

## DRAFT EXPLANATORY STATEMENT

Issued by the Authority of the Minister for the Environment and Energy

*Carbon Credits (Carbon Farming Initiative) Act 2011*

*Carbon Credits (Carbon Farming Initiative-Animal Effluent Management) Methodology  
Determination 2019*

### **Purpose**

The *Carbon Credits (Carbon Farming Initiative—Animal Effluent Management) Methodology Determination 2019* (this **Determination**) sets out the primary rules for crediting, calculating and reporting on projects to reduce greenhouse gas emissions from the management of animal effluent generated from treatment facilities.

### **Background**

#### ***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 dioxide from the atmosphere and sequestering carbon in soil or vegetation.

In 2014, the Australian Parliament passed the *Carbon Farming Initiative Amendment Act 2014*, which established the Emissions Reduction Fund (ERF). The ERF has three elements: crediting emissions reductions, purchasing emissions reductions and safeguarding emissions reductions.

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 reduction and sequestration) from eligible projects and rules for monitoring, record-keeping and reporting. These methodologies 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 (ERAC), an independent expert panel established to advise the Minister on proposals for methodology determinations. The Minister must not make or vary a methodology if the ERAC considers it inconsistent with the offsets integrity standards, which are set out in section 133 of the Act. The Minister will also consider any adverse environmental, economic or social impacts likely to arise as a result of projects to which the determination applies.

Offsets projects that are undertaken in accordance with the methodology determination and approved by the Clean Energy Regulator (the Regulator) can generate Australian carbon credit units (ACCUs), representing emissions reductions from the project. Project proponents can receive funding from the ERF by participating in a competitive auction run by the Regulator.

The Government will enter into contracts with successful proponents, which will guarantee the price and payment for the future delivery of emissions reductions.

Further information on the ERF is available on the Department of the Environment and Energy's website at: <http://www.environment.gov.au/emissions-reduction-fund>.

### **Background: Animal Effluent Management Methodology Determination**

The Determination provides an incentive for proponents to reduce greenhouse gas emissions from the management of animal effluent generated from treatment facilities. This Determination applies to an offsets project in which animal effluent, with or without other organic effluent, is processed in a treatment facility in a way that can be reasonably expected to result in eligible carbon abatement. These are *animal effluent management projects*, as defined in section 7 of this Determination.

#### *Emissions destruction*

An emissions destruction offsets project facility is one that treats animal effluent in one or more anaerobic digesters. These anaerobic biodigesters generate and capture the biogas. Emissions destruction offsets project facilities must also use one or more combustion devices to destroy the proportion of the biogas that is methane (See section 12 of this Determination). Ineligible material can be used in an emissions destruction facility (See section 15 of this Determination).

#### *Emissions avoidance*

An emissions avoidance offsets project facility is one that treats animal effluent in a way that reduces the total emissions compared to if the effluent had been treated in an anaerobic pond. When using solids separation devices to avoid emissions, proponents must divert or remove volatile solids from animal effluent and treat the volatile solids in a way that results in fewer emissions of methane than would occur if the volatile solids were only treated in an anaerobic pond. The Determination specifies that these facilities must use a solids separation method of diversion and apply a post-diversion treatment, in accordance with the Supplement. The post-diversion treatment must store the material in stockpiles (solid storage) or as compost that can be used for field application (e.g. windrows) (See section 13 of this Determination). Ineligible material cannot be used in an emissions avoidance facility (See section 15 of this Determination).

Stakeholders are encouraged to submit any views on whether the terminology of 'emissions avoidance' and 'emissions destruction' makes sense. It is recognised that both type of projects will be 'emissions avoidance offsets projects' under the Act.

#### *Calculation of net abatement from emissions avoidance*

To determine the net abatement amount for an animal effluent project under this Determination, the project proponent sums the net abatement amounts from each project facility included in the project.

According to this Determination, the gross abatement amount from each project facility is calculated from emissions resulting from emissions avoided and emissions destroyed. The net abatement amount is determined by deducting from the gross abatement the emissions generated from the combustion of ineligible material and the emissions resulting from the operation of the project. Project emissions include emissions resulting from fuel use, electricity

use, and methane and nitrogen emissions arising from the post-diversion treatment of material diverted from the project facility.

Under this Determination, project proponents must complete calculations in accordance with Part 4 of this Determination.

#### *Transferring projects and revocation of existing determinations*

Proponents can transition projects eligible under earlier determinations to this Determination in accordance with section 10 of this Determination. Projects that can be transitioned include projects registered under:

- *The Carbon Farming (Destruction of Methane Generated from Manure in Piggeries) Methodology Determination 2012;*
- *The Carbon Credits (Carbon Farming Initiative) (Destruction of Methane Generated from Manure in Piggeries—1.1) Methodology Determination 2013;*
- *The Carbon Credits (Carbon Farming Initiative) (Destruction of Methane from Piggeries Using Engineered Biodigesters) Methodology Determination 2013; or*
- *The Carbon Credits (Carbon Farming Initiative - Destruction of Methane Generated from Dairy Manure in Covered Anaerobic Ponds) Methodology Determination 2012.*

It is proposed that each of these methods will be revoked once this method is made. The revocation of these methods will not be consulted upon separately and so any views on the revocation of these methods should be included in any comments on the draft determination.

#### **Project aggregation**

The Emissions Reduction Fund permits projects to aggregate. This allows projects at multiple sites and owned by different people to be brought together and managed as a single project by a project aggregator. More information on aggregating projects can be found at [www.environment.gov.au/climate-change/government/emissions-reduction-fund/aggregation-agreement](http://www.environment.gov.au/climate-change/government/emissions-reduction-fund/aggregation-agreement)

#### **Other emissions avoidance technologies**

A number of technologies exist that could be used to avoid emissions from animal effluent. Of these only solids separation devices are included in the Determination. Both pH modification and hydraulic retention tanks were considered when developing this method. A decision was made to include additional technologies at a later stage, as these activities still required some work to incorporate them into a method and needed an assessment as to their viability as an activity under the Emissions Reduction Fund.

#### **Application of the determination**

The Determination sets out a method for estimating abatement from eligible animal effluent management projects. The project activity will result in a net reduction of greenhouse gas emissions from the management of animal effluent that results in either emissions avoidance or emissions destruction. The Determination sets out the detailed rules for implementing and monitoring animal effluent management offsets projects.

Proponents are encouraged to read this Determination in combination with the Supplement, the *Carbon Credits (Carbon Farming Initiative) Act 2011* (the **Act**), the [Carbon Credits \(Carbon](#)

[Farming Initiative\) Rule 2015](#) and the [Carbon Credits \(Carbon Farming Initiative\) Regulations 2011](#) (the **Regulations**).

This Determination reflects the requirements of the Act's offsets integrity standards, which aim to ensure carbon abatement is real and additional to business as usual. The offsets integrity standards require that an eligible project results 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 require that:

- activities are additional to those that would normally occur;
- abatement contributes to meeting Australia's international mitigation obligations;
- amounts resulting from undertaking the project activity 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 and projections used in a methodology determination are conservative.

Project proponents wishing to implement projects under this Determination must make an application to the Regulator under section 22 of the Act. Project proponents wishing to transfer their project to this Determination can do so by applying to the Regulator under section 128 of the Act. Proponents must also meet the general eligibility requirements for an offsets project set out in subsection 27(4) of the Act, which include compliance with any additional requirements set out in this 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.

### **Public consultation**

The determination has been developed by the Department in consultation with the Regulator and in accordance with advice from technical experts in the field of animal effluent management and carbon dynamics.

The Department held two Technical Working Group (TWG) meetings between June, 2017 and January, 2019 to provide scientific advice on key aspects of the method, and review draft versions of the determination. In addition, the Department contracted experts to provide ongoing technical advice during method development.

The Emissions Reduction Assurance Committee (ERAC) is consulting on the draft Carbon Credits (Carbon Farming Initiative-Animal Effluent Management) Methodology Determination 2019.

Submissions will assist ERAC in providing advice to the Minister for the Environment on whether the draft method meets the [Offsets Integrity Standards](#).

Stakeholders are encouraged to submit views on any part of the draft method documents. In particular, this draft explanatory statement raises a number of issues for consideration including:

1. In making a new method, the Minister for the Environment considers a range of factors including whether an activity under a method could have any adverse social, environmental or economic impacts. Do you consider the draft method may have any adverse social, environmental or economic impacts? If yes, what are these potential impacts and are there any existing or new measures that could be adopted to mitigate these impacts?
2. The draft method includes the use of a subsidiary document, the draft Supplement, which together with the draft Determination, outlines to project proponents the requirements and approaches to implement the draft method. This approach differs from existing animal effluent methods.
  - a) *Is it clear how to use the draft Determination and the draft Supplement? Why/ Why not?*
3. The draft method allows for eligible projects that are registered under the three existing methods for the management of animal manure from intensive piggery and dairy facilities, to transfer to the new method, if they wish. It is proposed that these three methods will be revoked if the draft method is made.
  - a) *Do you have views on why any of the three existing methods should not be revoked?*
  - b) *If you have a project registered under an existing animal manure management method, are you likely to transfer your project to this draft method? Please provide reasons for why you would or would not transfer.*
4. The draft method is seeking to overcome some of the barriers to uptake of the existing animal manure management methods. The draft method aims to improve on the existing methods by;
  - i. broadening the scope of eligible activities to include emissions avoidance activities (only emissions destruction activities are currently eligible);
  - ii. simplifying estimates of the net abatement amount to remove unnecessary complexity; and
  - iii. no longer requiring the need for calculating the baseline threshold using complex tools.
  - a) *Do you think the draft method is likely to increase uptake of animal effluent management projects? Please provide reasons for why/why not.*
5. Solids separation devices

Stakeholders are encouraged to submit views on whether the proposed provisions regarding pre-existing unused solids separation devices are appropriate, particularly in relation to whether the use of existing SSDs aligns with the Offsets Integrity Standard that an eligible activity needs to be 'additional' and not 'business as usual'.

Emissions avoidance activities reduce methane emissions by using solids separation devices (SSD) to divert volatile solids away from uncovered anaerobic ponds.

Advice from stakeholders identified circumstances where facilities may have existing SSDs but have not been using them in recent years for a range of reasons – such as high repair or maintenance costs.

The draft method includes provisions (section 11) that allow for pre-existing SSDs to be considered as new – if they have not been used during the three years prior to the section 22 application date and have not been used since 1 January 2019.

In answering, please consider:

- a) why facilities own solid separation devices;*
- b) what would incentivise recommencing use of solid separation devices; and*
- c) what evidence is available to demonstrate that devices have not been used and there is no intention to use them?*

#### 6. Crediting period lengths

Some existing animal effluent management projects will soon trigger a Crediting Period Extension Review (CFI Act s 255A). The appropriate length for the crediting period for each eligible project activity is being considered during drafting of this draft method. The draft method proposes crediting lengths that range from 7 to 12 years, depending on the activity. One option for the proposed lengths of crediting periods is provided in section 17 of the draft Determination.

- a) Do you think the approach for crediting periods in section 17 of the draft Determination is appropriate? Please provide reasons for why/why not.*
- b) Is there an alternate approach that may be more appropriate?*

#### 7. Definitions - ‘Emissions destruction’ and ‘emissions avoidance’

The draft method credits abatement for ‘emissions destruction’ and ‘emissions avoidance’ projects:

- ‘Emissions destruction’ activities remove methane by capturing and combusting biogas that is generated from the anaerobic digestion of effluent. This process potentially allows the generation of electricity and heat that can be used on-farm, and excess electricity could be supplied to the grid.
- ‘Emissions avoidance’ activities reduce methane emissions by using solids separation devices (SSD) to divert volatile solids away from uncovered anaerobic ponds. Solids are then stored in aerobic stockpiles or as compost, thus producing less methane.

Both types of projects are classed as ‘emissions avoidance’ offsets projects under the Carbon Credits (Carbon Farming Initiative) Act 2011.

- a) Is the terminology for ‘emissions destruction’ and ‘emissions avoidance’ clear in the draft method? Could the terminology potentially cause any misunderstanding? Please provide an explanation for your response.*

‘Project facility’ and ‘treatment facility’

The draft method uses the terms ‘project facility’ and ‘treatment facility’ to distinguish between a facility that undertakes an ERF project (project facility) and a facility that treats animal effluent (treatment facility) whether or not it is part of an ERF project. A

‘project facility’ is always a treatment facility. Both terms are defined in the draft Determination – in sections 5 and 7.

*b) Are the terms ‘project facility’ and ‘treatment facility’ sufficiently clear in the draft method? Why / Why not?*

8. Default methane-producing capacity values in Schedule 1 of the draft Supplement to the draft method.

The Offsets Integrity Standards include that net abatement estimates must be conservative. The draft Supplement provides the input data and measurement approaches that must be used by proponents when estimating abatement.

Schedule 1 of the draft Supplement sets out the default methane producing capacity values of volatile solids of different types of listed ‘eligible’ and ‘ineligible’ materials. These default values are used in equations 7 and 12 for ‘eligible’ materials and equation 8 for ‘ineligible materials’.

To ensure net abatement estimates are conservative, rather than using a single value for each material, a high value is used for each ‘ineligible’ listed material type and a low value is used for each ‘eligible’ material type. In this way, estimates of emissions from ‘ineligible’ material will be greater than those from ‘eligible material’ and thereby conservative. All values are in the normal range for the listed materials.

Stakeholders are encouraged to submit views on whether this approach is appropriate or an alternative approach could also result in conservative estimates of net abatement. One alternative approach could be to use a value for ‘eligible’ material and discount this by a defined percentage for ‘ineligible’ material.

*a) Is the approach in Schedule 1 of the draft Supplement appropriate? Why / why not?*

*b) Would an alternative approach – where all values for the ineligible material are discounted by a defined amount to determine the value for eligible material – be more appropriate? If so, what should the discount factor be, and what evidence supports this?*

*c) Is there another alternative approach that could be used that would also result in conservative estimates of net abatement? Please describe and provide evidence to support the proposed approach.*

9. Use of emissions intensity electricity factors to calculate emissions used from purchased electricity (for project emissions).

The Offsets Integrity Standards include that all project emissions must be deducted when calculating net abatement estimates; and that abatement estimates must be conservative. Section 31 of the draft Determination calculates the emissions from purchased electricity. These calculations use the factor, EFPE taken from the National Greenhouse Accounts (NGA) Factors document for the relevant electricity grid. Other ERF methods, and the draft Determination, use the value for the factor relevant for the day the project was declared an eligible offsets project. This approach provides business certainty when forecasting and estimating net abatement.

Recent improvements in emissions intensity for electricity generation have meant that the value of this factor has declined and is expected to decline further over the next

decade. Using a lower emissions intensity value reduces the estimate of project emissions, resulting in a higher value for net abatement. We are seeking comment as to whether it is viewed as more appropriate to include in the draft Determination, reference to the value for EFPE taken from the NGA Factors document;

- a) at the time the project was declared an eligible offsets project;*
- b) from the most recent version of the document available at the end of each reporting period;*
- c) using the factor applicable to each financial year (which could change over a reporting period that crossed over financial years);*
- d) using the average of the factors applicable at the start and end of the reporting period; or*
- e) using another conservative approach.*

### **Determination details**

Details of this Determination are at Attachment A. Numbered sections in this Explanatory Statement align with the relevant sections of this Determination.

This Determination, once made, will be a legislative instrument for the purposes of the *Legislation Act 2003*. This Determination would commence on the day after it is registered on the Federal Register of Legislation.

For the purpose of subsections 106(4), (4A) and (4B) of the Act, in making the Determination the Minister has had regard to, and agrees with, the advice of the Emissions Reduction Assurance 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.

Details of the operation of the Supplement to the Determination are at Attachment B. The Supplement sets out input data and measurement approaches required by the Determination. It also provides additional detail of requirements as set out in the Determination. The most current version of the Supplement available at the end of the reporting period must be used by proponents when estimating abatement for the entire reporting period.

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

This Determination expires when it is either revoked under section 123 of the Act, or on the day before it would otherwise be repealed under the *Legislation Act 2003*, whichever happens first. Under subsection 50(1) of that Act, a legislative instrument such as the Determination is repealed on the first 1 April or 1 October falling on or after the tenth anniversary of registration of the instrument. For example, if the Determination is registered on a day in the month of February 2018, it would expire on 31 March 2028.



## **Details of the Methodology Determination**

### **Part 1 - Preliminary**

#### **1 Name**

Section 1 sets out the full name of this Determination, which is the *Carbon Credits (Carbon Farming Initiative – Animal Effluent Management) Methodology Determination 2019*

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

Subsection 106(1) of the Act provides that the Minister may, by legislative instrument, make a certain type of determination. Subsection 106(2) of the Act specifies that the determination is to be known as a **methodology determination**. Subsection 106(8) of the Act allows the instrument to incorporate other instruments or writing as in force from time to time.

#### **4 Duration**

Under subparagraph 122(1)(b)(i) of the Act, a methodology determination remains in force for the period specified in the Determination.

This section provides that this Determination would remain in force from commencement until the day before it would otherwise be repealed under subsection 50(1) of the *Legislation Act 2003*.

Instruments are repealed under that provision on either 1 April or 1 October following the tenth anniversary of registration on the Federal Register of Legislation. Paragraph 4(b) ensures that this Determination, once made, would 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 in accordance with section 123 during a crediting period for a project to which the Determination applies, it 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 ERAC may also suspend the processing of applications under a determination if there is reasonable evidence that the methodology 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 offsets projects which apply the determination.

#### **5 Definitions**

Section 5 defines a number of terms used in the Determination. A number of terms not defined in section 5 (but used in this Determination) are defined in the Act.

Under paragraph 13(1)(b) of the *Legislation Act 2003* and section 23 of the *Acts Interpretation Act 1901*, unless the contrary intention appears, words in this Determination in the singular number include the plural and words in the plural number include the singular.

The following should be noted about certain defined terms in the Determination:

In section 5 of this Determination, a *project facility* is defined as a treatment facility that has been registered under the project. An eligible *animal facility* is defined as being either a piggery or a dairy. *Treatment facilities* are defined in section 7 of this Determination as any animal effluent waste facility that treats organic effluent by emissions destruction, emissions avoidance or both. Accordingly, the boundary of the ‘treatment facility’ which becomes a ‘project facility’ when part of the project may not include the eligible animal facilities which supply effluent to be treated. Stakeholders are encouraged to submit any views on whether these concepts are understandable or could do with further clarification.

The *Supplement to the Carbon Credits (Carbon Farming Initiative—Animal Effluent Management) Methodology Determination 2019* (The **Supplement**) accompanies this Determination. This document must be used by proponents when estimating abatement. This document includes:

- further definitions of factors and parameters referred to in the Determination;
- details of how to calculate input parameters referred to in the Determination;
- requirements for measuring factors relevant to the estimation of the net abatement amount;
- details of record-keeping and monitoring requirements;
- default methane-producing capacities for different types of eligible and ineligible material;
- information on solids separation technologies; and
- the process for updating the Supplement.

Project proponents must ensure they always use the latest version of the Supplement document, as in force at the end of the offsets reporting period, in accordance with section 6 of the Determination, subsection 106(8) of the Act and subsection 14(2) of the *Legislation Act 2003*. The *Supplement* can be accessed at <http://environment.gov.au>.

## **6 References to factors and parameters from external sources**

Subsection 6(1) provides that factors and parameters referred to in the Determination and the Supplement accompanying the Determination that are required to be sourced from external documents, must be taken from the version of the relevant external document that is in force on the last day of the relevant offsets reporting period for the project. At the time of publication this included the version of the Supplement, National Inventory Report, and *National Greenhouse and Energy Reporting Regulations 2008* that are in force at that time. These are available from the Federal Register of Legislation.

The effect of subsection 6(1) is that if those instruments are amended during a project’s offsets 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.

Subsection 6(2) states that subsection 6(1) does not apply if this Determination stipulates otherwise, or if it is not possible to define or calculate these parameters by reference to the relevant external documents. An example of circumstances where this may occur is where the measurement approach defined in an external source is amended to require additional or different measurement practices after the reporting period has commenced. In this circumstance it is not possible to undertake measurement activities retrospectively in accordance with the new requirement.

As provided for by section 10 of the *Acts Interpretation Act 1901* and section 13 of the *Legislation Act 2003*, references to external documents which are legislative instruments (such as the *National Greenhouse and Energy Reporting Regulations 2008*) are to versions of those instruments as in force from time to time. In circumstances where paragraph 6(2)(b) of the determination applies, it is expected that project proponents will use the version of instruments in force at the time at which measurement or other actions were conducted.

## **Part 2      Animal effluent management projects**

### **7      Animal effluent management projects**

Paragraph 27(4)(b) of the Act provides that the Regulator must not declare that an offsets project is an eligible offsets project unless satisfied that it is covered by a methodology determination. Paragraph 106(1)(a) of the Act provides for methodology determinations to specify the kind of offsets projects to which they apply.

Subsection 7(5) provides that the Determination applies to an offsets project that satisfies each of subsections 7(1), (2), (3) and (4). An offsets project that satisfies each of these is an ***animal effluent management project***.

Subsection 7(2) defines a ***treatment facility*** as a facility that treats organic effluent either by emissions destruction, emissions avoidance or through both these mechanisms. A treatment facility must undertake one or both of these activities. Accordingly, it is possible for a facility to combine emissions avoidance and emissions destruction.

A note to this subsection explains that when a treatment facility is used to fulfil an eligible activity under an animal effluent management project the facility becomes known as a project facility, as defined in section 5.

Subsection 7(3) specifies that emissions destruction treatment facilities must generate biogas from animal effluent and capture and destroy the methane present in the biogas.

Subsection 7(4) specifies that emissions avoidance treatment facilities must divert or remove volatile solids from animal effluent and treat the volatile solids aerobically in a way that results in fewer emissions of methane than would occur if the volatile solids were only treated in an anaerobic pond (a ***post-diversion treatment***). Accordingly, if the post diversion treatment, such as composting by passive windrow, is conducted in a way that results in anaerobic creation of methane it would not be eligible under the Determination.

## **Part 3 – Project requirements**

### **8 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. Section 8 provides that Part 3 of this Determination sets out requirements for the purpose of paragraph 106(1)(b) of the Act.

### **9 Project facility must be identified in section 22 application**

Section 9 specifies details regarding the project facility that are required for the section 22 application. Provisions in this section do not apply to projects that are transferring, and have used a section 128 application to transfer to this Determination.

The section 22 application must specify one or more facilities to be included as eligible project facilities (see section 5) under the project.

Details of each facility that must be included in the section 22 application include:

Paragraph 9(a) requires a brief description of each facility. This must include the type of facility and details of how animal effluent is treated at the facility to either avoid emissions or destroy emissions.

Paragraph 9(b) requires that the geographic location of each facility must be provided.

Paragraph 9(c) requires that the capacity of each facility must be provided, including any metrics related to the facility. The Supplement provides details of the metrics that must be used and how to define the capacity of different facilities.

Paragraph 9(d) provides that the project proponent also must include any known proposals for the expansion of the facility over the course of the project in their section 22 application.

Paragraph 9(e) requires the proponent to describe how they expect that the use of the facility during the project period will comply with the requirements under this Determination. This provision demonstrates to the Regulator that the proponent is able to comply with the requirements of this Determination.

Paragraph 9(f) requires avoidance projects to describe the proposed solid separation devices to be used and the post-diversion treatments to be applied. This will allow the Regulator to assess whether such approaches are likely to comply with subsection 7(4).

A note to this section clarifies that after the project has commenced, it is possible to add further project facilities during the project period. Any project facilities added after the commencement of the project must meet the eligibility requirements set out in Part 3 of this Determination, and must comply with the provisions in Part 5 of this Determination. Abatement generated from project facilities added after the commencement of the project will only be credited from the date on which the facility was declared as having been added to the project.

### **10 Project facilities must not be pre-existing**

Subsection 10(1) precludes pre-existing projects from being eligible under this Determination. Subsection 10(1) requires that each project facility included in the project must not have been

operating prior to the date of the section 22 application. This provision ensures that net abatement calculated from projects under this Determination is only crediting new abatement that has occurred as a result of undertaking the project.

A note under this subsection provides that each project facility in the project must meet the newness requirements as specified in subparagraph 27(4A)(a)(i) of the Act as varied by section 11.

Exceptions to this provision are provided for in subsections 10(2) and 10(3).

Subsection 10(2) provides an exception to the provision in subsection 10(1).

Paragraph 10(2)(a) permits the inclusion in a project of a facility, or parts of a facility, that was operational prior to the date on the section 22 application, only if it formed part of a pilot or trial project.

Paragraph 10(2)(b) provides for some circumstances when a facility or part of a facility can be considered as eligible, if it uses pre-existing solids separation devices. Paragraph 10(2)(b)(i) requires that, to be eligible, the provisions in both subparagraphs 10(2)(b)(i) and 10(2)(b)(ii) must have been met. Subparagraph 10(2)(b)(i) requires that pre-existing solids separation devices cannot have been used at any time during the three years prior to the date that the section 22 application was made. Subparagraph 10(2)(b)(ii) requires that any pre-existing solids separation devices cannot have been used since 1 January 2019.

Subsection 10(3) sets out requirements that must be fulfilled as part of the section 22 application if the project facility includes pre-existing solids separation devices. If the facility was added after the project commenced, then this information must be provided in the first offsets report after the facility was added to the project. In these situations, subsection 10(3) requires that a signed statement from the owner of the device must be provided that verifies that the device has not been used during the 3 years before the date the section 22 application was made (subparagraph 10(3)(a)(i)) and since 1 January 2019 (subparagraph 10(3)(a)(ii)). The owner must also provide a statement that, in the absence of the project, the device would continue to be unused (paragraph 10(3)(b)). Paragraph 10(3)(c) requires that this statement must also set out the reasons as to why the solids separation device has not been used and why, in the absence of the project, the solids separation device would continue to be unused during the project's anticipated crediting period. Owners making such statements should be aware of the potential consequences of making false or misleading statements and documents under sections 137.1 and 137.2 of the Criminal Code which are in addition to the consequences for the project proponent of providing false or misleading information under section 88 of the Act.

Subsection 10(4) sets out requirements for projects that are transitioning from a former determination to this Determination. In this situation, projects are eligible only under this Determination if they were undertaking an animal effluent activity under a former determination that was declared an eligible offsets project under the former determination. In addition, the Regulator must have approved an application under this Determination to be an eligible offsets project.

If one or both of the provisions in subsection 10(4) is not met, then the transitioning project is not an eligible offsets project.

## **11 Requirements in lieu of newness for certain projects**

Section 11 specifies a requirement in lieu of newness for emissions avoidance project facilities that operate one or more solids separation devices that pre-existed prior to project registration. These project facilities are considered new, provided that the solids separation device has not been used during the three years prior to the section 22 application (subparagraph 10(3)(a)(i)) and since 1 January 2019 (subparagraph 10(3)(a)(ii)). Note that projects can include both emissions avoidance and emissions destruction and this section applies to any project including emissions avoidance (whether or not it also does emissions destruction).

## **12 Project source must be identified in section 22 or 128 application**

Section 12 specifies that the section 22 application or the section 128 application must provide details regarding each of the eligible animal facilities that are anticipated to provide eligible material for the project. Each facility providing source material for the project may be located at the site of the project facility. Alternatively, the facility providing source material may be located at a different site, with source material being transported to the project facility.

Section 12 requires the following information be provided in either the section 22 application or the section 128 application regarding the facility from which material has been sourced and used in the project.

Paragraph 12(a) requires that the section 22 or section 128 application include the address and a brief description of each facility from which material will be sourced and used in the project facility. The brief description of the source facility should include the type of facility and the nature of the organic material that is being sourced from the facility and being treated in the eligible project facility. The source may be located at the same facility as the project facility, or may be a facility remote from the project facility.

Paragraph 12(b) requires that the section 22 or section 128 application must include sufficient detail that demonstrates that the organic material from the source facility is expected to be eligible material that meet the eligibility requirements as set out in section 15 of the Determination. Evidence as defined in subsection 15(2) must be supplied with the application.

Paragraph 12(c) requires that the anticipated quantities of eligible organic material that will be provided to each project facility over the duration of the project be provided in the section 22 or section 128 application.

A note to this section clarifies that effluent may be added from additional eligible animal facilities at any time during the project, provided that the provisions set out in this section and in Part 5 of this Determination have all been met.

## **13 Treatment facility—emissions destruction**

Section 13 sets out the requirements for undertaking eligible emissions destruction activities for animal effluent management offsets projects. These requirements ensure that project proponents undertake the eligible management activity as intended.

Subsection 13(1) provides that each emissions destruction project facility must use one or more anaerobic digesters to generate and capture the biogas. In addition, subsection 13(1) requires that these project facilities must use one or more combustion devices to destroy the portion of the biogas that is methane.

Emissions destroyed are calculated in Part 4 of this Determination, and are determined from the amount of biogas that is methane that has been captured and destroyed, or the amount of electricity generated as a result of the destruction of methane.

Section 5 of the Determination provides a definition for combustion devices that includes boilers, flares and other devices that destroy methane. This definition requires the facility to operate in accordance with the manufacturer's instructions. Complete combustion is defined in section 5 as the combustion of 98% or more of the methane that is captured, or any other threshold specified in the Supplement.

Section 5 of the Determination provides a definition for an anaerobic digester. An anaerobic digester is a system that consists of a closed unit, or a set of closed units which may include equipment for heating and stirring. This definition provides that the system must anaerobically digest organic matter to generate biogas that is then collected and transferred to a combustion device. The definition of an anaerobic digester only includes a covered anaerobic pond that may or may not have heating or stirring equipment.

Subsection 13(2) requires that there must be complete combustion of methane in each combustion device that is operated as part of the project.

Subsection 13(3) defines the requirements for a combustion device that include a flare. These requirements ensure that the device is operated in a manner that results in the combustion of methane to the extent assumed by the abatement calculations.

Paragraph 13(3)(a) requires that the design of the flare, when operational, must ensure the continuous destruction of methane in the project facility.

Paragraph 13(3)(b) requires that the flare includes a system, consistent with the Supplement, that detects and records when the flare is operational. Projects are required to monitor the use of flares consistent with section 41 of this Determination.

These provisions discourage ineligible emissions that may result from non-operational combustion devices. Combustion devices must result in complete combustion of methane when they are operating. Further, monitoring of devices detects period of non-operation, and does not credit abatement for these periods. The Supplement specifies the minimum period of non-operation of combustion devices that will result in no abatement being credited.

#### **14 Treatment facility—emissions avoidance**

Section 14 provides the requirements for conducting eligible animal effluent management emissions avoidance activities. These requirements ensure that project proponents undertake the eligible management activities as intended.

Subsection 14(1) provides the requirements for treatment of animal effluent by emissions avoidance.

Paragraph 14(1)(a) requires that a solids separation method of diversion must be used to divert the solids from the organic effluent stream in emissions avoidance projects. The method used to separate the solids from the effluent stream must be consistent with the requirements defined in the Supplement.

There are various methods used for separating solids from organic effluent that generally rely on a gravitational process and/or a mechanical device. These methods can be grouped according to their basic removal mechanism:

Gravitational settling

Perforated screens and presses

Centrifugal separation

Dissolved Air Flotation

Chemical flocculation

Combined systems

The efficiency of each system depends on the flow rate of the animal effluent, its solids concentration, the shape and size distribution of the particles, and their chemical nature.

Paragraph 14(1)(b) requires that a post-diversion treatment is applied that involves either storage of solid effluent in stockpiles (subparagraph 14(1)(b)(i)) or composting the solid effluent by field application (subparagraph 14(1)(b)(ii)). The terms ‘stockpiles (solid storage)’ and ‘composting (passive windrow)’ are defined in section 5. In particular:

stockpiles (solid storage) requires the storage of solid material diverted as part of an animal effluent management project in a heaped pile that is not turned.

composting (passive windrow) requires the treatment of solid material diverted as part of an animal effluent management project aerobically in a pile or windrow (a line of heaped material) that is passively managed and not mechanically aerated.

Treatment of organic effluent in accordance with subsection 14(1) is defined as a ***treatment method*** (subsection 14(2)).

## **15 Eligible material**

Subsection 15(1) defines ***eligible material*** for the purposes of the Determination. Eligible material is defined as organic effluent that meets a number of requirements.

Paragraph 15(1)(a) defines how the eligible material must be produced.

The eligible material must be produced by either an eligible animal facility (subparagraph 15(1)(a)(i)), as defined by section 5 of the Determination, or a facility that produces materials of one or more listed types as a waste stream (subparagraph 15(1)(a)(ii)). Listed types are defined in section 5 of this Determination as a type of material whose default methane-producing capacity is specified in the Supplement. These are found in Schedule 1 of the Supplement.

Listed types in the Supplement includes eligible material being treated in an emissions avoidance project. The methane-producing capacities of these listed types are used to estimate the gross emissions avoided (see section 25 of this Determination).

For emissions destruction projects, emissions destroyed from eligible material are calculated from the amount of biogas produced or the amount of electricity generated as a result of the combustion of methane (see section 24 of this Determination). For these activities, materials of listed types are only relevant for calculating emissions resulting from the combustion of ineligible material (see section 26 of this Determination), which are deducted from the gross abatement.

Paragraph 15(1)(b) defines what the eligible material must consist of.



Subparagraph 15(1)(b)(i) requires that eligible animal effluent must consist of animal effluent.

Alternatively, subparagraph 15(1)(b)(ii) provides that eligible material must satisfy three conditions. These conditions are:

- the eligible material must predominantly consist of materials of one or more listed types;
- if the eligible material contains material of another (i.e. non listed) type, then this material must contribute no more than 2% of the methane avoided or combusted by the project facility; and
- the eligible material must not have been diverted from a facility that is part of an eligible offsets project related to the avoidance of methane emissions.

All three defined criteria in subparagraph 15(1)(b)(ii) must be met for the organic material to be defined as eligible material under this provision.

Paragraph 15(1)(c) requires that the eligible material would have been produced and treated in an anaerobic pond if the project did not occur. The intent of this provision is to ensure that abatement resulting from undertaking the project activity is additional to that which would have occurred in the absence of the project. Accordingly, the same type of material, such as piggery effluent, coming to a project could be eligible whether it was ordinarily going into an anaerobic pond at a particular site, but ineligible when sourced from an animal facility at another site that already treated the effluent in a digester.

Subsection 15(2) provides additional requirements to demonstrate evidence that the eligible material would have been treated in an anaerobic pond in the absence of the project. This evidence must include one or more of the following:

- evidence that for the 12 months prior to being part of the project, the organic effluent was treated in an anaerobic pond; or
- if the Supplement specifies a particular effluent type—evidence that the material would have been treated in an anaerobic pond consistent with the requirements of the Supplement, and that satisfies the Regulator. It is intended that without a history of material going to a anaerobic pond, only a limited range of effluent streams could provide sufficient evidence that an anaerobic pond would be used. Piggery effluent is intended to be included in the initial Supplement. Stakeholders are encouraged to provide evidence that a new facility treating other types of waste would also install an anaerobic pond.

This Determination permits solids to be separated from an effluent stream and treated consistent with the requirements for eligible emissions avoidance projects. The solids removed when undertaking an eligible emissions avoidance activity cannot be diverted into an emissions destruction facility. In contrast, the liquid waste resulting from this separation can be diverted into an emissions destruction facility that produces biogas and combusts the methane in the biogas. The liquid waste has not contributed to the net abatement amount as a result of undergoing an eligible emissions avoidance activity. This process accounts for removal of methane by both emissions avoidance and emissions destruction.

There are three notes that provide further information regarding the provisions in section 15.

Note 1 confirms that ineligible material can be processed in emissions destruction project facilities. The methane-producing capacity of the ineligible material are subtracted from the

gross abatement determined from undertaking the activity using equation 2 in section 22 of this Determination. Section 22 provides a high estimate of methane emissions from ineligible material. This ensures that when they are subtracted from gross abatement, a conservative estimate of net abatement is achieved. The exclusion of methane destruction from ineligible material from the net abatement amount means that credits are only received for the emissions destroyed from eligible material.

In practice, it is expected that ineligible material will be included in project facilities only in small quantities, and where the cost or inconvenience of separating it from the eligible material would outweigh the likely loss of abatement credits.

Note 2 confirms that the material in a waste stream from a project source is only eligible if it is produced by the normal operation of the eligible animal facility as defined by section 5 of this Determination. Therefore, this eligible material would only include incidental amounts of ineligible material such as feed waste.

Note 3 further clarifies the evidence required to satisfy the Regulator that material that would have been treated in an anaerobic pond in the absence of the project, may differ between new project facilities and treatment facilities that are changing their approach to treating effluent as a result of undertaking the project. For instance, where a pond does not exist evidence is likely to be required that a pond would be built should the project not go ahead. This is dealt with in the Supplement.

## **16 Restrictions on treatment of ineligible material**

Section 16 contains a number of restrictions on the use of ineligible material that are relevant to whether the project is an eligible offsets project and also whether credits are issued for a reporting period. Importantly, subsection 21(2) has the effect that non-compliance with this section can result in no credits being issued for a reporting period.

Subsection 16(1) defines ineligible material as material that is not defined as eligible material in accordance with section 15. Importantly, all of the requirements under section 15 need to be met for the material to be eligible, which means that same type of material might be eligible in some case, but ineligible in others.

A note under subsection 16(1) further clarifies ineligible material as being either organic material that does not satisfy the definition of eligible material in section 15, or other organic material. Ineligible material must not affect the treatment ability of the project facility.

Subsection 16(2) requires that project facilities that treat material by emissions avoidance cannot include ineligible material in the effluent stream entering the project facility. This applies whether or not the project facility also does emissions destruction.

A different proportion of volatile solids is separated from different materials using solids separation devices. It is not possible to determine the amount of volatile solids produced from each type of material entering the solids separation device. For example, ineligible material may only represent 10% of the combined material that enters the project facility and is treated in the diversion device. However 50% of the volatile solids diverted may come from ineligible material. Therefore, this means that it is not possible to determine the proportion of volatile solids that should be attributed to eligible and ineligible material if both enter an emissions avoidance project facility. For this reason, ineligible material is excluded from emissions avoidance projects, as the net abatement amount cannot be reliably estimated.

Subsection 16(3) requires that ineligible material can only be combined with eligible material under the Determination if all four provisions are applicable.

- Paragraph 16(3)(a) provides that ineligible material can only be included in a waste stream entering an emissions destruction project facility;
- Paragraph 16(3)(b) requires that the inclusion of ineligible material with the eligible material has no significant adverse effect on the operation and performance of the project facility. The intent of this provision is to ensure that abatement estimates remain robust and are consistent with the calculations required by the Determination, and that the Determination continues to meet the offsets integrity standards;

A note under this paragraph clarifies that a significant adverse effect includes increasing emissions or results in adverse secondary environmental effects such as producing undesirable odours. The inclusion of paragraph 16(3)(b) also serves to exclude project facilities that are deemed to have adverse environmental impacts because of the use of ineligible material.

- Paragraph 16(3)(c) requires that the quantity of ineligible material must be determined before it is combined with the eligible material. In addition, the methane-producing capacity of the measured ineligible material must be determined by either reference to the listed types defined in the Supplement (subparagraph 16(2)(c)(i)), or measured prior to being combined with the eligible material in accordance with the Supplement (subparagraph 16(2)(c)(ii)); and
- Paragraph 16(3)(d) requires that the methane potential of all ‘inconsistent material’ is less than 5% of the methane potential of all eligible and ineligible material that enters the project facility.

All four of these provisions must be met for ineligible material to be included in a waste stream that contains eligible material and is being treated by the project facility.

Section 16(4) defines ineligible material as being *inconsistent material* if its methane-producing capacity, when measured in accordance with the Supplement, varies by more than 40% between each measurement. The intent of this provision is to make sure that net abatement estimates remain robust, credible and conservative – consistent with the offsets integrity standards defined in section 133 of the Act.

A note under this subsection requires that under section 9 of the section 22 application, proponents must explain the basis upon which this requirement is expected to be met when the project is operational.

The method does not include a cap on the amount of ineligible material that can be added to a destruction project. This is because methane emissions from ineligible material are deducted from the gross abatement. Section 24 estimates the methane emissions from ineligible material assuming that the methane-producing capacity of volatile solids is equal to one. The methane-producing capacity of most materials is generally a value less than one. Assuming that the methane-producing capacity is equal to one for ineligible material results in a high estimate of methane emissions from ineligible material. As this value is deducted from the gross abatement, it results in a conservative estimate of the net abatement amount. The higher the proportion of ineligible material in the waste stream, the more conservative will be the estimate of the net abatement amount. This means that when ineligible emissions reach 50% of gross abatement, the net abatement amount reaches zero and no credits can be claimed. The

deduction of project emissions from gross abatement will mean that zero net abatement will be achieved when slightly less than 50% of gross emissions can be attributed to ineligible material.

If projects choose to include high amounts of ineligible material in their waste stream to increase the production of electricity, then they will receive only a small number or no carbon credits.

#### 17 Crediting period for certain projects

Subsection 17(1) identifies the parts of the Act that allow method determinations to define an alternate length for the crediting period rather than the default. For this Determination, eligible projects that do not generate electricity have a crediting period length of 12 years. This is consistent with the findings of the Emissions Reduction Assurance Committee in their review of the landfill gas method. It reflects the fact that without electricity generation there is no direct revenue stream from the activity to support its continued implementation.

Subsection 17(2) provides some exceptions to the provision in subsection 17(1). This subsection provides for projects that commenced without generating electricity, and then commenced generating electricity after the eighth year of the crediting period (paragraph 17(2)(a and b)). In these situations the crediting period will end at the end of the first financial year in which electricity generation commenced.

Subsection 17(3) provides for situations where an eligible offsets project commenced by flaring, and commenced generating electricity in a subsequent project year and continues to generate electricity in each year of the crediting period. In these situations, the length of the crediting period is specified as the shorter of 9 years (paragraph 17(3)(f)) or 7 years plus the length of time between the day when the crediting period started and the day the project first used biogas to generate electricity (paragraph 17(3)(f)). This recognises the common practice of testing the gas supply by flaring before installing generation equipment and is similar to the situation in the landfill gas industry. For example, if a flaring project commences generating electricity in the 3<sup>rd</sup> year of its crediting period, the project's new crediting period will be the lesser of 9 years or 7 years plus 3, and will accordingly be 9 years. Alternatively, a project that flared for 10 months before generating electricity would have a crediting period of 7 years and 10 months. This subsection is limited to new projects to ensure that it encourages additional abatement from the longer crediting period.

## **Part 4 Net abatement amounts**

### **Division 1 Operation of this Part**

#### **18 Operation of this Part**

For paragraph 106(1)(c) of the Act, this Part specifies the method for working out the net abatement amount for a reporting period for an animal effluent management project that is an eligible offsets project.

#### **19 Overview of gases accounted for in abatement calculations**

Section 19 describes the emissions sources that need to be assessed in order to determine the total net abatement amount resulting from the project activity.

The gases that need to be taken into account when calculating abatement are:

- methane emissions resulting that are either destroyed by the collection and combustion of methane, or avoided by the diversion of volatile solids from an anaerobic pond in accordance with this Determination;
- methane emissions from the destruction of ineligible material in the waste stream;
- methane, nitrous oxide and carbon dioxide emissions from the use of fuel in activities required to undertake the project activity. This will include emissions from transporting material to the project facility, and fuel used for other parts of the application of the eligible project activity;
- methane, nitrous oxide and carbon dioxide emissions from the consumption of electricity to conduct activities required to undertake the project activity; and
- methane and nitrous oxide emissions arising from the post-diversion treatment of material diverted in an emissions avoidance project facility.

A number of emissions sources are excluded from the estimation of the net abatement amount in the Determination for the following reasons:

- In calculating gross abatement, nitrous oxide emissions from the treatment of organic effluent in an anaerobic digester are excluded for reasons of both immateriality and simplicity.
- Nitrous oxide emissions from the combustion of biogas and the post treatment of ineligible material in methane destruction projects are excluded as they are considered immaterial.
- Carbon dioxide emissions from the treatment of organic effluent and the combustion of biogas from eligible and ineligible material are excluded. These emissions have a biogenic origin (originate from organic material) and so are not counted towards Australia's national greenhouse gas accounts as they originate from organic material.
- Emissions from the construction and transport of building materials, the demolition of the deep uncovered anaerobic pond and emissions associated with the construction of project facilities are excluded as they are outside the emissions boundary for the eligible activities in this Determination.

## **Division 2     Method for calculating net abatement amount**

### **20             Summary**

This section provides a simplified outline of this Part. While simplified outlines are included to assist readers to understand the substantive provisions, the outlines are not intended to be comprehensive. It is intended that readers should rely on the substantive provisions.

The carbon dioxide equivalent net abatement amount is estimated by summing the net abatement that have been estimated separately for each project facility included in the project (See Figure 1 and Table 1).

For each project facility, the gross abatement amount is calculated as the methane that was either destroyed by the combustion of methane in generated biogas or avoided by the diversion of volatile solids from an anaerobic pond.

For each project facility, the net abatement amount is estimated by deducting from the gross abatement amount all methane emissions resulting from the combustion of methane emitted from the anaerobic digestion of ineligible material (for emissions destruction projects only) and all project emissions of methane, nitrous oxide and carbon dioxide from fuel use and electricity use resulting from undertaking the project, and from methane and nitrous oxide produced as a result of the post-diversion treatment of material in emissions avoidance projects.

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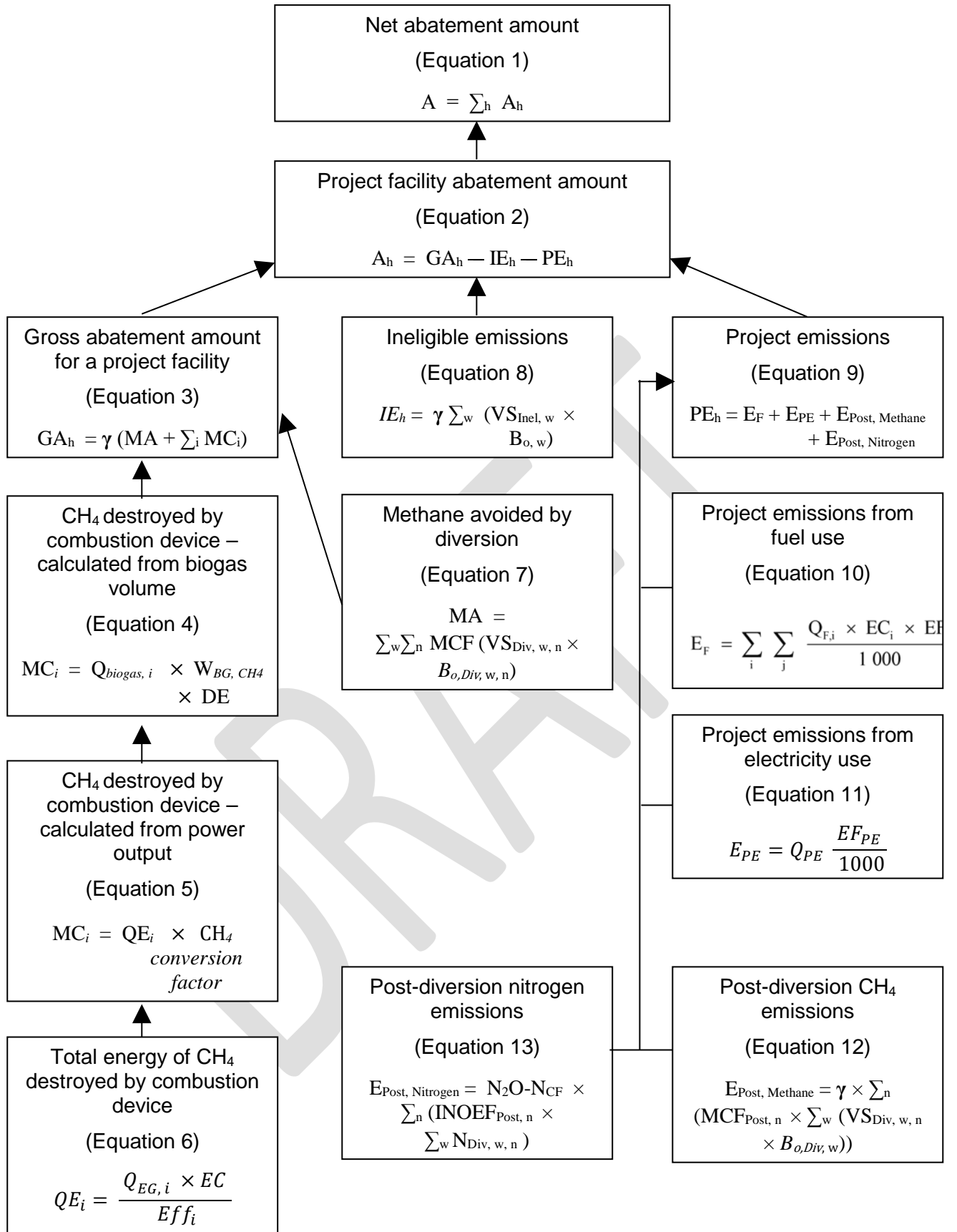


Figure 1: Schematic diagram of calculation steps required to estimate net abatement in an animal effluent management project

Table 1: Description of parameter symbols for Figure 1

Parameter	Equation	Description
A	1	Net abatement amount
A <sub>h</sub>	1, 2	Project facility net abatement amount
GA <sub>h</sub>	2, 3	Gross abatement amount for project facility
IE <sub>h</sub>	2, 8	Ineligible emissions for project facility
PE <sub>h</sub>	2	Project emissions for project facility
MA	3, 7	Volume of methane avoided in the project facility by diversion of material
MC <sub>i</sub>	3, 4, 5	Volume of methane destroyed by combustion device
Q <sub>biogas, i</sub>	4	Total volume of biogas sent to combustion device
W <sub>BG, CH4</sub>	4	Proportion of Q <sub>biogas, i</sub> that is methane
DE <sub>i</sub>	4	Methane destruction efficiency for combustion device
QE <sub>i i</sub>	5, 6	Total energy content of the methane destroyed by combustion device
CH <sub>4</sub> conversion factor	5	Methane conversion factor to convert gigajoules of energy into volume of methane in cubic meters
Q <sub>EG, i</sub>	6	Total amount of electricity produced by combustion device
EC	6	Energy content per megawatt hour of electricity
Eff <sub>i</sub>	6	Electrical efficiency of the combustion device
MCF	7	Methane conversion factor for the region and material type
VS <sub>Div, w, n</sub>	7	Amount of volatile solids in eligible material
B <sub>o,Div, w, n</sub>	7	Methane-producing capacity for the volatile solids in eligible material
γ	8, 12	Factor that converts cubic metres of methane to tonnes CO <sub>2</sub> -e
VS <sub>Inel, w</sub>	8	Amount of volatile solids in the ineligible material
B <sub>o, w</sub>	8	Methane-producing capacity of volatile solids in ineligible material
PE <sub>h</sub>	9	Project emissions from operation of project facility
E <sub>F</sub>	9, 10	Emissions from fuel that is specifically attributable to the operation of the project facility
E <sub>PE</sub>	9, 11	Emissions from purchased electricity that is specifically attributable to the operation of the project facility
E <sub>Post, Methane</sub>	9, 12	Emissions due to methane arising from the post-diversion treatment of material diverted in the project facility
E <sub>Post, Nitrogen</sub>	9, 13	Emissions due to nitrogen arising from the post-diversion treatment of material diverted in the project facility
Q <sub>F, i</sub>	10	Amount of fuel type that is specifically attributable to the operation of the project facility
EC <sub>i</sub>	10	Energy content factor for fuel type



$EF_{ij}$	10	Emission factor for greenhouse gas type and fuel type
$Q_{PE}$	11	Amount of purchased electricity that is specifically attributable to the operation of the project facility
$EF_{PE}$	11	Emissions factor
$MCF_{Post, n}$	12	Post-diversion methane conversion factor
$VS_{Div, w, n}$	12	Amount of volatile solids that is diverted in the project facility
$B_{o, Div, w}$	12	Methane-producing capacity for the volatile solids
$N_2O-N_{CF}$	13	Nitrous oxide conversion factor, converts tonnes of $N_2O-N$ into tonnes $CO_2-e$
$INOEF_{Post, n}$	13	Post-diversion integrated nitrous oxide emission factor
$N_{Div, w, n}$	13	Amount of nitrogen that is diverted in the project facility

## **21 Net abatement amount**

Section 21 sets out in equation 1 the calculation for determining the carbon dioxide equivalent total net abatement amount for an eligible animal effluent management offsets project for the reporting period. This equation is used to calculate net abatement resulting from eligible emissions avoidance and emissions destruction activities under the Determination

The net abatement amount,  $A$ , for a reporting period is the sum of the net abatement amounts for each project facility in the project,  $A_h$ , during the reporting period. The net abatement amount for each project facility is calculated using equation 2 in section 22.

Subsection 21(2) provides that if, during the reporting period, a project facility does not comply in all material respects with regard to the requirements for the use of ineligible material (section 16), then the net abatement is taken to equal zero. The risk of having no credits for a reporting period should be considered by any destruction project using ineligible material in a way likely to breach section 16. Emissions avoidance projects are not allowed to use any ineligible material and so should be aware of the impact of this section if they do use ineligible material in a reporting period. Proponents should endeavour to comply with section 16 at all times notwithstanding that the occurrence of minor and unintentional incidents where the breach would be material enough to result in zero credits being required. The intention of the reference to 'all material respects' is to ensure that minor or trivial breaches of section 16, such as breaches only for a short period of time during the crediting period or by an insignificant amount of ineligible material in an avoidance project, do not unfairly impact on the project's viability. Proponents would be expected to explain to the Regulator what actions they are taking to avoid breaching section 16 in the future.

The net abatement amount will only be negative when the sum of the ineligible abatement,  $IA_h$ , and the project emissions,  $PE_h$ , is greater than the gross abatement,  $GA_h$  (See equation 2). As the Determination estimates high values for ineligible abatement, the use of high amounts of ineligible material could result in no net abatement.

## **22 Project facility net abatement amount**

Section 22 sets out in equation 2 the calculation for determining the net abatement amount,  $A_h$  (in tonnes  $CO_2-e$ ), for each project facility.

The net abatement amount for each project facility is determined by subtracting the maximum methane-producing capacity of ineligible material processed by the facility,  $IA_h$ , (calculated in accordance with section 26) and all project emissions,  $PE_h$ , (calculated in accordance with section 29) from the gross abatement amount,  $GA_h$  (calculated in accordance with section 23).

### **Division 3 Gross abatement amount**

#### **23 Gross abatement amount for a project facility**

Section 23 sets out in equation 3 the calculation for determining the gross abatement amount for each project facility in tonnes CO<sub>2</sub>-e. The gross abatement amount in the reporting period for each project facility is the sum of the volume of emissions avoided and the volume of emissions destroyed, multiplied by the factor,  $\gamma$ , that converts cubic metres of methane to tonnes CO<sub>2</sub>-e under standard conditions.

This factor  $\gamma$  is defined in the NGER (Measurement) Determination. The value in the version of that determination current at the end of the reporting period must be used in accordance with section 6 of this Determination. In 2019,  $\gamma$  equalled  $6.784 \times 10^{-4} \times 25$ .

The emissions avoided,  $MA$ , is the volume of methane avoided by diverting volatile solids using a solids separation device and post-diversion treatment in accordance with section 14 of the Determination. The value for  $MA$  is calculated in accordance with section 25 of the Determination.

The emissions destroyed,  $MC_i$ , is the volume of methane combusted in accordance with section 13 of the Determination. Emissions destruction must use one or more anaerobic digesters to generate and capture the biogas, and one or more combustion devices to destroy the proportion of the biogas that is methane. The value for  $MC_i$  is calculated in accordance with section 24.

#### **24 Methane destroyed by combustion devices**

Section 24 sets out two methods for calculating the volume (in cubic metres) of methane destroyed by a combustion device for each project facility. For emissions avoidance activities there is no methane sent to a combustion device, so the value for  $MC_i$  is equal to zero, and these calculations are not applicable.

Subsection 24(1) defines when each approach for calculating the amount of methane destroyed by a combustion device must be used. Paragraph 24(1)(a) provides that either Method A or Method B can be used for a combustion device that is an internal combustion engine used to generate electricity. Paragraph 24(1)(b) provides that only Method A can be used in all other circumstances – that is, when electricity is not being generated.

Subsection 24(2) defines how to calculate the volume of methane destroyed by a combustion device in accordance with Method A. In these circumstances, equation 4 must be used to estimate the volume of biogas sent to the combustion device. Equation 4 multiplies the total volume of biogas,  $Q_{biogas, I}$ , by the proportion of the biogas that is methane,  $W_{BG, CH_4}$ , and the methane destruction efficiency of the combustion device,  $DE_i$ .

The volume of biogas,  $Q_{biogas, I}$ , sent to the combustion device is determined in accordance with the Supplement.

The proportion of the biogas that is methane,  $W_{BG, CH_4}$ , and the methane destruction efficiency of the combustion device,  $DE_i$ , are both expressed as fractions and determined in accordance with the Supplement.

Subsections 24(3) and 24(4) define how to calculate the volume of methane destroyed by a combustion device in accordance with Method B. Method B can only be used for a combustion device that is an internal combustion engine used to generate electricity.

Equation 5 (subsection 24(3)) must be used to calculate the volume of methane destroyed by a combustion device. Equation 5 multiplies the total energy content of the methane destroyed by the combustion device,  $Q_{Ei}$ , by a conversion factor that converts the gigajoules of energy into the volume of methane in cubic metres. This conversion factor is equal to 26.52.

Equation 6 (subsection 24(4)) estimates the total energy content of the methane destroyed by a combustion device,  $Q_{Ei}$ . This equation multiplies the total amount of electricity produced by the combustion device,  $Q_{EG}$ , in megawatt hours, by the energy content per megawatt hour,  $EC$ , equal to 3.6, and then divides this value by the electrical efficiency of the combustion device,  $Eff_i$ . Both  $Q_{EG}$  and  $Eff_i$  are determined in accordance with the Supplement.

## **25 Methane avoided by diversion**

Section 25 sets out in equation 7 the calculation for estimating the volume of methane avoided in a project facility by the diversion of material that includes volatile solids. For emissions destruction activities there is no methane avoided by diversion, so the value for  $MA$  is equal to zero, and these calculations are not applicable.

Equation 7 multiplies the amount of each volatile solid from each material,  $VS_{Div, w, n}$ , by the methane-producing capacity for each volatile solid,  $B_{0, Div, w, n}$ . Equation 7 then multiplies these values by the methane conversion factor,  $MCF$ . These values are then summed across all types of material and treatment methods. All these input values are determined in accordance with the Supplement.

## **Division 4 Ineligible emissions**

A note to Division 4 provides that this Division is only applicable for a project facility that treats material using an emissions destruction approach. Subsection 16(2) requires that ineligible material must only be included in a project facility that does not treat material by emissions avoidance. For emissions avoidance projects that cannot use ineligible material, this value is equal to zero.

## **26 Ineligible emissions for a project facility**

Section 26 sets out in equation 8 the calculation for estimating the ineligible emissions for a project facility. These emissions are deducted from the gross abatement, in accordance with equation 2 in section 22. As emissions from ineligible material are deducted from the gross abatement amount, this reduces the net abatement amount.

Equation 8 multiplies the amount of each volatile solid in the ineligible material,  $VS_{Inel, w}$ , by the methane-producing capacity for each ineligible material,  $B_{0, w}$ . Equation 8 then sums these values across all types of ineligible material, and then multiplies this value by the factor  $\gamma$  as defined in the NGER (Measurement) Determination. The value for  $\gamma$  in the version of that determination current at the end of the reporting period must be used in accordance with section 6 of this Determination. In 2019,  $\gamma$  equalled  $6.784 \times 10^{-4} \times 25$ .

The ineligible emissions are a measure of how much methane the ineligible material is able to emit. These values are determined in accordance with section 27 of the Determination.

The methane-producing capacities listed in the Supplement for ineligible material are at the high end of the range of reported methane-producing capacities for each material. In addition, a methane conversion factor (MCF) which is always less than 1.0 is not applied to Equation 8, thus assuming MCF for all ineligible material equals 1. This adds a further level of conservativeness to the estimation on net abatement when ineligible materials are added. The estimation for methane generated from ineligible material is therefore greater than the actual combination of methane emissions from combustion, venting and post-treatment activities. Therefore, when deducted from gross abatement, this ensures net abatement is conservative. It also removes the need to account for methane emissions from each activity separately, removing the regulatory burden of monitoring and reporting of small amounts of emissions from ineligible material during venting, combustion and post-treatment activities.

## **27 Methane producing capacities of different types of material, ( $B_{o, w}$ and $B_{o, Div, w, n}$ )**

Subsection 27(1) provides that the methane-producing capacities of volatile solids from eligible ( $B_{o, Div, w, n}$ ) and ineligible ( $B_{o, w}$ ) material must be determined in accordance with the Supplement. Ineligible material can only be added to emissions destruction facilities in accordance with paragraph 16(2) of the Determination.

The methane-producing capacity is determined in accordance with the Supplement, and may be a default value or a measured value determined in a laboratory under standard conditions and is also known as a Biological Methane Potential (BMP) test.

Subsection 27(2) provides that if the material is a listed type in the Supplement, then the project proponent may apply the default methane-producing capacity specified in the Supplement for that type of material. A note to this subsection clarifies that the Supplement provides different options for estimating the methane-producing capacity for a material – using the default values for listed types of material or using a measurement approach for measuring the methane-producing capacity. Proponents can elect to use either option if the material is of a listed type. For material that is not listed in the Supplement, the project proponent must use the measurement approach in accordance with the Supplement to estimate the methane-producing capacity of the material.

Subsection 27(3) provides that if, through an update to the Supplement, a default value becomes available for a particular type of material that was not previously listed, then the project proponent may use the amended value from the time that the amendment was made.

Subsection 27(4) provides that if the project proponent elects to measure the methane-producing value for a particular type of material in accordance with the Supplement, then the methane-producing capacity for that material must be measured in accordance with the Supplement for the remainder of the project.

## **Division 5 Project emissions**

### **28 Summary**

This section provides a simplified outline of this Part. While simplified outlines are included to assist readers to understand the substantive provisions, the outlines are not intended to be comprehensive. It is intended that readers should rely on the substantive provisions.

Section 28 sets out a simplified definition of the project emissions that must be subtracted from the gross abatement as part of the calculations of the net abatement amount in accordance with section 22 of the Determination. Project emissions are defined as the emissions that would not have occurred in the absence of the project. Project emissions can be attributed to fuel and electricity use that would not have occurred in the absence of the project. For emissions avoidance project facilities, project emissions also include methane and nitrous oxide emissions from the post-diversion treatment of diverted material.

## **29 Project emissions**

Section 29 sets out in equation 9 the calculation for estimating the total project emissions generated during the reporting period. Equation 9 sums:

- emissions from fuel,  $E_F$ , that can be directly attributed to the operation of the project facility (including transport) – as set out in section 30;
- emissions from purchased electricity,  $E_{PE}$ , that can be directly attributed to the operation of the project facility – as set out in section 31;
- emissions from methane,  $E_{Post, Methane}$ , arising from the management of the post-diversion treatment of material diverted in an emissions avoidance project facility – as set out in section 32; and
- emissions from nitrous oxide (direct and indirect nitrous oxide),  $E_{Post, Nitrogen}$ , arising from the management of the post-diversion treatment of material diverted in an emissions avoidance project facility – as set out in section 32.

## **30 Emissions from fuel use**

Subsection 30(1) sets out in equation 10 the calculation for estimating the emissions from fuel used during the reporting period that can be attributed to carrying out the project. Methane, nitrous oxide and carbon dioxide emissions from fuel use are calculated from the quantity of each fuel type used,  $Q_{F, i}$ , the energy content factor for each fuel type,  $EC_i$ , and the emissions factor for each greenhouse gas type,  $EF_{ij}$ . Emissions from each fuel type and greenhouse gas are summed to estimate the total emissions from fuel used to undertake the project activity. This equation converts the emissions from each fuel type to a common measure of energy, the gigajoule.

Estimates of the amount of fuel used must be determined in accordance with the Supplement.

Default values for the energy content factor for each fuel type and the emissions factor for each greenhouse gas type are provided in the Supplement and must be used in these calculations.

Subsection 30(2) provides that if fuel is used by the project facility in performing a function that was also performed before the implementation of the project, the fuel use that is attributable to the operation of the project facility is only to the extent that the project has caused an increase in fuel use.

## **31 Emissions from purchased electricity use**

Subsection 31(1) sets out in equation 11 the calculation for estimating the emissions from purchased electricity that is used to undertake the project activity. Equation 11 multiplies the amount of purchased electricity that is specifically attributable to the operation of the project

facility during the reporting period,  $Q_{PE}$ , with  $EF_{PE}$  – the electricity obtained from the electricity grid.

The electricity grid from which electricity is sourced may or may not be an electricity grid that is a grid in relation to the NGA Factors document that was in force on the declaration day. Paragraph 31(1)(a) states that, whenever possible, the project proponent must apply the relevant emissions factor from the NGA Factors document that is in force on the day the project was declared an eligible offsets project.

If the NGA Factors document is updated after the project declaration date, then the project proponent must continue to use the relevant factor in the version that was applicable on the project declaration day – as specified in subsection 31(4). This provision is an exception to the provisions provided in section 6 of the Determination (subsection 31(3)). This provision provides certainty to proponents that the emissions intensity of electricity imported will not deviate due to factors outside of their control once a project has commenced.

Paragraph 31(1)(b) provides for a situation when the electricity used to undertake the project activity is not sourced from a grid in relation to which the NGA Factors document applies. In this circumstance the project proponent must apply a factor that reflects the emissions intensity of the electricity and is applicable on the declaration day (Subparagraph 31(1)(b)(i)). For example, this could be a factor provided by the supplier of the electricity. Subparagraph 31(1)(b)(ii) provides that if this factor is not known for the declaration day, then the factor for off-grid electricity that is provided in the NGA Factor document that was in force on the declaration day must be used.

Subsection 31(2) specifies how the emissions factor must be calculated if subparagraph 31(1)(b)(i) applies. In these circumstances, the emissions factor must be worked out on the basis of the amount of electricity sent out, and be determined using a measurement or estimation approach that is consistent with the NGER (Measurement) Determination.

Subsection 31(4) defines the relevant day as being the later of the declaration day of the offsets project as the day on which the animal effluent project was declared an eligible offsets project, and 14 December 2014.

## **32 Emissions from post-diversion treatment of material diverted in emissions avoidance**

Section 32 sets out the calculation methods for determining both the methane and nitrogen related greenhouse gas emissions from post-diversion treatment of material diverted in an emissions avoidance project facility. These calculations are not required for emissions destruction project facilities.

Subsection 32(1) sets out in equation 12 the calculation for estimating the emissions due to methane arising from the post-diversion treatment of material diverted in an emissions avoidance project facility. For each treatment method, equation 12 multiplies the amount of volatile solids in the material that has been diverted to the emissions avoidance project facility during the reporting period,  $VS_{Div, w, n}$ , with the methane-producing capacity for the volatile solids of material,  $B_{0, Div, w}$ . Equation 12 then sums these values across all volatile solids, and multiplies this value by the post-diversion methane conversion factor for the treatment method,  $MCF_{Post, n}$ , as specified in the Supplement. This needs to be performed for

all treatment methods and then summed to give the total volume of post-diversion methane emissions.

This gross volume of post-diversion methane emissions is then multiplied by a factor,  $\gamma$ , to convert the volume of methane in cubic metres to carbon dioxide equivalents at standard conditions. This factor is the factor used in Part 5.3 of the NGER (Measurement Determination). The values for the methane-producing capacity of each material type,  $B_{0,Div, w}$ , and the post-diversion methane conversion factor for a treatment type,  $MCF_{Post, n}$ , are provided for in the Supplement for each material type that includes volatile solids and for each treatment method.

For equation 12, a post-diversion treatment method is defined in paragraph 14(1)(b) of the Determination as either stockpiles or composting.

Subsection 32(2) sets out in equation 13 the calculation for estimating the nitrogen related emissions arising from the post-diversion treatment of material diverted in an emissions avoidance project facility.

In equation 13, the nitrous oxide conversion factor converts tonnes of nitrous oxide nitrogen into tonnes of CO<sub>2</sub>-e at standard conditions. The Supplement provides additional detail as to how this conversion factor must be estimated.

In equation 13, the integrated nitrous oxide emissions factor,  $INOEF_{Post, n}$ , is specified in the Supplement. This value reflects the amount of nitrous oxide produced by diverted material using the relevant treatment method.

The integrated nitrous oxide emission factor is the ratio of total net nitrous oxide emissions (direct and indirect) for the post-diversion treatment to the total amount of nitrogen in the material diverted. It is calculated by subtracting the direct and indirect nitrous oxide emissions if the material had been treated in an uncovered anaerobic pond and land applied (business as usual), from the direct and indirect nitrous oxide emissions generated by the post-diversion treatment of the material and its subsequent land application.

Emission factors (ammonia volatilisation, direct nitrous oxide and indirect nitrous oxide) are from the National Inventory Report.

Land application emissions are determined by calculating the total amount of nitrogen land applied and applying the emission factors (ammonia volatilisation, direct nitrous oxide and indirect nitrous oxide) from the National Inventory Report. The amount of nitrogen land applied is calculated by subtracting the amount of nitrogen lost as both ammonia-nitrogen and nitrous oxide-nitrogen from the amount treated. This needs to be performed for both the post-diversion treatment and the uncovered anaerobic pond treatment (business as usual).

Subsection 32(3) provides that, for equation 12, project proponents may use one of two options for determining the value for the methane-producing capacity,  $B_{0,Div, w}$ , for the volatile solids. Paragraph 32(3)(a) allows project proponents to use the default capacity for each material of a listed type in the Supplement. Alternatively, paragraph 32(3)(b) allows the project proponent to treat a group of materials of listed types in the Supplement as a single material type. In these circumstances, the proponent must use the highest value of their individual methane-producing capacity values to represent the entire group. This will mean a project proponent will not be obliged to monitor those quantities separately, unless required to do so elsewhere in the Determination.

## **Part 5 - Reporting, record-keeping and monitoring requirements**

A note to this Part specifies that there are other reporting, record-keeping and monitoring requirements that are set out in rules made under the Act.

### **Division 1 – Offsets report requirements**

#### **33 Operation of this division**

Subsection 106(3) of the Act provides that a methodology determination may require the project proponent of an animal effluent management project that is an eligible offsets project to comply with specified reporting, record-keeping and monitoring requirements.

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 this Determination are in addition to any requirements specified in the Act and the Rule.

Paragraph 106(3)(a) of the Act provides that a methodology determination may require project proponents to include specified information relating to the project in each offsets report about the project. Other reporting requirements are set out in the Rule.

#### **34 Information that must be included in an offsets report**

Section 34 lists items that must be provided to the Regulator with each offsets report.

Subsection 34(1) provides that the project proponent must supply a number of items with each offsets report.

Paragraph 34(1)(a) provides that the project proponent must supply a description of the sources of project emissions for each project facility, consistent with section 12 of this Determination.

Paragraph 34(1)(b) provides that the project proponent must supply a detailed description of the post-diversion treatment method used if the project involves emissions avoidance. This description must be in accordance with paragraph 14(1)(b) of this Determination. It should also address how the requirements of subsection 7(4) are being satisfied.

Paragraph 34(1)(c) provides that the project proponent must supply the outputs from each equation in the determination. The outputs of these equations must be calculated in accordance with Part 4 of this Determination.

Paragraph 34(1)(d) requires the basis of fuel and electricity calculations to be disclosed, including how fuel and electricity use have been allocated to the project.

Paragraph 34(1)(e) requires an explanation of whether the quality assurance plan has been complied with.

Paragraph 34(1)(f) requires an explanation of any periods where the project was not monitored appropriately.

Subsection 34(2) provides additional information that is required in the offsets report if the report is the first offsets report, or the first offsets report after a new facility is added to the project. In these circumstances, paragraph 34(2)(a) provides that, if the information has not previously been included in an offsets report for this project, the offsets report for the reporting period must include the details of each combustion device that is part of the project.



Paragraph 34(2)(b) provides that these offsets reports must define each project facility that treats organic effluent as to whether they treat the effluent by emissions destruction, emissions avoidance or both.

Subsection 34(3) requires that, if the project facility is an emissions avoidance facility that has not been previously reported on, then the offset report must provide a description of the post-diversion treatment method consistent with paragraph 14(1)(b) of the Determination (paragraph 34(3)(a)) and details regarding the type and specifications of the solids separation device or devices used (paragraph 34(3)(b)).

Subsection 34(4) provides that if any information provided in the section 22 application in accordance with sections 9 or 12 of this Determination has changed since that application was made, then the next offsets report for a reporting period must include that information. In addition if there is additional information that is required to be consistent with sections 9 or 12, then this information must be included in the offsets report,

Subsection 34(5) provides that if ineligible material was included in an emissions destruction project facility during the reporting period, then the offsets report for that reporting period must describe how the provisions in section 16 of this Determination have been satisfied.

Subsection 34(6) provides that if a quality assurance plan prepared under section 37 has not previously been provided to the Regulator, then a copy of this plan must be provided to the Regulator in the offset report.

### **35 Determination of certain factors and parameters**

Subsection 35(1) requires that each offsets report must include information regarding the use of factors or parameters relevant to the estimation of the net abatement amount, and that are referenced consistent with paragraph 6(2)(b). For each of these factors or parameters used during the reporting period, the offsets report must include:

- (a) the versions of the instrument or writing used;
- (b) the start and end dates of each use; and
- (c) the reasons why it was not possible to define or calculate the factor or parameter by reference to the instrument or writing as in force at the end of the reporting period.

Subsection 35(2) requires that the offsets report must include certain information for all parameter values that did not meet the monitoring requirements specified under section 42 of the Determination for the purpose of working out the carbon dioxide equivalent net abatement amount for an animal effluent management project for a reporting period. This information includes:

- (a) the name of the parameter;
- (b) the start and end of the non-monitored period for which the parameter was determined;
- (c) the reasons why the project proponent for the project failed to monitor the parameter as required by the monitoring requirements; and
- (d) the value of the parameter and how that value was determined; and

(e) the basis upon which the estimate was conservative.

## **Division 2 – Record-keeping requirements**

### **36 Operation of this division**

Section 36 provides that this Division sets out record-keeping requirements for eligible offsets projects under this Determination, in accordance with paragraph 106(3)(c) of the Act.

### **37 Quality assurance plan**

Section 37 requires that prior to the submission of the first offsets report, project proponents must prepare a quality assurance plan for each project facility.

Paragraph 37(1)(a) requires that the quality assurance plan for each project facility meets the operation, maintenance and equipment calibration requirements of the manufacturer or installer, or both.

Paragraph 37(1)(b) specifies records to be kept that show that all eligible material used in the facility and for the calculation of the net abatement amount satisfies the provisions in section 15 of this Determination (paragraph 37(b)(i)), and that all ineligible material used in the facility and for calculation of the net abatement amount satisfies the provisions in section 16 of this Determination (paragraph 37(b)(ii)).

Paragraph 37(1)(c) requires that the quality assurance plan specifies all parameters that will be monitored, the approach used to undertake the monitoring, and the frequency of monitoring that will be undertaken. These activities must meet all the monitoring requirements for the equipment.

Paragraph 37(1)(d) requires the plan to comply with any requirements in the Supplement.

Subsection 37(2) requires the plan to be revised if the Regulator is not satisfied with its content.

### **38 Records that must be kept**

Section 38 requires that project proponents must make and keep records of all information specified in this Division or in the Supplement.

### **39 General information**

Section 39 specifies information that must be recorded and kept for eligible animal effluent management projects.

Paragraph 39(a) provides that records must be kept for all maintenance undertaken on all project equipment. This includes, but is not limited to, combustion devices used in methane destruction projects and all monitoring equipment.

Paragraph 39(b) provides that records must be kept for each combustion device used in emissions destruction facilities. This information must include a record of significant shut-downs, failures, start-ups and process adjustments.

Paragraph 39(c) provides that records must be kept that demonstrate the corrective measures undertaken if monitoring instruments did not meet the accuracy threshold specified in the Supplement.

Paragraph 39(d) provides that records must be kept that demonstrate the number, type, serial numbers and size of emissions avoidance or emissions destruction devices used in the project.

Paragraph 39(e) provides that records must be kept that demonstrate compliance with monitoring requirements outlined in subsection 41(2).

### **Division 3 – Monitoring requirements**

#### **40 Operation of this division**

Section 40 provides that this Division sets out monitoring requirements for eligible offsets projects under this Determination, in accordance with paragraph 106(3)(d) of the Act. A note specifies that other monitoring requirements are set out in the Rule.

#### **41 Monitoring requirements**

Subsection 41(1) requires that, for each reporting period, all of the equipment or devices used to determine or measure each parameter used to calculate the net abatement amount must be monitored in accordance with requirements specified in the Supplement.

Subsection 41(2) requires that the monitoring and calibration of all equipment and devices used to determine the net abatement amount must be calibrated by an accredited third party technician at intervals, and using methods, that are in accordance with the manufacturer's specifications.

#### **42 Consequences of not meeting requirement to monitor certain parameters**

Subsection 42(1) provides for the estimation of the carbon dioxide equivalent net abatement amount for the reporting period in situations when a parameter referred to in section 41(1) has failed to meet the monitoring requirements. In these circumstances, the project proponent of the animal effluent management project must determine the value for that parameter by making a conservative estimate that has regard to all of the following factors:

Paragraph 42(1)(a) requires that the conservative estimate of the parameter must have regard to any relevant measurement or estimation approaches or requirements that apply to the parameter under the NGER (Measurement) Determination.

Paragraph 42(1)(b) requires that the conservative estimate of the parameter also must have regard to any relevant historical data related to the project, including to the instrument or device that failed to meet the monitoring requirements.

Paragraph 42(1)(c) requires that the conservative estimate of the parameter also must have regard to any other data for the project that relates to the parameter that may inform a conservative estimate of the parameter.

Paragraph 42(1)(d) requires that the conservative estimate of the parameter also must have regard to any other matters considered relevant by the project proponent for providing a conservative estimate of the parameter.

Subsection 42(2) requires that when a conservative estimate is made for a parameter that failed to meet its monitoring requirements, then the estimate for the parameter, together with the approach taken to derive the estimate, must be made distinct for other measured records. This will allow the approach and estimate to be considered during auditing.

Subsection 42(3) further clarifies that despite these actions being taken to provide a conservative estimate for a parameter that failed to meet its monitoring requirements, the Regulator may still take action under the Act, or regulations or rules made under the Act, in

relation to the project proponent's failure to monitor a parameter in accordance with the Supplement.

A note under this provision provides three examples as to when the Regulator may take action.

The first example as to when the Regulator may take action, is when the failure constitutes a breach of a civil penalty provision in section 194 of the Act (which deals with project monitoring requirements). In this situation, the Regulator may apply for a civil penalty order in respect of the breach.

The second example as to when the Regulator may take action, is when the project proponent provides false or misleading information to the Regulator in relation to the failure to meet the monitoring requirements. In this situation, the Regulator may revoke the project's section 27 declaration under regulations or rules made for the purposes of section 38 of the Act.

The third example as to when the Regulator may take action, is when the project proponent provides false or misleading information to the Regulator that resulted in the issue of Australian carbon credit units. In this situation, the Regulator may require all or some of those units to be relinquished under section 88 of the Act.

The Supplement to the *Carbon Credits (Carbon Farming Initiative—Animal Effluent Management) Methodology Determination 2019* sets out the input values and measurement approaches required by the Determination. It also provides additional detail of requirements as set out in the Determination. The Supplement must be used by proponents when estimating abatement.

The Supplement has been developed by the Department based on expert advice and review sought during the development of the Determination and consultation with the Technical Working Group. It has also been designed to align with approaches and parameters in the National Greenhouse and Energy Reporting Scheme (NGERS) and National Inventory Report (NIR). The use of this subordinate document incorporated into the Determination consistent with subsection 106(8) of the Act is appropriate because:

- it allows minor technical and implementation details to be improved over time without needing to vary the Determination and then require proponents to move to the varied method under section 128 of the Act (reducing administrative burden);
- it allows parameters to remain consistent with the National Inventory Report and National Greenhouse and Energy Reporting Scheme, helping ensure the method continues to meet the offsets integrity standards in the Act;
- allows the Determination to focus on the most significant issues for the method and its calculations.

The Supplement includes:

- further definitions of factors and parameters referred to in the Determination;
- details of how to calculate input parameters referred to in the Determination;
- requirements for measuring factors relevant to the estimation of the net abatement amount;
- details of record-keeping and monitoring requirements;
- three Schedules which detail specific requirements.

**Schedule 1** sets out the default methane-producing capacity values of volatile solids against different types of listed eligible and ineligible materials;

- these default values are used in equations 7 and 12 for eligible materials and equation 8 for ineligible materials. The higher and lower end of the ranges provided are designed to enhance the conservativeness of the method.
- Stakeholders are encouraged to submit any views on whether this approach is appropriate or other approaches could also result in conservative estimates. For example, a single point estimate could be used for eligible and a percentage discount applied to ineligible material.

**Schedule 2** sets out the treatment methods used for a solids separation method of diversion;

- the proponent is required to measure the methane-producing capacity of the diverted material at the point of diversion, immediately after the material has been diverted through a solids separation device—consistent with the Supplement;

- projects can include a combination of solids separation devices (emissions avoidance) in combination with methane capture and combustion facilities (emissions destruction);
- the different methods used for separating solids from organic effluent are grouped according to their basic removal mechanism;
  - Gravitational settling
  - Perforated screens and presses
  - Centrifugal separation
  - Dissolved Air Flotation
  - Chemical flocculation
  - Combined systems

The amount of volatile solids and nitrogen in separated material needs to be determined from the total amount of material separated and its volatile solids and nitrogen concentrations – consistent with the Supplement.

The amount of volatile solids in the material that is being separated determines both the methane emissions avoided (gross abatement) and the methane related emissions from the post-diversion management of the material (project emissions).

The amount of nitrogen in material that is being separated determines the nitrogen related emissions from the post-diversion management of the material (project emissions).

**Schedule 3** outlines the process for updating the Supplement;

- Factors or parameters contained in the Supplement can be updated to ensure that methods continue to operate and calculate abatement as intended;
- Updates to the Supplement ensure that abatement estimates remain aligned into the future with Australia's international greenhouse gas reporting;
- The version of the Supplement that is in force at the end of the reporting period must be used for all calculations for the whole reporting period;
- Prior to a decision to make any updates to the Supplement, the Department will consider a list of factors, outlined in Schedule 3;
- The Emissions Reduction Assurance Committee will consider any proposed updates to the Supplement assessed by the Department as appropriate and provided to the Committee for advice;
- Updates would only be progressed outside of the formal process if:
  - they are of a minor nature (such as corrections to errors without significant regulatory impact); or
  - they are needed to address material issues for the integrity of the method.

## **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-Animal Effluent Management) Methodology Determination 2019***

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-Animal Effluent Management) Methodology Determination 2019* (this Determination) sets out the method for estimating abatement from eligible animal effluent management projects. The project activity will result in a net reduction of greenhouse gas emissions from the management of animal effluent that results from either emissions avoidance or emissions destruction activities. This Determination sets out the detailed rules for implementing and monitoring animal effluent management offsets projects.

Project proponents wishing to implement this Determination must make an application to the Clean Energy Regulator and meet the eligibility requirements set out under this Determination. Offsets projects approved by the Clean Energy Regulator can generate Australian carbon credit units, representing emissions reductions from the project.

Project proponents can receive funding from the Emissions Reduction Fund by participating in a competitive auction run by the Clean Energy Regulator. The Government will enter into contracts with successful proponents, which will guarantee the price and payment for the future delivery of emissions reductions.

#### **Human rights implications**

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

#### **Conclusion**

This Determination is compatible with human rights because it does not limit any human rights and freedoms recognised or declared in the international instruments listed in section 3 of the *Human Rights (Parliamentary Scrutiny) Act 2011*.

**Melissa Price, Minister for the Environment**