to the supply of electricity through an interconnected network of generators that are governed by arrangements equivalent or similar to the ordinary market arrangements of named grids. For the purposes of subparagraph 12(2)(f)(ii), off-grid electricity generation includes electricity

sourced directly from a generator even if there are other users of the electricity. For example, for 12(2)(f)(ii) electricity would be considered off-grid electricity if it were produced at the site of the implementation or at a nearby site.

Each of the implementation activities described in subsection 12(2) relate to existing emissions-producing equipment. This is because baseline emissions models must be developed using actual values of emissions and relevant variables measured before the implementation commences. The effect of this is that the Determination does not cover 'greenfield' sites where installed equipment does not replace existing equipment or services that performed the same function.

In addition, subsection 12(3) excludes a number of specific activities from being included in an industrial and commercial emissions reduction project.

Paragraph 12(3)(a) excludes activities relating to equipment that generates electricity at a location where, after the proposed implementation, the generating equipment has a combined nameplate capacity of 30 megawatts or more, and the location has the capacity to export to a named electricity grid which has an emissions factor listed in the NGA Factors document. This exclusion applies when:

- the export of electricity to the grid is regarded as 'scheduled' or 'semi-scheduled' by the market operator; or

- 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 for project registration was approved.

The 30-megawatt generation threshold in paragraph 12(3)(a) is based on the manufacturers' nameplates and applies to single generating units, or groups of generating units connected to the grid at a common connection point. This exclusion exists because the intent of the method is to reduce the emissions associated with on-site electricity consumption and that the method is not designed to cover large-scale generators whose primary activity is electricity generation. As the exclusion is based on the capacity to export, it also applies to grid-connected backup generators.

Activities involving electricity generation equipment below the 30-megawatt threshold that meet the implementation activity requirements in paragraph 12(2)(f) are not excluded if the equipment exports electricity to the grid or directly to local customers.

Paragraph 12(3)(d) excludes activities that directly involve the use of biomass as an energy source where the biomass is not an eligible renewable energy source for the purposes of the *Renewable Energy (Electricity) Act 2000*. For example, an activity involving changing the fuel source for a furnace from coal to RET-ineligible biomass is not covered by the Determination.

Paragraph 12(3)(e) excludes activities that relate to the use of off-grid electricity, heat, steam or cooling that is produced using biomass that is not an eligible renewable energy source for the purposes of the *Renewable Energy (Electricity) Act 2000*. Paragraph 12(3)(e) excludes implementations under which crediting will be sought for a reduction in emissions that comes about by switching from electricity, heat, steam or cooling that is generated from one source, to off-grid electricity, heat, steam or cooling that is generated from RET-ineligible biomass. For example, a project proponent could not establish an activity that involves switching from

grid-supplied electricity, to electricity supplied from an off-grid generator that uses RET-ineligible biomass.

Further, paragraph 12(3)(e) would exclude implementations that seek to reduce emissions by moving from, for example, a gas-generated heat source to the capture and use of waste heat from a device that consumes RET-ineligible biomass.

Subparagraph 12(3)(f)(i) excludes activities that relate to emissions-producing equipment if the equipment uses, as an energy source, a form of biomass that is not considered an eligible renewable energy source for the purposes of the *Renewable Energy (Electricity) Act 2000*. For example, an activity that improves the efficiency of a furnace or boiler fueled by RET-ineligible biomass would not be an eligible activity under the Determination.

Subparagraph 12(3)(f)(ii) excludes activities that relate to emissions-producing equipment that receives off-grid electricity, heat, steam or cooling that is produced using biomass that is not an eligible renewable energy source for the purposes of the *Renewable Energy (Electricity) Act 2000*. For example, an activity that involves upgrading a cooling system for a cold storage facility would not be eligible if electricity or cooling were supplied to the cooling system by a tri-generation unit that consumes RET-ineligible biomass.

These exclusions align the Determination's coverage of biomass with the RET scheme. The RET scheme covers several forms of biomass and applies several tests and constraints to limit the risk of adverse impacts in relation to their use.

Paragraph 12(3)(g) excludes activities involving equipment at residential premises that are not commercial residential premises or a retirement village. This exclusion is to protect potential users of the method from undertaking activities for which the cost of participation would exceed the benefits.

Paragraph 12(3)(h) excludes activities that lead, or are likely to lead, to a material increase in fugitive emissions of the kind referred to in Chapter 3 of the NGER (Measurement) Determination. Fugitive emissions are not accounted for in the calculations in this Determination. Therefore, any activity that increases fugitive emissions is excluded from an ICER project, regardless of the impact of that activity on energy emissions and industrial process emissions.

The Determination defines projects covered by subsection 12(1) as an ***industrial and commercial emissions reduction project***.

Subsections (5) and (6) ensure the exclusions made by this section do not impact the eligibility of any implementations included in a transferring IEFE project that were completed before the Determination became the applicable methodology determination for the project.

Part 3 – Project requirements

Division 1 – Operation of this Part

13 Operation of this Part

The effect of paragraph 106(1)(b) of the Act is that a methodology determination must set out requirements that must be met for a project to be an eligible offsets project.

Under paragraph 27(4)(c) of the Act, the Regulator must not declare that a project is an eligible offsets project unless the Regulator is satisfied that the project meets these requirements.

Part 3 of the Determination specifies requirements that must be met in order for a project to be an eligible offsets project. These requirements are set out in sections 14 to 37.

Division 2 – General requirements about proposed projects

14 Information required to be included in section 22 application

Section 22 of the Act provides that a person may apply to the Regulator for the declaration of an offsets project as an eligible offsets project. Section 14 of the Determination sets out information that must be included in the application for the declaration.

The description required by paragraph 14(1)(b) should include both a detailed description of the proposed activities and an explanation of how those activities align with one or more of the implementation activities defined in subsection 12(2).

The description of the proposed boundary for the implementation required by paragraph 14(1)(c) should include a description of both the proposed original boundary and proposed upgraded boundary for the implementation, prepared in compliance with section 19.

The explanation required by paragraph 14(1)(d) applies to the combination of implementation activities proposed to constitute the implementation. This means that some implementation activities may increase emissions. For example, if additional draught fans are installed as part of a furnace optimisation, there could be an increase in energy emissions associated with increased electricity consumption from the fans. However, this could be more than offset by the reduction in energy emissions due to improved furnace combustion control compared to a natural draught system.

The information required by paragraphs 14(1)(a) and 14(1)(c) will not have been provided in the section 22 application for a transferring IEFE project. Subsection 14(2) ensures transferring IEFE projects are not in breach of the Determination by not having provided this information. Transferring IEFE projects are required to provide this information for all implementations for the project completed after the transfer date (see section 58, ***General reporting requirements***).

Similarly, the information required by subsection 14(1) will not have been provided in the section 22 application for a transferring Facilities project. Subsection 14(3) ensures transferring Facilities projects are not in breach of the Determination by not having provided this information. Similar information to that required by subsection 14(1) is instead required to be provided with the section 128 application in relation to a transferring Facilities project (see section 17).

Subsection 14(4) provides that the requirement to provide a statement of activity intent under paragraph 14(1)(a) does not apply to a restarting ICER project. This is because the only implementation activities that can be identified in a section 22 application for a restarting ICER project are those activities that constituted an implementation identified in the section 22 application for a former eligible project for which the applicable methodology was the IEFE method. In order to have declared the former offsets project an eligible offsets project, the Regulator must have been satisfied that these activities were additional to business as usual. Therefore, requiring a restarting ICER project to provide a statement of activity intent under this Determination for those same activities would be duplicative.

Overall, section 14 provides for applicants to include information about implementations that were identified at the time of making the section 22 application in relation to the project. For implementations not identified at the time of making the section 22 application, the Determination provides for project proponents to add new activities to their project after the date their project is declared an eligible offsets project by providing an updated statement of activity intent (see sections 41 and 42).

15 Statements of activity intent about implementations in proposed projects

The requirement to provide a ***statement of activity intent*** ensures activities undertaken under the Determination are unlikely to occur in the ordinary course of events. This helps to fulfill paragraph 133(1)(a) of the Act, which requires that projects covered by a methodology determination should result in carbon abatement unlikely to occur in the ordinary course of events (disregarding the effect of the Act).

Section 15 sets out the requirements for a responsible financial officer of the person with operational control of the site of a proposed implementation (or the authorized delegate of such a person) to make a statement that any activity proposed to be included in the implementation would not likely be undertaken at the site during the crediting period for the project in the absence of the project being declared an eligible offsets project.

Statements of activity intent must be provided for each implementation proposed to be included in an industrial and commercial emissions reduction project. In some instances, the responsible financial officer of the person with operational control of the site of a proposed implementation will not be the project proponent. For example, if the registered project proponent for the project is an agent acting on behalf of the person with operational control of the facility.

The note in section 15 sets out that no statements of activity intent will have been included in the section 22 applications made in relation to a transferring IEFE project or a restarting ICER project. Whilst this does not give rise to a breach of this Determination, it does interact with section 41, which provides for the signing of updated statements of activity intent. A transferring IEFE project or a restarting ICER project may still provide an updated statement of activity intent under section 41 despite not having previously provided a statement of activity intent.

Division 3 – General requirements about ongoing projects

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

If equipment within the boundary for an implementation or interactive equipment produces heat, steam, cooling or other useful physical work for use at the site of the implementation, the project proponent must not substitute that heat, steam, cooling or other useful physical

work with heat, steam, cooling or other useful physical work imported from another site. This requirement ensures that operating emissions are not reduced simply by substituting on-site generated heat, steam, cooling or other useful physical work with imported heat, steam, cooling, or other useful physical work. Substitution of this kind would represent emissions leakage.

Division 4 – General requirements about transferring projects

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

The description required by subsection 17(1) in relation to a transferring IEFE project must include a description of both the original and upgraded boundary prepared in compliance with section 19 for each implementation for the project completed before the transfer date. The concept of a boundary for an implementation is central to the Determination as it provides the framework for calculating baseline emissions and operating emissions for the implementation. The requirement to provide a description of the boundary for each implementation completed before the transfer date aligns the transferring IEFE project with the framework of this Determination and enables the net abatement calculations under Part 4. The description must be provided with the section 128 application in relation to the transferring IEFE project.

Subsection 17(2) sets out the information required to be included with the section 128 application made in relation to a transferring Facilities project. The Facilities method provides for the preparation of statements of activity intent about project abatement activities implemented or proposed to be implemented at facilities. As such, under paragraph 17(2)(d), if the implementation activities that constitute an implementation in a transferring Facilities were the subject of a statement of activity intent prepared in compliance with the Facilities method and included in the section 22 application for the project, then the section 128 application in relation to the project must include a copy of that statement. Otherwise, the section 128 application must include a statement of activity intent prepared in compliance with section 15, as modified by sub-subparagraphs (17)(2)(d)(ii)(A) and (B). The modifications provided for in sub-subparagraphs 17(2)(d)(ii)(A) and (B) reflect that a transferring Facilities project is already an eligible offsets project.

That an activity was the subject of a statement of activity intent prepared in compliance with the Facilities method and provided with the section 22 application in relation to the project does not itself guarantee that the activity can be included in a transferring Facilities project under the Determination. Only those activities that meet the requirements of the Determination can be included in the project and included in the net abatement calculations.

Division 4A – Additionality requirements

17A Requirement in lieu of the newness requirement

Section 17A sets out requirements in lieu of the newness requirement under subparagraph 27(4A)(a)(ii) of the Act.

Subsection 17A(2) sets out that the newness requirement is met if a project is a restarting ICER project. The in lieu of newness requirement for restarting ICER projects is necessary because the Determination is intended to replace the IEFE method, and the IEFE method may be revoked before all existing projects registered under the method have commenced their crediting period. The in lieu of newness requirement for restarting ICER projects therefore provides a mechanism for projects that were registered under the IEFE method and started

project activities before their crediting period had commenced to continue to participate in the ERF under the Determination.

Subsection 17A(3) sets out the conditions that must be met for a project to be a ***restarting ICER project***.

Paragraph 17A(3)(a) sets out that the implementation activities described in the section 22 application in relation to the project must be activities that constituted an implementation identified in the section 22 application in relation to an eligible offsets project for which the applicable methodology determination was the IEFE method (the ***original project***). The effect of this paragraph is to ensure that the in lieu of newness requirement is only applied to those implementation activities that were identified as part of the original project, and not to other implementation activities that have not been previously assessed by the Regulator as meeting the newness requirement. In the section 22 application in relation to a project, the IEFE method provides for the description of activities that are likely to constitute an implementation that is not formally identified at the time of making the application. The option to describe likely implementation activities in a section 22 application is not a feature of the Determination. The note under paragraph 17A(3)(a) clarifies that those activities described in the section 22 application in relation to the original project as likely to constitute an implementation cannot be included in the section 22 application for a restarting ICER project. Specific implementation activities or implementation of the type described as likely activities or otherwise can later be included in a restarting ICER project through the provision of an updated statement of activity intent (see sections 41 and 42).

Paragraph 17A(3)(b) sets out that after the commencement of the Determination but before the start of the crediting period for the original project, the Regulator must have revoked, under section 30 or item 3 of subsection 32(1) of the Rule, the declaration made under section 27 of the Act that the original project is an eligible offsets project. A declaration made under section 27 of the Act is revoked under section 30 of the Rule if the project proponent has made a voluntary application to revoke the declaration and if the Regulator is satisfied that no ACCUs were issued in relation to the project.

A declaration made under section 27 of the Act is unilaterally revoked under item 3 of subsection 32(1) of the Rule if the project does not meet the requirements set out in paragraphs 27(4)(a) to (c) and (l) of the Act. Of relevance to the Determination is paragraph 27(4)(b) of the Act, which requires that a project must be covered by a methodology determination.

Under section 127 of the Act, if the applicable methodology determination for an eligible offsets project is revoked *during* a crediting period for the project, then the methodology determination continues to apply to the project for the remainder of its crediting period despite the revocation. The effect of this is that if the IEFE method is revoked *before* the start of the crediting period for the original project then the IEFE method will not continue to apply to the project despite the revocation of the IEFE method. In this situation, because the original project will no longer be covered by a methodology determination, the original project may be unilaterally revoked by the Regulator under item 3 of subsection 32(1) of the Rule.

Division 5 – Making choices for a project

Subdivision 1 – Identifying the boundary for each implementation

18 Summary

Section 18 outlines how the central concept of an implementation is applied throughout the Determination.

19 Identifying the boundary for each implementation

The effect of this section is that for each implementation, project proponents must identify a ***boundary***. The boundary, sometimes referred to as a 'measurement boundary', is a theoretical limit at which the effect of the implementation activities is determined. For each implementation, all emissions produced within the boundary must be accounted for as part of baseline emissions and operating emissions.

The project proponent will often have a choice about how to define an implementation's boundary. At a minimum, the boundary of an implementation must include each item of equipment set out in subsection 19(2). However, this section does not require the smallest possible boundary to be chosen. The proponent may choose a wider boundary if that is more practical for the purposes of measuring emissions and developing a baseline emissions model. Choosing a wider implementation boundary might be done, for example, to include other emissions-producing equipment that is not separately metered or to make use of particular relevant variables.

The requirement in paragraph 19(2)(a) to include at least one item of emissions-producing equipment enables the abatement calculations. Paragraph 19(2)(b) ensures the emissions produced by each item of equipment directly subject to an implementation activity is accounted for in the abatement calculations, unless such an item of equipment is identified as interactive equipment.

Paragraph 19(2)(c) ensures that the emissions abated by installing electricity generation equipment under the circumstances described in paragraph 12(2)(f) is determined by the effect of that new electricity generation equipment on the emissions produced by existing emissions-producing equipment.

Paragraph 19(2)(d) helps to ensure the Determination meets the offsets integrity standard that material greenhouse gases emitted as a direct consequence of carrying out a project are accounted for. The word *minor* supplements the word *immaterial* to capture situations where, as a result of undertaking an implementation, there is an increase in emissions that is small relative to the emissions reduction, but the emissions increase is still large in terms of tonnes carbon dioxide equivalent (CO_2-e).

Paragraph 19(2)(d) effects section 25, which provides for project proponents to identify interactive effects (i.e., flow-on emissions effects that occur outside of the implementation boundary). The note and example after subsection 19(2) explain this effect.

Subsection 19(3) provides for project proponents to identify the ***original boundary*** and ***upgraded boundary*** for the implementation. The original boundary is the boundary for the implementation in its form before the implementation activities have commenced. It is the basis for developing the baseline emissions model and estimating baseline emissions. The upgraded boundary is the boundary in its form after the implementation activities are completed. It is the basis for calculating measured operating emissions produced during the reporting period. Baseline emissions and operating emissions are compared in Part 4 to calculate the net abatement amount.

Subsection 19(4) provides for the original and upgraded boundary for an implementation to be different to the extent necessary to accommodate changes due to the implementation activities included in the implementation. This includes the replacement, removal, or installation of additional equipment. For example, if an implementation involves replacing an existing boiler with a more efficient version, the boundary for the implementation in its original form will include the existing boiler. The boundary for the implementation in its upgraded form will include the more efficient replacement boiler.

To avoid doubt, an upgraded boundary for an implementation that includes no emissions-producing equipment is not in breach of paragraph 19(2)(a), provided the original boundary for the implementation does include at least one item of emissions-producing equipment. Consider, for example, an implementation that involves the installation of on-site solar electricity generation equipment to provide electricity to existing electricity-consuming equipment that would otherwise be serviced by an on-site diesel generator. The boundary for the implementation is defined by reference to the existing electricity-consuming equipment. In this example, after the implementation is completed the electricity-consuming equipment is powered completely by renewable electricity so the upgraded boundary for the implementation will not contain any emissions-producing equipment. This does not give rise to a breach of this Determination as the original boundary for the implementation does include emissions-producing equipment, that is, the electricity-consuming equipment powered by diesel-generated electricity.

Subsection 19(6) requires project proponents to prepare a description of any boundary identified under this section. Boundaries may be defined by reference to a piece of equipment, a physical space, the components of an energy or emissions system, or a combination of these. Boundaries may also be defined by reference to a whole facility. The description required under subsection 19(6) is used throughout the Determination, for example, in paragraph 14(1)(c) and subparagraph 58(2)(a)(ii).

Subdivision 2 – Specifying equipment as partly unaffected

20 Emissions-producing equipment may be specified as partly unaffected

Section 20 allows for project proponents to specify emissions-producing equipment within the boundary for an implementation as ***partly unaffected***. Subsection 20(2) sets out the requirements for doing so.

Set out in paragraphs 20(2)(a) and (b), partly unaffected equipment is emissions-producing equipment within the boundary for an implementation that distributes energy in the form of steam, heat, cooling, or compressed air partly to other equipment within the boundary (the internal energy output) and partly to equipment outside the boundary (the external energy output).

The effect of paragraph 20(2)(c) is that partly unaffected equipment can only distribute energy in the form of the outputs described in paragraph 20(2)(a); it must not distribute energy as electricity or fuel directly to other equipment.

Set out in paragraph 20(2)(e), partly unaffected equipment must not consume energy from other equipment within the boundary other than a lower grade form of the energy output it originally created, for example, lower temperature steam returned for re-use to a partly unaffected boiler. Energy returned to the equipment is lower grade if it has a lower useful

energy content. In cooling applications, a fluid with a higher temperature may be considered lower grade.

Subsection 20(3) sets out the effect of specifying partly unaffected emissions-producing equipment. If the boundary for an implementation includes partly unaffected emissions-producing equipment, the fuel or electricity consumed by that equipment that is attributable to the external output can be deducted for the purposes of the abatement calculations. This enables project proponents to set a large boundary for their implementation and then deduct unaffected energy consumption so that the baseline emissions model and abatement calculations more precisely reflect the impact of the implementation. Proponents may choose to do this to make use of existing metering and avoid having to install new sub-metering equipment. Generally, partly unaffected equipment will be a central plant that services many items of equipment, only some of which are impacted by the implementation.

Subsection 20(4) describes how the fuel or electricity consumed by partly unaffected emissions-producing equipment is to be attributed to the internal and external outputs.

Paragraph 20(4)(a) specifies that attribution is to be based on the measured energy content of the outputs respectively.

Paragraph 20(4)(b) provides for returned energy to be accounted for when determining the fuel or electricity consumed by the equipment.

Subdivision 3 – Choices involves in modelling and measuring emissions for an implementation

21 Sources of baseline emissions

Section 21 requires project proponents to identify the fuel combusted, electricity consumed, and industrial process emissions produced within the original boundary for the implementation. These sources of baseline emissions must be measured throughout the baseline measurement period for the purposes of developing the baseline emissions model.

22 Baseline measurement period

To develop a baseline emissions model, project proponents must choose a period over which to measure baseline emissions and the values of relevant variables.

Subsection 22(2) sets out that the baseline measurement period must be representative of the expected operation of the equipment within the boundary for the implementation. In practice this means the baseline measurement period should account for: changes in output; external factors such as climate, input or output quality and type that materially affect emissions; the fuel mix; operating schedules; and changes in equipment or equipment configuration.

Subsection 22(3) sets out that the baseline measurement period must, wherever possible, be a continuous period. An example of an acceptable discontinuity in the baseline measurement period is the exclusion of a time interval that is part of start-up or shut-down sequences that is not part of the normal cycle of operation.

Baseline measurement periods must start no earlier than 36 months before the date the implementation commences and must end before the implementation commences.

For the purposes of subsections 22(5) and (6), the following is not taken to represent that an implementation has commenced:

- the undertaking of planning;
- the procurement of goods or services; or
- the installation of equipment that, until the implementation is complete, has no impact on the emissions produced by existing emissions-producing equipment within the boundary for the implementation.

23 Sources of operating emissions

Section 23 requires project proponents to identify the fuel combusted, electricity consumed, and industrial process emissions produced within the upgraded boundary for the implementation. These sources of operating emissions must be measured throughout each reporting period for the project for the purposes of working out the total measured operating emissions for the implementation.

24 Measurement time intervals

Section 24 establishes that a single measurement time interval – for example, one hour, one day or one month – must be chosen and used for all parameters in an implementation when calculating abatement. Measurement time intervals of the same length must be used for every parameter in the implementation throughout the baseline measurement period and each reporting period.

For example, a proponent may choose to measure the value of a relevant variable during the baseline measurement period over a 24-hour period. They would then need to measure each other relevant variable, as well as the baseline emissions and operating emissions over a 24-hour period. Further, the measurements must be taken over the same 24-hour period. The proponent may not choose to measure the value of one relevant variable over the period 6:00 am to 6:00 am, and another relevant variable over the period 9:00 am to 9:00 am.

Subsection 24(2) sets out that the start of the first measurement time interval in a time period, whether the baseline measurement period or reporting period, is the start of the time period. The second and all subsequent measurement time intervals are required to start immediately after the end of the previous measurement time interval. This requirement ensures that ongoing measurements are taken throughout the time period.

25 Interactive effects

Under this section, project proponents are required to identify any interactive effects and interactive equipment (see section 5) for each implementation.

Subsection 25(2) means project proponents cannot account for a change in emissions as an interactive effect in the first reporting period and then account for the change within the implementation boundary (i.e. through the difference between baseline and operating emissions) in a subsequent reporting period, or vice versa.

The note after subsection 25(2) sets outs the circumstances under which project proponents will have a choice as to whether to account for an implementation-induced emissions change within the implementation boundary or as an interactive effect. For a change in emissions that is a decrease in emissions (i.e. positive abatement) or an increase in emissions that is immaterial or minor, project proponents can choose to account for this change within the boundary for the implementation or as an interactive effect. For example, a project proponent replaces an existing furnace with a more efficient version. The more efficient furnace releases

less waste heat resulting in less load on the electrically powered plant room cooling system. This decrease in electricity-consumption emissions could be treated as an interactive effect or the cooling system could be included in the implementation boundary. However, as a consequence of section 19(2), a change in emissions that is a material or non-minor increase in emissions (i.e. negative abatement) 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.

Subsection 25(3) and 25(4) set out the requirements for estimating interactive effects. As an interactive effect is a change in emissions, the value of the interactive effect will be negative if the interactive effect corresponds to a decrease in emissions.

For the purposes of subparagraph 25(3)(b)(ii), an energy efficiency measurement and verification practice used to estimate an interactive effect may be considered "generally accepted" if it is in accordance with a widely recognised protocol such as the IPMVP, relevant Australian standards, International Organization for Standardization (ISO) standards, or guidelines published by professional bodies such as the American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE).

As the calculations for estimating interactive effects are less stringently defined, section 46 imposes a limit on the amount of positive abatement that can be claimed from interactive effects. The limit is worked out by comparing the amount of abatement that occurs from interactive effects to the amount of abatement that occurs within the implementation boundary. The Determination credits positive abatement up to 10 per cent of the magnitude of the abatement that occurs inside the implementation boundary. This means that if, for example, interactive effects are estimated to result in positive abatement equivalent to 20 per cent of the magnitude of abatement that occurs inside the boundary for a reporting period, project proponents will be credited for the abatement that occurs inside the boundary plus only 10 per cent of that amount as interactive effect abatement. This provides project proponents flexibility in how they define their implementation boundary but limits the amount of ACCUs credited for abatement that is not captured by the modelled baseline emissions and measured operating emissions. Project proponents should, therefore, carefully consider the impact of their implementation and define the boundary for their implementation so as to avoid not being credited for significant positive abatement. No limit applies to interactive effects that result in negative abatement noting that all material increases in emissions occurring as a result of the implementation must be accounted for within the boundary for the implementation. All negative abatement from interactive effects must be accounted for in the net abatement calculations.

Typically, a proponent may choose to account for an effect as an interactive effect if a small change in emissions occurs in equipment that is separated from the equipment subject to the implementation activities and operates very differently, so that including the interactive equipment within the boundary for the implementation might reduce the predictive power of the baseline emissions model.

In deciding whether to treat a flow-on emissions change as an interactive effect or within the implementation boundary, project proponents should consider section 43 of the Determination, which allows certain emissions to be excluded when calculating the emissions abated by an implementation. Section 43 may allow proponents to exclude a flow-on emissions change that would otherwise be treated as an interactive effect from the abatement calculations for an implementation.

26 Relevant variables

Section 26 establishes that project proponents must choose one or more relevant variables for the purposes of developing a baseline emissions model for an implementation.

The definition of ***relevant variable*** in section 5 establishes that a parameter can be a relevant variable if its value *causes* or *explains* changes in baseline emissions. Statistical relationships quantified by a regression model are said to *explain* variation in the dependent variable, which is in this case, emissions. Regression models do not determine causation. Section 5 uses the word 'cause' because in some situations a known physical relationship between a relevant variable and emissions level may exist, in which case changes in the value of the relevant variable could be said to cause changes in the level of baseline emissions. This will indeed be the case for engineering baseline emissions models (see section 34).

Subsection 26(2) sets out examples of relevant variables.

27 Static factors

For each implementation, the project proponent must identify any static factors (as defined in section 5). In many cases, parameters that would be treated as static factors for a regression baseline emissions model may be included in an engineering baseline emissions model as relevant variables. This is because engineering-based models are based on underlying scientific principles, not on purely statistical relationships. This means that if the values of these parameters change, their influence on baseline emissions can be accounted for through the model rather than through a non-routine adjustment or by revising the baseline emissions model. For example, an equation in an engineering model may describe heat loss from a cylindrical boiler as a function of temperature difference and surface area. If the size of the boiler changes, the new surface area can be easily recalculated and incorporated into the engineering baseline emissions model without the need to find data corresponding to a cylinder of the new size.

Division 6 – Developing baseline emissions models

Subdivision 1 – Obligation to develop baseline emissions model

28 Baseline emissions model must be developed for each implementation

Section 28 provides that project proponents must develop a baseline emissions model for each implementation. A baseline emissions model for an implementation estimates the emissions that would have been produced within the boundary for the implementation if the implementation had not taken place.

Subsection 28(1) sets out that baseline emissions models may be either:

- a regression baseline emissions model developed using statistical regression analysis; or
- an engineering baseline emissions model developed using engineering-based modelling techniques.

Subsection 28(2) sets out that a baseline emissions model must include relevant industrial process emissions (see section 5). The effect of subsection 28(2) is that if industrial process emissions are produced within the boundary for an implementation, those emissions only need to be included in the baseline emissions model if they are likely to be materially

impacted by the implementation activities. This is because including unaffected emissions sources in the baseline emissions model may decrease the accuracy of the model or reduce the observed percentage change in emissions that occurs because of the implementation activities.

Subsection 28(3) sets out that section 28 applies to a transferring IEFE project only for reporting periods that end after the transfer date. The effect of this subsection is that transferring IEFE projects cannot apply a baseline emissions model developed under section 28 to reporting periods for their project that ended before the transfer date.

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

Section 29 provides for project proponents to voluntarily establish a new baseline emissions model for an implementation for the purposes of estimating baseline emissions in any reporting period after the first reporting period.

Subsection 29(2) sets out that in developing a new baseline emissions model, the project proponent may choose a new baseline measurement period and new relevant variables.

Subsection 29(3) ensures that the same baseline emissions model is used for each measurement time interval in a reporting period. Section 29 provides for the development and use of a new baseline emissions model in a subsequent reporting period. It does not provide for the use of multiple baseline emissions models covering different measurement time intervals within a single reporting period.

Subsection 29(4) ensures that if proponents use a statistical test or approach to identify high leverage data points or outliers for the purpose of developing a baseline emissions model for an implementation, they must use that same statistical test or approach for each baseline emissions model subsequently developed for the implementation. High leverage data points are single points that substantially affect the accuracy of a regression model such that the model loses predictive power.

Subsection 29(5) sets out the application of this section to transferring IEFE projects.

30 Baseline emissions model must be revised each reporting period

Section 30 sets out why a baseline emissions model must be revised each reporting period.

The requirement to incorporate the electricity emissions factor in force at the end of the reporting period ensures the estimated baseline emissions is a true reflection of the emissions from electricity consumption that would have been produced during the reporting period in the absence of the implementation.

Subdivision 2 – Regression baseline emissions model requirements

31 Regression baseline emissions model requirements

Section 31 sets out that a regression baseline emissions model is developed using statistical regression analysis to relate relevant variables to baseline emissions for the implementation. Regression baseline emissions models may use linear or non-linear functions of relevant variables. Baseline emissions is the dependent variable in a regression baseline emissions model.

Subsection 31(2) ensures that measured values used to develop the baseline emissions model are from measurement time intervals in the baseline measurement period that accurately represent the standard operation of equipment within the original boundary for the implementation.

Subsection 31(3) sets out that the values of baseline emissions used to develop the baseline emissions model must be measured and calculated in accordance with section 53.

Subsection 31(5) sets out that 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. This requirement seeks to ensure that the data used to develop models does not include extreme values that have few neighbouring data points.

Subsection 31(6) sets out that section 31 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

Regression baseline emissions models must meet the statistical requirements set out in section 31. Taken together, the requirements in sections 31 and 32 ensure that regression baseline emissions models are robust, and consistent with standard energy measurement and verification practices.

For paragraph 32(1)(a), 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 one. The more degrees of freedom in the model, the lower the value of the critical student t-statistic.

Subsection 32(2) sets out that if a regression baseline emissions model has been revised *only* to account for a change in the electricity emissions factor (as required by section 30) and the original model complied with the requirements of subsection 32(1) or with section 33, then the model does not need to be re-tested for compliance against the requirements of subsection 32(1). This ensures that proponents are not required to substantially revise valid models due to changes in the electricity emissions factor that are external to the project.

33 Declaration relating to non-compliance with minimum statistical requirements

Section 33 provides for a project proponent to develop and use a regression baseline emissions model that does not comply with the minimum statistical requirements set out in subsection 32(1). To do so, project proponents must provide a declaration from an independent measurement and verification professional that:

- the regression baseline emissions model substantially complies with the minimum statistical requirements;
- the area of non-compliance is not material to the integrity and accuracy of the model; and
- the regression baseline emissions model is satisfactory for the purpose of calculating the emissions abated by an implementation under Part 4 of the Determination.

The requirements prescribed by subsection 33(2) ensure the integrity of the declaration and ensure the declaration can be audited.

Subsection 33(3) sets out that section 33 applies to a transferring IEFE project only for reporting periods that end after the transfer date.

Subdivision 3 –Engineering baseline emissions model requirements

34 Engineering baseline emissions model requirements

Section 34 establishes requirements for engineering baseline emissions models under the Determination. Engineering-based modelling is included in the Determination because it allows accurate modelling of complex processes. For many larger projects the proponent will often have undertaken engineering-based modelling as part of designing the equipment and activities. Engineering modelling is analogous to the calibrated simulation modelling approach, Option D, under the IPMVP.

Subsection 34(1) sets out that an engineering baseline emissions model is developed using engineering modelling to relate relevant variables to baseline emissions for the implementation.

Subsection 34(2) sets out that an engineering baseline emissions model must be based on scientific principles, use actual site data and other verifiable parameters,.

Other verifiable parameters referred to in paragraph 34(2)(b) includes adjustable tuning parameters. Adjustable tuning parameters are standard scientific parameters that are adjusted from their theoretical values so that the engineering baseline emissions model best describes the actual site. This process of adjustment is referred to as 'tuning'. Tuning may be required because of experienced physical phenomenon that theory does not account for, or because of limitations of measurement. For example, heat transfer from hot gases in the firebox of a boiler to water in the tubes of the boiler is governed by the heat transfer coefficient and the temperature difference between the hot gases and the water. The simple theoretical equations and industry correlations that describe heat transfer in a boiler do not capture the subtleties of every boiler, for example, the distribution of gases in the actual firebox, the actual flow distribution in the tubes, and so are an approximation. Tuning an engineering baseline emissions model to account for the specific conditions of the system it is representing will reduce the standard error of the predictions of the model. The specific reasons for undertaking model tuning should apply with equal relevance across all measurement time intervals in which the model is used.

An engineering baseline emissions model developed under this section must be able to be subjected to sensitivity analysis. Sensitivity analysis is the study of how the variance in a system or model output can be decomposed and allocated to its different inputs. Subsection 34(3) further sets out the types of data an engineering baseline emissions model must use and account for, where applicable. The requirements in subsection 34(3) together with the requirement to use site data and to be able to undertake sensitivity analysis ensure the developed model is more than just the application of general rules of thumb.

35 Minimum statistical requirements for engineering baseline emissions model

Section 35 sets out the statistical requirements to ensure that engineering baseline emissions models accurately estimate the baseline emissions for an implementation. An engineering baseline emissions model for an implementation must estimate baseline emissions in the baseline measurement period for the implementation within the ranges for the statistical tests prescribed by paragraphs 35(a) and 35(b). These tests are based on section 4.5.3 of the 2015 *U.S. Department of Energy Federal Energy Management Program M&V Guidelines:*

Measurement and Verification for Performance-Based Contracts, Version 4.0. Together, these two tests provide a measure of the overall goodness of fit of the modelled output to reality. Normalised mean bias error is a normalisation of the mean bias error index, which indicates how well the baseline emissions predicted by the model compares to measured data. Positive values indicate that the model overpredicts actual values. Negative values indicate that the model underpredicts actual values. The coefficient of variation of the root mean squared error is a measure of the overall uncertainty between modelled and measured values. The coefficient of variation of the root mean squared error is always positive. Different statistical thresholds apply based on the length of the measurement time interval on which the model is based.

36 Declaration about compliance of engineering baseline emissions model

Subsection 36(1) sets out that an engineering baseline emissions model for an implementation must be the subject of a declaration from an independent MVP that the model meets the requirements of the Determination. This provides project proponents flexibility to apply an engineering modelling approach most appropriate to their site whilst ensuring the developed model accurately estimates baseline emissions for the implementation.

If a project consists of multiple implementations each using an engineering baseline emissions model, each engineering baseline emissions model must be the subject of a declaration under this section.

Similarly, if, under section 29, a new engineering baseline emissions model is developed for a subsequent reporting period, 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 declaration under section 36.

Division 7 – Using NGER methods to work out factors

37 Using NGER methods to work out factors

Section 37 establishes how the energy content factors, emissions factors for fuel combustion and industrial process emissions must be worked out using methods in the NGER Measurement Determination.

Subsection 37(2) specifies that the same NGER method must be used to work out parameters for the purposes of:

- developing the baseline emissions model for the implementation (i.e., to work out measured baseline emissions in the baseline measurement period, the values of which enable the development of the baseline emissions model); and
- working out the measured operating emissions for the implementation.

For the purposes of subsection 37(2), the project proponent may choose 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). Baseline emissions models may also need to be revised if the NGER method on which they were developed is revised.

Subsection 37(3) provides that if it is not possible to use the version of the NGER method as in force at the end of the reporting period in the emissions calculations, the project proponent

must use the most recent version of the NGER method that it is possible to use. This section applies despite paragraph 11(2)(b).

Subsection 37(3) would be relevant where an approach to sampling fuel under an NGER method is changed before the start of a reporting period. In this case, the proponent would use the new version of the NGER method to determine operating emissions during the reporting period. However, if they are unable to redo the baseline measurement period fuel sampling so as to comply with the updated NGER method, they may continue to use their original baseline emissions model, which was developed using an emissions factor calculated in accordance with the previous version of the NGER method.

Subsection 37(5) provides an approach for situations where, in using a version of an NGER method, more than one factor would apply in the baseline measurement period for a baseline emissions model. This is intended to cover higher order methods where sampling produces different parameters in each measurement time interval. In these situations, the factor to be used for the period for the purposes of developing baseline emissions models is the emissions-weighted average of all the factors that would have applied during the period.

Determining the emissions-weighted average for a parameter involves first calculating the emissions for each measurement time interval in the baseline measurement period, then determining the proportion of total emissions (the weighting) emitted in each measurement time interval. Consider a simplified example of a baseline measurement period with two measurement time intervals. Diesel is consumed throughout the baseline measurement period, with a sampled energy content factor of 38.1 gigajoules per kilolitre in the first measurement time interval and 39.2 gigajoules per kilolitre in the second interval. If the total emissions for the baseline measurement period is 10 kilotonnes of CO_2-e from diesel consumption, with 3 kilotonnes CO_2-e emitted in time interval 1 and 7 kilotonnes CO_2-e in time interval 2, the weighted average is given by:

EC_{diesel} = (0.3 × 38.1 gigajoules per kilolitre) + (0.7 × 39.2 gigajoules per kilolitre) = 38.9 gigajoules per kilolitre.

In this example the effect of the weighting is that the weighted average is closer to the value in the emissions-intensive second time interval than to the arithmetic average of 38.65, which resembles the 38.6 gigajoules per kilolitre average in Schedule 1 of the NGER Measurement Determination.

Part 4 – Net abatement amount

Division 1 – Preliminary

38 Operation of this Part

Paragraph 106(1)(c) of the Act provides that a methodology determination must specify how to calculate the carbon dioxide equivalent (CO_2-e) net abatement amount for an eligible offsets project in relation to a reporting period.

Section 38 provides that this is done in Part 4 of the Determination.

39 Overview of gases accounted for in abatement calculations

Section 39 sets out the greenhouse gas sources that are relevant to working out the net abatement amount.

Division 2 – Working out the net abatement amount

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

Subsection 40(1) requires that an implementation must have been completed before it can be included in the calculation of the net abatement amount for a reporting period. Section 5 defines what it means for an implementation to be completed.

Subsection 40(2) provides that if the project proponent calculates abatement for an implementation for a reporting period but chooses not to calculate abatement for the implementation in any subsequent reporting period, the project proponent must exclude the implementation from the calculation of net abatement for all subsequent reporting periods.

Subsection 40(2) is intended to prevent project proponents only including an implementation in the net abatement calculations for those reporting periods in which the implementation generates positive abatement and excluding the implementation from the net abatement calculations in those reporting periods in which the implementation generates negative abatement.

This provision applies when it would have been practicable for the project proponent to calculate abatement for the implementation.

This section does not prevent project proponents choosing to exclude indefinitely implementations that will not generate positive abatement for the remainder of the crediting period.

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

Section 41 sets out scenarios for when an implementation must not be included in calculating the net abatement amount. Overall, the intent of section 41 is to ensure that abatement is calculated for activities that are formally identified as part of the project and that are unlikely to occur in the ordinary course of events, as opposed to other activities undertaken at the site of an implementation included in the project.

Subsection 41(2) relates to the scenario when an activity that has not been described to the Regulator is carried out at the site of an implementation that is already a part of the project.

All of the conditions specified in paragraphs 41(2) must be fulfilled for the implementation to be excluded from the net abatement calculations for the project for the reporting period.

Paragraph 41(2)(d) sets out that the implementation is only excluded from the net abatement calculations for the reporting period if the undescribed activity contributes more than 10 per cent of the abatement calculated for the implementation in the reporting period. This 10 per cent threshold provides some flexibility for activities conducted as part of business operations to be undertaken without triggering the requirement to exclude the implementation from the net abatement calculations or provide an updated statement of activity intent under paragraph 41(2)(e). This reflects the reality of site management where maintenance or minor improvement activities are conducted from time to time.

For example, the section 22 application for a project and a statement of activity intent accompanying that application described an implementation involving fuel switching in a boiler. During the crediting period, as part of standard maintenance or periodic business processes, the project proponent replaces all seals, valves, and piping equipment for the boiler, or maintains the boiler in such a way as to slightly improve its efficiency. Combined, these maintenance activities contribute 1.5 per cent of the abatement calculated for the implementation in the reporting period. Despite not having described these activities to the Regulator as being part of the project, because the activities are below the 10 per cent threshold the implementation does not need to be excluded from the net abatement calculations for the reporting period.

Paragraph 41(2)(e) further specifies that the implementation is only excluded if the activities undertaken at the site of the implementation have 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.

Subsection 41(3) operates in a similar way to subsection 41(2) but relates to the undertaking of entirely new and undescribed implementations, such as implementations at a distinct site. A new implementation can be included in the project after the project is declared an eligible offsets project provided the new implementation is described to the Regulator in an updated statement of activity intent.

Updated statements of activity intent provided to the Regulator under paragraphs 41(2)(e) or 41(3)(c) must be prepared in compliance with section 42.

Both paragraphs 41(2)(e) and 41(3)(c) are triggered if an updated statement of activity of intent is not provided to the Regulator together with the offsets report relating to the reporting period in which the activity or implementation was completed. This is different to the timing of the provision of a statement of activity intent, which must accompany the section 22 application in relation to the project, and therefore must be provided before any implementation activities for the project have commenced.

42 Updated statements of activity intent about implementations in current projects

Section 42 describes what constitutes an ***updated statement of activity intent***. The requirement to provide an updated statement of activity intent ensures activities undertaken under the Determination are unlikely to occur in the ordinary course of events. This helps fulfill paragraph 133(1)(a) of the Act, which requires that projects covered by a methodology determination should result in carbon abatement unlikely to occur in the ordinary course of events (disregarding the effect of the Act).

The opportunity to provide an updated statement of activity intent provides a mechanism for project proponents to continue to identify and generate abatement from emissions reducing activities that are unlikely to occur in the ordinary course of events.

For example, the section 22 application for a project and a statement of activity intent accompanying that application described an implementation involving fuel switching in a boiler. After registering the project, the project proponents identify an opportunity to replace the boiler in which fuel switching is occurring with a significantly more efficient version. The project proponent estimates that upgrading the boiler is likely to contribute approximately 25 per cent of the abatement that would be calculated for the implementation. If the project proponent can describe the boiler replacement to the Regulator in an upgraded statement of activity intent, then scenario 1 in subsection 41(2) is not triggered. The boiler replacement is considered an implementation activity that constitutes the implementation, and the implementation can be included in the net abetment calculations for the reporting period. If the project proponent upgrades the boiler but does not describe the upgrade in an updated statement of activity intent, then scenario 1 is triggered. The entire implementation, including the original fuel switching activities, must not be included in the net abatement calculations for the reporting period.

Any new implementation activities added to an implementation and any new implementations added to a project via the provision of an updated statement of activity intent must comply with all requirements of the Determination. Adding new implementation activities to an implementation may require the baseline emissions model for the implementation to be updated, which is provided for in section 29. For example, this would be the case where the newly added activities relate to equipment not initially included in the boundary for the implementation.

Note 1 in section 42 sets out that no statements of activity intent will have been provided to the Regulator in relation to implementation activities or implementations completed as part of a transferring IEFE project in reporting periods that ended *before* the transfer date. This does not give rise to a breach of the Determination.

The requirement to provide an updated statement of activity intent for any implementation or implementation activity added to a transferring IEFE project after the transfer date extends to those activities described in the section 22 application for a transferring IEFE project as activities that are likely to occur as part of the project but were not formally identified at the time of making the section 22 application. This ensures that the framework for adding new implementations or implementation activities to a project is applied consistently to all projects for which the Determination is the applicable methodology determination. For example, the section 22 application made in relation to a transferring IEFE project describes replacing fans at industrial facilities as an activity that is likely to constitute an implementation in the project but does not provide any specific details about the proposed facilities or equipment. If, having transferred the project to the Determination, the project proponent wishes to include a specific implementation in the project that is to involve the replacement of fans at an industrial facility, an updated statement of activity intent for the implementation must be provided to the Regulator with the first offsets report for the reporting period in which the implementation is completed.

Similarly, note 2 in section 42 sets out that no statements of activity intent will have been signed and included in the section 22 application made in relation to a restarting ICER project. This does not give rise to a breach of the Determination. A project proponent can add

implementation activities and implementations to a restarting ICER project through the provision of an updated statement of activity intent.

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

Section 43 sets out the circumstances under which a project proponent may exclude one or more changes in emissions that occur as a result of an implementation being undertaken when calculating the emissions abated by the implementation for the reporting period. To exclude one or more changes in emissions, all of the conditions specified by paragraphs 43(a) to (c) must be fulfilled.

The cost of using existing measurement, metering, and monitoring systems or installing additional systems relative to the amount of emissions to be excluded is likely to be a key consideration in evaluating whether it is impractical or disproportionately costly to account for an emissions change. For example, if certain energy emissions are likely to change and those energy emissions could readily be included in the calculations by expanding the implementation boundary to make use of existing co-metering, this would not normally be considered disproportionately impractical or costly.

An example of where the measurement of emissions might be impractical or disproportionally costly is where, as part of improvements to a 10-megawatt boiler, a single 25-kilowatt forced draught fan with a VSD is installed. In this instance, the cost of installing additional metering and monitoring for the minor increase in electricity consumption from the draught fan may be disproportionately costly and is unlikely to affect emissions abatement by more than 5 per cent.

The 5 per cent limit specified in paragraph 43(b) applies to the sum of all changes in emissions, so that this cannot be used to exclude emissions produced by all minor items of equipment when calculating abatement.

Where, emissions are excluded, under section 43 they must also be excluded from both baseline emissions and operating emissions. This prevents abatement being inflated through the exclusion of emissions from operating emissions but not baseline emissions.

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

Section 44 establishes that if the net abatement amount for the final reporting period in the crediting period is negative, the net abatement amount for the final reporting period is set to zero.

The intent of this is to ensure that project proponents are not faced with a liability to the Commonwealth in the event that the project results in negative abatement as a result of project activities. This is separate from any contractual obligations the project proponent or another party may have with the Commonwealth.

Division 3 – Method for calculating net abatement amount

45 Carbon dioxide equivalent net abatement amount

Equation 1 sets out that the carbon dioxide equivalent net abatement amount for a project for a reporting period is the sum of abatement for all individual implementations included in the project, plus any negative abatement amount from the previous reporting period. This

provides for proponents to undertake multiple implementations under the Determination and aggregate the abatement generated by each implementation as a single project.

Allowing for negative abatement to be treated as a zero emissions level in each reporting period could enable project proponents to take advantage of periods of negative abatement to increase their net abatement calculated over all reporting periods because:

- of the range of possible activities supported by the Determination;
- the Determination provides for project proponents to develop their own baseline emissions models; and
- proponents can choose the length of reporting periods for the project (within the limits imposed by the Act and the Rule).

This Determination carries over negative abatement in each reporting period so as to mitigate against this risk.

Division 4 – Calculating baseline emissions and operating emissions

46 Emissions abated

Section 46 sets out how to calculate the emissions abated by an implementation depending on whether:

- the difference between baseline emissions and operating emissions (***boundary abatement***) is positive or negative; and
- the interactive effects contribute positive abatement above a certain threshold.

Interactive effect abatement is the abatement that occurs because of the sum of all interactive effect emissions changes for the implementation for the reporting period (see section 50).

In the Determination, positive abatement represents emissions reduction or a decrease in emissions; negative abatement represents an increase in emissions.

Subsection 46(2) defines a number of important terms used in section 46.

Subsection 46(3) defines boundary abatement for an implementation in a reporting period as total baseline emissions for the implementation for the reporting period less the total measured operating emissions for the implementation for the reporting period (**Equation 2**).

Total baseline emissions for the implementation for the reporting period are the emissions that would have been produced within the original boundary for the implementation in the reporting period in the absence of the implementation having been undertaken. Total measured operating emissions for an implementation for a reporting period are the emissions that are produced by equipment in the upgraded boundary for the implementation in the reporting period.

Subsections 46(4), (5) and (6) specify respectively the condition that must be met for there to be positive (**Equation 3**), negative (**Equation 4**) and zero (**Equation 5**) boundary abatement for an implementation in a reporting period.

Subsections 46(7) and (8) specify respectively the conditions that must be met for there to be positive (**Equation 6**) or negative (**Equation 7**) interactive effect abatement for an implementation in a reporting period.

Subsections 46(9) (**Equations 8** and **9**) and (10) (**Equation 10**) relate to circumstances where both boundary abatement and interactive effect abatement for an implementation in a reporting period are positive.

The effect of subsection 46(9) is that the amount of positive abatement that can be claimed from interactive effects for an implementation is limited to 10 per cent of the abatement that occurs inside the boundary for the implementation. For example, boundary abatement for an implementation in a reporting period is 1,000 tonnes CO_2-e, and interactive effect abatement is 150 tonnes CO_2-e. The 150 tonnes CO_2-e of positive interactive effect abatement is greater than 10 per cent of the boundary abatement (in this example 10 per cent is equal to 100 tonnes CO_2-e). Therefore, the amount of interactive effect abatement is capped at 100 tonnes CO_2-e. As a result, the total abatement generated by the implementation is taken to be 1,100 tonnes CO_2-e (1,000 tonnes CO_2-e plus 10 per cent) multiplied by an accuracy factor (see section 56). This approach provides project proponents flexibility in how they define their implementation boundary but limits the amount of abatement credited for emissions reductions that are not captured by the modelled baseline emissions and measured operating emissions.

Subsections 46(11) (**Equation 11**) relates to the circumstance where boundary abatement for an implementation in a reporting period is positive and interactive effect abatement is negative. No cap is placed on interactive effect abatement. All of the interactive effect abatement must be included when calculating the abatement generated by the implementation, as is the case in all circumstances where interactive effect abatement is negative. This ensures all increases in emissions that occur as a result of the project are accounted for in the net abatement calculations, whether the emissions change occurs inside the boundary for an implementation or as an interactive effect.

Subsections 46(12) (**Equations 12** and **13**) and (13) (**Equation 14**) relate to circumstances where boundary abatement for an implementation in a reporting period is negative and interactive effect abatement is positive.

Subsection 46(12) has a similar effect to that of subsection 46(9). The amount of positive abatement that can be claimed from interactive effects for an implementation is limited to 10 per cent of the magnitude of abatement that occurs inside the boundary for the implementation. The magnitude of abatement that occurs inside the boundary for the implementation is the absolute value of the boundary abatement. For example, boundary abatement for an implementation in a reporting period is negative 1000 tonnes CO_2-e and interactive effect abatement is positive 150 tonnes CO_2-e. The 150 tonnes CO_2-e of positive interactive effect abatement is greater than 10 per cent of the absolute value of the boundary abatement (in this example the absolute value of the boundary is 1,000 tonnes CO_2-e, 10 per cent of which is equal to 100 tonnes CO_2-e). Therefore, the amount of positive interactive effect abatement is capped at 100 tonnes CO_2-e. As a result, the total abatement generated by the implementation is taken to be negative 900 tonnes CO_2-e (negative 1,000 tonnes CO_2-e of boundary abatement plus positive 100 tonnes CO_2-e of interactive effect abatement).

Subsection 46(14) (**Equation 15**) relates to circumstances where both boundary abatement and interactive effect abatement for an implementation in a reporting period are negative.

Subsections 46(15) (**Equation 16**) and (16) (**Equation 17**) relates to circumstances where there is zero boundary abatement and positive or negative interactive effect abatement respectively. In subsection 46(15), the emissions abated by the implementation in a reporting period is taken to be zero despite there being positive interactive effect abatement. This is because the cap on positive abatement is worked out based on the relative size of boundary and interactive effect abatement. As boundary abatement is zero, the 10 per cent cap on interactive effect abatement will also be equal to zero.

No accuracy factor is applied in any of equations 13, 14, 15 or 17. This is because in these circumstances scaling by an accuracy factor that is equal to or less than 1 could have the effect of increasing a negative abatement amount. For example, if boundary abatement plus interactive effect abatement is negative 100 tonnes CO_2-e, multiplying this number by an accuracy factor equal to 0.9 would calculate the emissions abated by the implementation to be negative 90 tonnes CO_2-e. This would provide a perverse incentive to conduct low poor quality modelling and measurement.

47 Baseline emissions

Section 47 provides for **equation 18** which is used to calculate the figure $\boldsymbol{E_{BM,h}}$ for use in **Equation 2**. The figure $\boldsymbol{E_{BM,h}}$ is the total baseline emissions for an implementation for a reporting period. This represents the emissions that would have been produced by equipment within the original boundary for the implementation in the reporting period in the absence of the implementation having been undertaken.

Equation 18 calculates $\boldsymbol{E_{BM,h}}$ as: modelled baseline emissions for the implementation in a measurement time interval plus any change in baseline emissions because of a non-routine adjustment in the measurement time interval, summed over all eligible measurement time intervals in the reporting period.

A project proponent may make a non-routine adjustment to account for a static factor not being at its normal value. The term $\boldsymbol{E_{NRA,h,m}}$ represents the *change* in the baseline emissions because of the non-routine adjustment. In practice, project proponents may use the approaches specified in section 48 to calculate a revised value of total baseline emissions that accounts for a static factor not being at its normal value. In that case, $\boldsymbol{E_{NRA,h,m}}$ is the difference between modelled baseline emissions and the revised value of total baseline emissions.

48 Non-routine adjustments

Section 48 sets out the process for calculating $\boldsymbol{E_{NRA,h,m}}$ for the purposes of section 47.

$\boldsymbol{E_{NRA,h,m}}$ must be worked out using an approach specified in subsection 48(1).

For the purposes of paragraph 48(2)(b), an energy efficiency measurement and verification practice may be considered "generally accepted" if it is in accordance with a widely recognised protocol such as the IPMVP, relevant Australian standards, ISO standards, or guidelines published by professional bodies such as the ASHRAE.

Together subsections 48(2) and (3) specify that the approach used to calculate $\boldsymbol{E_{NRA,h,m}}$ under subsection 48(1) must be declared by an independent MVP as compliant with this subsection. The requirements imposed by subsection 48(3) interact with those imposed by section 63 which relates to the keeping of records about declarations made by independent measurement and verification professionals.

49 Measured operating emissions

Section 49 provides for **Equation 19** which is used to calculate the figure $E_{BM,h}$ for use in **Equation 2**.

$E_{BM,h}$ is the total measured operating emissions for an implementation for a reporting period and is worked out as the sum of total measured operating emissions for the implementation for each eligible measurement time interval in the reporting period.

Division 5 – Calculating interactive effects

50 Interactive effects

Overall, section 50 sets out how to calculate the figure $A_{IN,h}$ which is used in section 46 to calculate the emissions abated by an implementation in a reporting period.

Subsection 50(1) provides for **equation 20,** which calculates the net interactive effects for an implementation in a reporting period as the sum of all interactive effects for the implementation for the reporting period. All terms in **equation 20** are emissions terms meaning that if there is a net decrease in emissions as a result of interactive effects, the value of $E_{IN,h}$ will be negative, and if there is a net increase in emissions as a result of interactive effects, the value of $E_{IN,h}$ will be positive.

Subsection 50(2) has the effect of converting the value $E_{IN,h}$ into the corresponding abatement term, $A_{IN,h}$. If there is a net reduction in emissions, this corresponds to positive abatement and the value of $A_{IN,h}$ will be positive. This conversion ensures that when comparing emissions changes that occur inside and outside an implementation boundary for the purposes of section 46, $A_{bound,h}$ and $A_{IN,h}$ have the same directionality.

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

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

Section 51 sets out the form of a baseline emissions model that is a regression baseline model. A regression baseline emissions model must be developed in accordance with sections 31 to 33 and used in accordance with this section to calculate modelled baseline emissions for an implementation in an eligible measurement time interval in a reporting period for the project. Modelled baseline emissions for an eligible measurement time interval are worked out by entering the values of the relevant variables measured in the eligible measurement time interval into the regression baseline emissions model. The Determination imposes no limit on the number of relevant variables in a regression baseline emissions model.

The output of **equation 22** is used in **equation 18** in section 47.

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

Section 52 sets out that for implementations for which the baseline emissions model is an engineering baseline emissions model, the modelled baseline emissions for the implementation in an eligible measurement time interval in a reporting period for the project must be worked out by entering measured values of the relevant variables from each eligible measurement time interval into the engineering baseline emissions model.

Sections 34 to 36 impose additional requirements about engineering baseline emissions models. The Determination imposes no limit on the number of relevant variables in an engineering baseline emissions model. The output of **equation 22** is used in **equation 18** in section 47.

Division 7 – Calculating measured emissions

53 Measured emissions

Section 53(1) outlines the circumstances in which section 53 is to be used to work out total measured emissions. These circumstances are:

- when calculating measured baseline emissions for the purposes of developing a baseline emissions model for an implementation; or
- when calculating measured operating emissions for an eligible measurement time interval in a reporting period.

Subsection 53(2) provides for **equation 23,** which sets out that total measured emissions for an implementation for a measurement time interval ($E_{Meas,h,m}$) is the sum of:

- emissions from the combustion of fuel for the implementation ($E_{Fuel,h,m}$);
- emissions from the consumption of electricity for the implementation ($E_{Elec,h,m}$); and
- the relevant industrial process emissions for the implementation ($E_{Proc,h,m}$).

Relevant industrial process emissions are defined in section 5.

If an implementation does not have relevant industrial process emissions then the value of $E_{Proc,h,m}$ is zero.

The concept of relevant industrial process emissions ensures that if industrial process emissions are produced within the boundary for an implementation, those emissions only need to be accounted for in this section and in the development of the baseline emissions model for the implementation if they are likely to be materially impacted by the implementation activities. This is particularly relevant to the development of baseline emissions models as the inclusion of unaffected emissions sources may decrease the accuracy of the model or reduce the observed percentage change in emissions that occurs because of the implementation activities.

Equation 24 in subsection 53(3) provides that the total emissions from the combustion of fuel for an implementation are worked out as the sum of emissions across all fuels combusted for the implementation.

Equation 25 in subsection 53(4) outlines that the emissions from the combustion of a fuel type are worked out as the product of the quantity of the fuel type combusted, the energy content of that fuel type and the emissions factor of that fuel type, with a unit conversion factor.

Equation 26 in subsection 53(6) provides that the total emissions from electricity consumption for an implementation in a measurement time interval is worked out as the product of an emissions factor (EF_{Elec}), and the difference between the total quantity of electricity consumed for the implementation and the quantity of eligible renewable electricity consumed for the implementation.

Subsection 53(6) also provides that if the electricity covered by $\boldsymbol{Q_{Elec,h,m}}$ is obtained from a grid that is covered by the NGA Factors document for the purposes of the ERF, then the value of $\boldsymbol{EF_{Elec}}$ to be used in **equation 26** is the grid factor specified in the version of that document that is current at the end of the reporting period for the project. If the electricity covered by $\boldsymbol{Q_{Elec,h,m}}$ is obtained from a grid that is not covered by the NGA Factors document, or is obtained from a source other than an electricity grid, and if the supplier of the electricity is able to provide an emissions factor that reflects the emissions intensity of the electricity, then that emissions factor must be used as the value of $\boldsymbol{EF_{Elec}}$ in **equation 26**. However, if the supplier of the electricity is not able to provide an emissions factor that reflects the emissions intensity of the electricity, then the value of $\boldsymbol{EF_{Elec}}$ to be used in **equation 26** is the factor for off-grid electricity included in the version of the NGA Factors document that is current at the end of the reporting period.

Subsection 53(7) further clarifies that under the circumstance provided for by subparagraph 53(6)(b)(i), the emissions factor must be worked out on a sent-out basis and using a measurement or estimation approach that is consistent with the NGER (Measurement) Determination.

In subsection 53(7), 'on a sent-out basis' refers to the electricity supplied to a grid, market or the end user of the electricity, as opposed to the electricity as measured at the point of generation. Sent-out electricity excludes the electricity used by the generator itself, often referred to as auxiliary loads. This requirement will ensure that the calculation of the emissions factor accounts for transmission losses but not the electricity used by the generator itself.

Regardless of whether the emissions factor is a grid, off-grid or supplier-provided factor, the value of the factor current at the end of the reporting period should be used.

Division 8 – Calculation of relative precision

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

Section 54 is used to work out the relative precision of the emissions level predicted by a regression baseline emissions model for an implementation for the baseline measurement period. Relative precision represents the percentage range within which the true value of a statistical estimate is expected to fall, with a given level of confidence. The relative precision calculated using **equation 27** is used to test a regression baseline emissions model against the minimum statistical requirement in paragraph 32(1)(e).

The calculation of relative precision via **equation 27** is a standard statistical calculation, incorporating an adjustment for the number of measurement time intervals in the measurement period in order to make the numerator and denominator consistent. Similarly, the standard error of the regression baseline emissions model $\boldsymbol{SE_{E,h}}$ is a standard statistical calculation and is sometimes referred to as the standard error of the estimate.

55 Relative precision of emissions abated by an implementation

Subsection 55(1) provides for **equation 28** which is used to calculate the relative precision of the emissions abated by an implementation for a reporting period. The output of **equation 28** is used in **equation 31** to calculate the accuracy factor for the implementation for the reporting period.

Equation 28 is analogous to **equation 27** but relates to the emissions abated by the implementation in the reporting period instead of the baseline emissions predicated by the regression baseline emissions model in the baseline measurement period.

Equation 29 in subsection 55(2) calculates the standard error of the emissions abated by the implementation for the reporting period as the root sum of squares of the baseline emissions model standard error and measurement uncertainties, adjusted for the number of measurement time intervals in the reporting period. For a regression baseline emissions model, the value of the baseline emissions model standard error $\boldsymbol{SE_{B,h}}$ used in **equation 29** will be the same as the value of $\boldsymbol{SE_{E,h}}$ used in **equation 27**. For an engineering baseline emissions model, a good estimate of the standard error of the model is the root mean square error of the differences between the values of baseline emissions predicted by the model in the baseline measurement period and the measured values of baseline emissions in the baseline measurement period.

Subsection 55(3) sets out how measurement uncertainties are to be calculated. The parameter $\boldsymbol{SE_{instr,h}}$ is worked out using standard approaches for assessing the impacts of instrument accuracies on the standard error of emissions calculated and is included to account for measurement bias. This parameter may be taken to be zero if the same instruments and instrument configurations are used to measure the values of parameters for all of the components of the abatement calculations. This is because all the parameters in the abatement calculation are biased in the same way, so that the difference between the baseline emissions and operating emissions effectively eliminates the bias. For example, if the measurement bias increases both baseline and operating emissions by one kilotonne, then the difference between baseline emissions of 101 kilotonnes and operating emissions of 91 kilotonnes is 10, the same as the difference of 10 kilotonnes if the bias were removed.

Subsection 54(4) provides for **equation 30** which is used to calculate the emissions abated by an implementation to be used in **equation 28**.

Division 9 – Calculating accuracy factors

56 Accuracy factor

The accuracy factor is a value between 0 and 1 that scales the abatement generated by an implementation based on the level of modelling and measurement uncertainty.

Subsection 56(1) sets out that the accuracy factor is to be worked out based on the value of the relative precision of the emissions abated by implementation h for the reporting period at the 95 per cent confidence level. This value of relative precision for the implementation is the value calculated using **equation 28.**

Equation 31 in subsection 56(2) is to be used for implementations for which the value of relative precision is between 25 per cent and 200 per cent.

Subsection 56(3) includes rounding rules to deal with relative precision values that fall between items in the table in subsection 56(1).

Part 5 – Reporting, record-keeping and monitoring requirements

Division 1 – Offsets report requirements

57 Operation of this Division

The effect of paragraph 106(3)(a) of the Act is that a methodology determination may set out requirements to be included in each offsets report. Under Parts 17 and 21 of the Act, a failure to comply with these requirements may constitute a breach of a civil penalty provision, and a financial penalty may be payable. The reporting, record-keeping and monitoring requirements specified in Part 5 of the Determination are in addition to any requirements specified in the Act, Regulations, and legislative rules. Section 70 of the Rule sets out the information that must be included for all ERF projects in a reporting period.

58 General reporting requirements

Subsection 58(1) sets out that the required information must be included in an offsets report for the project if the information is different from what has previously been provided to the Regulator or if the information has not previously been provided to the Regulator.

The required information provided for in paragraphs 58(2)(a) to (c) is key to ensuring that all activities conducted as part of the project meet the eligibility requirements of the method and that all emissions have been appropriately accounted for in the net abatement calculations.

Paragraph 58(2)(d) ensures the Determination's coverage of biomass aligns with the *Renewable Energy (Electricity) Act 2000*. The RET scheme covers several forms of biomass and applies several tests and constraints to limit the risk of adverse impacts in relation to their use.

If, under section 29, a project proponent has revised the baseline emissions model for an implementation since the last reporting period, paragraph 58(2)(e) requires that a description of the revised model must be provided in the offsets report for the first reporting period in which the revised model is used. A revised model covers both an existing baseline emissions model that has been altered, or an entirely new baseline emissions model developed for an implementation.

The description of the revised model must include a description of how the model meets the requirements of the Determination, in particular the minimum statistical requirements. The description provided under paragraph 58(2)(e) interacts with paragraph 58(2)(h), which relates to declarations provided to a project proponent by an independent measurement and verification professional.

A description under paragraph 58(2)(e) is not required if the model has only been revised to account for a change in the electricity emissions factor.

The description required by paragraph 58(2)(f) about measurement time intervals that are not eligible measurement time intervals should outline which of the criteria set out in the definition of eligible measurement time interval has not been met (see section 5).

The information required by paragraph 58(2)(g) enables assessment of the interaction between eligible offsets projects conducted under the Determination and the NGER scheme, including, in some circumstances, the application of Safeguard Mechanism double counting rules.

Paragraph 58(2)(h) requires information about any declaration provided to a project proponent by an independent measurement and verification professional. This information only needs to be provided if it is new or different to what has previously been provided to the Regulator. For example, if, in the offsets report for the first reporting period for the project, a project proponent details a declaration from an independent MVP made under section 36 about an engineering baseline emissions model for an implementation and that engineering baseline emissions model is used unaltered for the implementation in every reporting period for the project, the project proponent is not obliged to continue to provide details of the declaration in each offsets report about the project.

Subsections 58(3) and (4) set out the information that must be provided when previously undescribed implementation activities and implementations are undertaken as part of the project. Key here is the requirement to provide an updated statement of activity intent in relation to the implementation in the offsets report for the project for the reporting period in which the implementation is completed (see section 41).

Subsection 58(5) sets out arrangements for transferring IEFE projects.

59 Determination of certain factors and parameters

Subsection 59(1) requires an offsets report to include certain information about a factor or parameter defined or calculated for a reporting period by reference to an instrument or writing as in force from time to time when the circumstances described in paragraph 11(2)(b) apply. The project proponent is required to detail in their offsets report the version of the NGER (Measurement) Determination or external source that was used, the dates that the version was used and why it was not possible for the project proponent to use the version that was in force at the end of the reporting period. The purpose of subsection 59(1) is to provide the Regulator with information on which version of the NGER (Measurement) Determination or other relevant external source has been used by a project proponent to meet the monitoring requirements set out in section 67.

Subsection 59(2) specifies that if the circumstances described in subsection 37(3) apply, and a parameter is not worked out for a reporting period using the version of a NGER method as in force at the end of the reporting period, the offsets report for the project for the reporting period must include the versions of the NGER method used for the parameter, the start and end dates of each use, and 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.

Subsection 59(3) sets out that the requirements in the subsection apply if a parameter is worked out using section 69. A parameter is worked out under section 69 if a project proponent fails to meet requirements to monitor certain parameters. The information required to be reported is listed in paragraphs 59(3)(a) to (d). That information will provide the Regulator with evidence that will allow it to determine the nature and frequency of the failure to meet the monitoring requirements of the Determination and determine what compliance action may be appropriate.

60 Division of project into smaller parts

Section 60 provides that for subsection 77A(2) of the Act, the smallest part into which an ICER project may be divided for the purposes of giving the Regulator an offsets report is a part made up of a single implementation.

Division 2 – Record-keeping requirements

61 Operation of this Division

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

62 General record-keeping requirements

Subsection 62(1) provides that for each implementation, project proponents must keep records of the technical specifications of equipment installed or modified as part of the implementation and of completion of the implementation activities that constitute the implementation. Records about the completion of implementation activities should include records of all activities undertaken as part of the project between the time the implementation was commenced and completed.

Subsection 62(2) provides that as well as keeping any other relevant records, the project proponent must keep schematic or diagrammatic records of the site of each implementation that identifies the location of all equipment specified in paragraphs 62(2)(a) and (b), and any relevant energy supply that leads to the production of emissions by equipment covered by paragraph 62(2)(a).

Subsection 62(3) requires that records must be kept about existing emissions-producing equipment that is re-used or disposed of as part of an implementation. This provision will enable monitoring of any increases in emissions due to the re-use or disposal of equipment undertaken as part of an ICER project. Such monitoring may, for example, inform any potential future review of the Determination.

63 Records relating to declarations made by professionals

Section 63 sets out that project proponents must keep records about declarations made by independent MVPs. Records should be kept so as to demonstrate that a declaration made by an independent MVPcomplies with the requirements of section 33, 36 or 48, whichever is relevant.

Division 3 – Monitoring requirements

64 Operation of this Division

In accordance with section 106(3)(d) of the Act, this Division sets out requirements to monitor an ICER project that is an eligible offsets project.

65 General monitoring requirements

Subsections 65(1) and (2) provide that project proponents must monitor the energy used or industrial process emissions produced by equipment within the boundary for an implementation separately to other energy use and emissions production at the site of the implementation. This enables clear attribution of energy use and emissions production within the boundary for an implementation.

Subsection 65(3) provides that the equipment that monitors energy use or production of industrial process emissions must also be monitored, including monitoring of the verification

of data, evidence of bias or drift, and the integrity of any anti-tampering measures applied to the equipment.

66 Measuring and monitoring requirements

Section 66 sets out the parameters that must be measured during the baseline measurement period and the reporting period for each implementation.

67 Requirement to monitor certain parameters

Section 67 sets out the parameters that project proponents of an ICER project must monitor and the instructions for how each parameter should be measured.

Subsection 67(2) provides that the quantity of electricity consumed and fuel combusted must be measured using an approach that is consistent with the NGER (Measurement) Determination or the *National Measurement Act 1960*. If these are not practicable, proponents may use an approach consistent with relevant Australian, international or industry standards. For the purposes of the Determination, the 'fuel combusted' represents the amount of fuel supplied to the emissions-producing equipment for combustion purposes, with all the fuel supplied considered to be combusted irrespective of the level of combustion efficiency.

Subsection 67(3) provides that if a parameter is measured in accordance with industry practice, the same practice must be used consistently. This prevents changes to the abatement amount from proponents using different practices to measure a parameter in different periods.

Subsection 67(4) provides that the project proponent may measure relevant variables and static factors directly or by using a proxy method that enables the value of the parameter to be reliably calculated. An example of a proxy method is measuring the temperature and pressure of steam flow to calculate energy flow using the flow rate and tabulated enthalpy values for steam at these temperatures and pressures. As with industry practices, subsection 67(5) ensures that once a proxy value or method is chosen it must be used consistently to prevent changes to the abatement amount from the use of different proxy values or methods in different periods.

Subsection 67(6) provides the full title of *AS/NZS 4777.2*.

68 Monitoring equipment

Subsection 68(1) provides that the measuring equipment used for section 67 must be tested or calibrated by an accredited technician and installed and operated in accordance with the manufacturer's specifications for the equipment.

Subsection 68(2) sets out the implications of equipment requiring re-calibration or not operating normally on the calculation of the net abatement amount for a project for a reporting period.

Note 1 provides examples of what is meant by equipment not operating normally.

69 Consequences of not meeting requirement to monitor certain parameters

Compliance with requirements for monitoring of parameters is important to ensure that abatement credited by the project is calculated correctly. In some cases, a project proponent may be unable or fail to monitor a parameter in accordance with the monitoring requirements. When this occurs, section 69 provides a table that specifies how project proponents are to

determine the value of a parameter in a non-monitored period for the purpose of working out the net CO_2-e for the reporting period.

Subsections 69(2) and (3) clarify that project proponents must seek to minimise the non-monitored period and that section 69 does not prevent the Regulator from acting under the Act, or regulations or rules made under the Act, in relation to the project proponent's failure to monitor a parameter as required by the monitoring requirements.

Attachment B

Statement of Compatibility with Human Rights

Prepared in accordance with Part 3 of the Human Rights (Parliamentary Scrutiny) Act 2011

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

This Legislative Instrument is compatible with the human rights and freedoms recognised or declared in the international instruments listed in section 3 of the *Human Rights (Parliamentary Scrutiny) Act 2011*.

Overview of the Legislative Instrument

The *Carbon Credits (Carbon Farming Initiative—Industrial and Commercial Emissions Reduction) Methodology Determination 2021* (the Determination) sets out the detailed rules for implementing and monitoring offsets projects that undertake activities that reduce the energy-consumption emissions and industrial process emissions produced by existing emissions-producing equipment at industrial and commercial facilities.

Project proponents wishing to implement the Determination must apply to the Clean Energy Regulator (the Regulator) and meet the eligibility requirements set out under the *Carbon Credits (Carbon Farming Imitative) Act 2011*. The Determination sets out the rules for calculating, crediting and reporting the greenhouse gas abatement from industrial and commercial emissions reduction projects. Offsets projects undertaken in accordance with the Determination, and approved by the Regulator, can generate Australian Carbon Credit Units, representing emissions reductions from the project.

Human Rights Implications

This Legislative Instrument does not engage any of the applicable rights or freedoms.

Conclusion

This Legislative Instrument is compatible with human rights as it does not raise any human rights issues.

The Hon Chris Bowen MP

Minister for Climate Change and Energy