EXPLANATORY STATEMENT

Carbon Credits (Carbon Farming Initiative) Act 2011

Carbon Credits (Carbon Farming Initiative—Source Separated Organic Waste) Methodology Determination 2016

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 from the atmosphere and storing it in soil or trees.

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 avoidance or sequestration) from eligible projects and rules for monitoring, record-keeping and reporting. These determinations will ensure that emissions reductions are genuine—that they are both real and additional to business as usual.

In deciding to make a methodology determination the Minister must have regard to the advice of the Emissions Reduction Assurance Committee, an independent expert panel established to advise the Minister on proposals for methodology determinations. The Minister must not make or vary a methodology determination if the Emissions Reduction Assurance Committee 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 methodology determination applies.

Offsets projects 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 at:
www.environment.gov.au/emissions-reduction-fund.

Background: Source Separated Organic Waste Methodology Determination

'Source separation' refers to sorting waste at the time the waste is generated, such as by placing organic waste into a dedicated organics bin rather than a general waste bin. The separated organic materials must then be sent to a treatment facility rather than to landfill disposal. Increasing separation of organic materials at source can reduce the quantity of waste sent to landfill and consequently avoid emissions from waste.

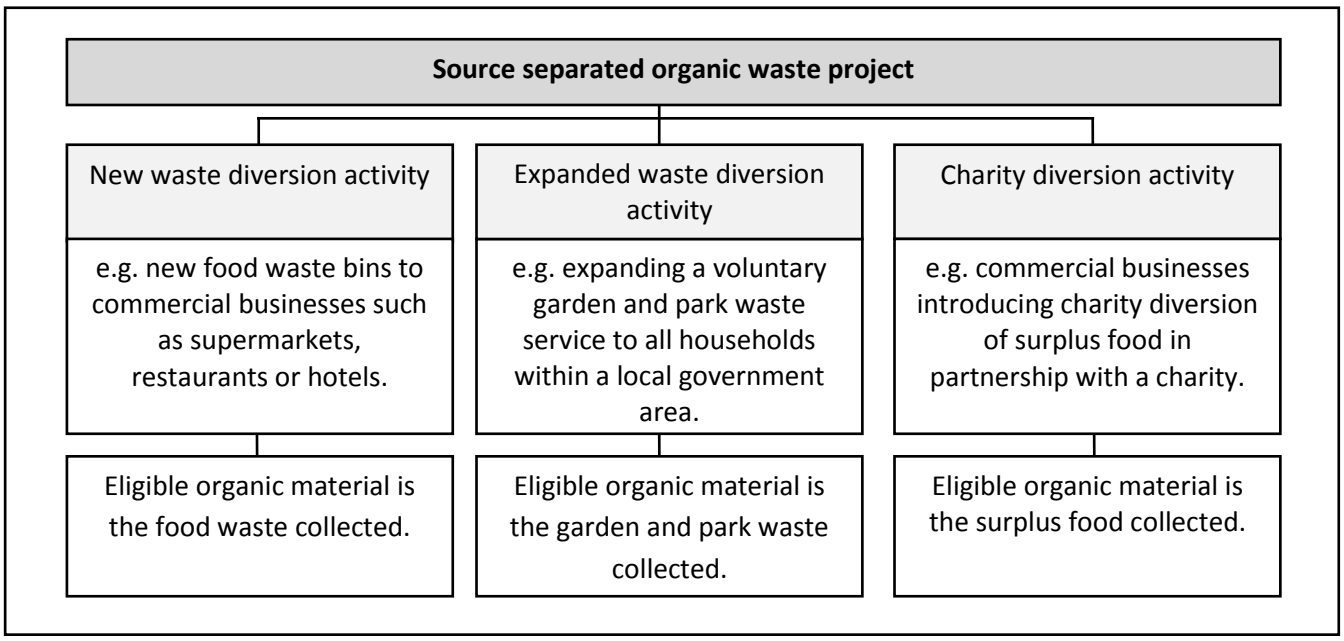
The *Carbon Credits (Carbon Farming Initiative—Source Separated Organic Waste) Methodology Determination 2016* (the Determination) applies to the introduction of new source separation activities, or the expansion of existing source separation activities, with the organic material diverted to low emissions alternatives such as composting. The Determination also applies to activities that divert food away from the waste stream to charity and food rescue organisations, to be used for charitable purposes.

Potential proponents could include retail and hospitality outlets, industrial businesses, local councils, waste management companies and food charities. Collaborations between waste generators and waste managers could also maximise opportunities for waste diversion and emissions reductions.

The Determination sets out that an eligible activity can be:

- a new waste diversion activity;
- an expansion waste diversion activity;
- an aggregated waste diversion activity (comprising new and/or expansion waste diversion sub-activities); or
- a charity diversion activity.

Aggregated waste diversion activities simplify the monitoring requirements for proponents who process organic material collected by several source separation activities at a single waste treatment facility. This simplifies the monitoring of project emissions in particular. Under the Determination, multiple source separation activities may be undertaken within one registered offsets project. Some of the options available to a source separated organic waste project are set out in the figure below.



A source separated organic waste project may contain multiple source separation activities—these may be of the same type or a combination of different types of source separation activities. Each activity is made up of many actions to sort organic material and reduce the disposal of waste in landfill. The size, activity area and type of eligible organic material is determined separately for each source separation activity.

Eligibility requirements

Each activity must meet the eligibility requirements at the time of project registration which include:

- evidence that waste has previously been disposed of in landfill;
- a detailed description of the project activity including the location; and
- a detailed description of the source separation activity to be introduced.

All eligible organic material diverted from landfill by a new, expansion or aggregation activity is required to be processed using an eligible waste treatment technology. The four eligible waste treatment technologies are:

- open windrow composting;
- enclosed composting;
- anaerobic digestion and the transfer of biogas to a combustion device for destruction; and
- process engineered fuel manufacture.

Food diverted by a charity diversion activity is required to be distributed to a registered charity for distribution and consumption.

Calculation of emissions reductions

Emissions reductions are calculated as baseline emissions (the emissions that would have occurred if waste had been disposed of in landfill) minus project emissions (emissions generated by treatment of the waste), multiplied by an improvement factor.

Baseline emissions are those that would have occurred if the organic material separated by the source separation activity had been disposed of in landfill. Baseline emissions are calculated in line with the approaches set out in the *National Greenhouse and Energy Reporting (Measurement) Determination 2008* (the NGER (Measurement) Determination) for the calculation of emissions from landfill. The baseline scenario includes deductions for landfill gas capture and destruction and oxidation of near surface methane that would have occurred had the material been disposed of in landfill.

Project emissions are the emissions generated by waste treatment. Project emissions are calculated either as a default proportion of baseline emissions, or by using measurement based approaches to determine the emissions from purchased electricity, fuel used in processing waste, and the waste treatment process (e.g. compost emissions). The default proportion option simplifies the reporting and administrative requirements for monitoring project emissions. This option will be of particular assistance to proponents who may not have access to all the data required to monitor project emission sources, such as fuel used in processing the organic material to produce compost.

The improvement factor accounts for business as usual improvements in waste management and resource recovery, and acts to discount calculated emissions reductions. This and other approaches in the calculation of emissions ensure a realistic and accurate representation of the emissions that would have occurred in the absence of the project, thereby ensuring calculated abatement is additional.

Legal right

A project proponent must have the legal right to carry out an SSOW project and all activities that form a part of the project (see definition of project proponent in section 5 of the Act). For example, this may require that a commercial agreement is in place between various entities (e.g. local governments, waste generators and a waste management organisations) that are both part of an SSOW project.

Example source separation activities

Example activity 1: A commercial food retailer and food rescue charity collaborate to divert food waste from landfill

Charity diversion activities divert surplus or unsaleable food from a commercial or industrial business to a registered charity.

A charity diversion activity could be implemented by either a commercial food retailer that generates surplus or unsaleable food, or a food rescue charity that specialises in the collection and distribution of surplus food. In both situations the commercial food retailer and charity will need to share information when implementing a charity diversion activity.

As part of a charity diversion activity, a commercial food retailer which currently sends all surplus and

unsaleable food to landfill enters into an agreement with a charity to provide surplus food to the charity for distribution and consumption.

The commercial food retailer must provide evidence that food was previously disposed of in landfill for the 24-month period prior to the project application. If the commercial food retailer had donated surplus food to charity on five or less occasions in the 24-month period then this is considered immaterial. When the activity is registered as an eligible offsets project the charity can begin to receive surplus food from the commercial food retailer.

Food collected must be weighed and recorded so that the avoided landfill emissions can be calculated. Any loads of material rejected and disposed of in landfill (e.g. due to spoilage) will also need to be recorded. Charity diversion activities do not need to measure any other parameters; the Determination provides default values for all other relevant calculations.

Charity diversion activities may also be undertaken in conjunction with other source separation activities. For example, a commercial food retailer could choose to introduce a new organic waste bins as a new source separation activity that diverts food waste from landfill and also introduce a charity diversion activity to divert surplus food to a charity. This could significantly reduce the amount of material sent to landfill. Projects may also aggregate a number of source separation activities including a combination of charity diversion and other activities.

Example activity 2: Local government and an organics processing facility implement an aggregated waste diversion activity

Organics processing facilities are well placed to undertake projects using the Determination because processing organic material is an essential part of all source separation activities.

An organics processing facility could initiate a project by engaging with local governments and businesses in the surrounding area to identify opportunities for source separation. This could identify several opportunities to divert organic material from landfill such as:

- introducing new mixed food and garden and park waste collection to all properties in a local government area;
- introducing an expanded garden and park waste collection service in a second local government area; and/or
- introducing a new commercial food waste collection service to a network of businesses in the area surrounding the organics processing facility.

These opportunities could be implemented separately by each relevant organisation or grouped together as an aggregated waste diversion activity. In either case, the project will require that the relevant organisations implement source separation and begin sorting organic material out of the general waste stream. It is also a requirement that the organic material is processed by a waste treatment facility or unit using eligible waste treatment technology.

The project application for an aggregated waste diversion activity requires information and supporting evidence for each of the identified activities (referred to as sub-activities). The organics processing facility will need to collaborate with the relevant organisations to provide this evidence. The types of evidence required should be readily available as part of preparing to implement the source separation of organic waste. Relevant information includes:

- a description of each sub-activity to be implemented;
- the area in which each sub-activity will be implemented; and
- evidence, for each sub-activity, that material has been disposed of in landfill for the 24-month period prior to the project application.

If some information is unavailable at the time of project application, a sub-activity can be identified as a potential activity and included in the calculations at a later date. When the project is registered as an eligible offsets project, the organics processing facility can begin to implement the source separation sub-activities in partnership with the business and other organisations involved in collecting, transporting and managing waste.

Organics processing facilities maintain detailed records such as invoices and weighbridge receipts for the quantity and origin of material processed. These records can be used to monitor the material that is received as a part of the aggregated waste diversion activity.

Emissions reductions are calculated from the amount of eligible organic material diverted from landfill by each sub-activity that makes up the aggregated activity. The facility also measures the project emissions that result from processing waste.

Application of the Determination

The Determination sets out the detailed rules for implementing and monitoring offsets projects that reduce greenhouse gas emissions associated with the decomposition of organic waste in landfill by diverting organic waste away from landfill using source separation activities.

Proponents are encouraged to read the Determination in combination with any applicable regulations, rules, and guidance documents.

The Determination reflects the requirements of the Act's offsets integrity standards and helps to ensure that emissions reductions are real and additional to business as usual. The offsets integrity standards require that an eligible project should result in carbon abatement that is unlikely to occur in the ordinary course of events and is eligible carbon abatement under the Act. In summary, the offsets integrity standards also require that:

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

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

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

Subsection 27(4A) of the Act provides that a methodology determination may specify requirements in lieu of the newness requirement or the regulatory additionality requirement.

Section 19 of the Determination specifies requirements in lieu of the newness requirement. These requirements apply to some types of project applications and are explained in section 19 of Attachment A to this explanatory statement.

The Determination does not specify any provision in lieu of the regulatory additionality requirement in the Act. The regulatory additionality requirement specifies that a project is not required to be carried out by or under a law of the Commonwealth or a state or territory. For example, state or territory waste regulations can require that some types of hazardous or other waste is treated in particular ways and not disposed of in landfill. If waste is required to be processed by specified technology or diverted from landfill by law then this would not be an eligible project activity.

Some jurisdictions have regulations that ban organic material collected through a source separation activity from disposal in a landfill—for example, South Australia prohibits the disposal of specified

waste types in landfill[1]. Projects in such jurisdictions that introduce a source separation activity to divert further organic material from landfill may still be eligible to undertake a project using the Determination. This is because in some cases mixed municipal solid waste is disposed of in landfill and there is no requirement for either source separation or alternatives to landfill disposal to be introduced. Where it can be demonstrated that waste would continue to be disposed of in landfill in the absence of a source separated organic waste project, the activity could be established to deliver additional abatement that is not required by law. In declaring a project to be an eligible offsets project, the Regulator must be satisfied that the project meets the additionality requirements set out in the Act.

The government program requirement is provided for in the *Carbon Credits (Carbon Farming Initiative) Rule 2015* (the Rule). The government program requirement is intended to be updated over time and will be reviewed regularly to ensure that relevant programs are listed and emissions reduction activities are not paid for twice.

Public consultation

The Determination has been developed by the Department of the Environment in consultation with a technical working group of experts from the waste industry and the Regulator. The waste technical working group held four meetings in 2015 and reviewed two versions of the Determination. An exposure draft of the Determination was made available on the Department of the Environment website from 6 October to 3 November 2015. Six submissions were received on the exposure draft.

Determination details

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

For the purpose of subsections 106(4), (4A) and (4B) of the Act, in making a methodology determination the Minister must have regard to the advice of the Emissions Reduction Assurance Committee that the methodology determination complies with the offsets integrity standards and that the methodology determination should be made. The Minister must be 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 must have 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 methodology determination applies and other relevant considerations.

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

[1] Schedule 4, *Environment Protection (Waste to Resources) Policy 2010*, available at http://www.legislation.sa.gov.au/lz/c/pol/environment%20protection%20(waste%20to%20resources)%20policy%202010/current/2010.-.un.pdf, accessed on 14 September 2015.

Details of the Methodology Determination

Part 1 Preliminary

1 Name

Section 1 sets out the full name of the Determination, which is the *Carbon Credits (Carbon Farming Initiative—Source Separated Organic Waste) Methodology Determination 2016*.

2 Commencement

Section 2 provides that the Determination would commence on the day after it is registered on the Federal Register of Legislative Instruments.

3 Authority

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

4 Duration

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

Section 4 specifies that the Determination would cease to be in force on the day before it would otherwise be repealed under subsection 50(1) of the *Legislative Instruments Act 2003*, i.e. the day before the first 1 April or 1 October following the tenth anniversary of registration of the Determination on the Federal Register of Legislative Instruments.

However, the Determination would cease to be in force earlier if it is revoked in accordance with section 123 of the Act or section 42 of the *Legislative Instruments Act 2003*.

If the Determination were to expire in accordance with section 122 or were revoked in accordance with section 123 during a crediting period for a project to which the Determination applies, it would 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 Emissions Reduction Assurance Committee 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 offset projects which would apply this Determination.

5 Definitions

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

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

Key definitions in section 5 of the Determination include those set out below.

Activity area refers to the area containing the specific location or locations at which a ***source separation activity*** is implemented. The size and location of the activity area is specified by the proponent at the time of project application. In specifying an activity area, a proponent must clearly identify the location or locations where a source separation activity will be implemented, in accordance with paragraph 13(1)(h) of the Rule. For example, where a council sought to implement a residential source separation activity throughout the local government area, the council might specify the local government area as the activity area, and identify that all locations (i.e. ***dwellings***) within the local government area will be included. Where a council sought to implement an activity within part of a local government area, the council might specify the local government area as the activity area, and identify the particular locations (i.e. dwellings) within that area at which the source separation activity would be implemented. Alternatively, the council might identify the activity area as the relevant boundary or boundaries within the local government area within which all relevant locations (i.e. dwellings) were included. The ***waste treatment facility or unit*** for a source separation activity is not required to be within the activity area. Note that further requirements regarding activity areas are set out in section 15.

Anaerobic digester refers to the system used to promote ***anaerobic digestion*** of waste and collect the biogas that is produced as a result. The anaerobic digester includes the transfer of biogas to a ***combustion device***.

Combustion device refers to a flare, boiler, internal combustion engine or other combustion device used to combust biogas. The definition includes the principles that a combustion device must meet to be eligible.

Commercial and industrial waste refers to solid waste produced by commercial or industrial businesses.

Construction and demolition waste refers to solid waste produced by the construction and demolition industry.

Dwelling refers to a type of residential premises used for the purposes of section 15. The definition used in the Determination is based on the publication *Building Approvals, Australia* (catalogue number 8731.0) produced by the Australian Bureau of Statistics (1 December 2015).

Eligible organic material refers to the ***waste mix type*** or types that are eligible in the activity. The definition lists the waste mix type categories that may be eligible organic material. The waste mix type categories are consistent with the ***NGER (Measurement) Determination*** which provides default values for the organic content of each waste mix type and the amount of methane that would be generated. While some of the waste mix types listed include inorganic components, the methane generation potential is determined by the organic content only. Eligible organic material is determined based on the type of activity and historic activity in the activity area (see Part 3). Eligible organic material may be one or more of the waste mix types listed in this definition. Types of waste that are ineligible include recyclable paper or cardboard, ***biosolids***, wastewater or inert waste.

The following waste mix types are ineligible under the Determination:

- Paper and cardboard is ineligible as this waste should be directed to recycling activities and not to waste treatment activities such as composting. This exclusion supports general principles of resource recovery.
- Biosolids are ineligible as they are defined in the Determination as 'stabilised for beneficial use' (i.e. already treated), and are thus not eligible for further diversion from landfill.
- Wastewater is ineligible as it would not be disposed of in landfill and therefore does not meet the requirements of the Determination (i.e. avoidance of waste going to landfill). Opportunities for domestic, commercial or industrial wastewater are provided for in the *Carbon Credits (Carbon Farming Initiative—Domestic, Commercial and Industrial Wastewater) Methodology Determination 2015*. Food waste that is a liquid—such as soup or milk—is food waste, not wastewater.
- Inert waste is ineligible as inert waste does not contain organic material and therefore would not produce emissions in landfill.

Eligible waste treatment technology refers to four types of waste treatment technologies which are eligible in the Determination: ***enclosed composting technology***, ***open windrow composting***, ***process engineered fuel manufacture***, or use of an ***anaerobic digester*** (including the destruction of biogas in a ***combustion device***). Unlicensed methods of waste treatment such as home or backyard composting are not eligible.

Enclosed composting technology refers to composting that uses an enclosed environment to control the ***composting process***. Proponents who use enclosed composting technology may also use ***open windrow composting*** to mature the final compost product. Examples of enclosed composting are included in the definition and other composting types would be eligible if they satisfy the requirements of the definition.

Municipal solid waste refers to solid waste produced by the domestic sector. Municipal solid waste may be classified as either *class I* or *class II* to differentiate between areas that collect garden and park waste separately (*class II*) and those that do not (*class I*). Municipal solid waste is defined in the ***NGER (Measurement) Determination***.

NGA Factors document means the document entitled 'National Greenhouse Account Factors'. The NGA Factors document is incorporated by the Determination as in force from time to time and is available on the Department of the Environment's website, www.environment.gov.au. The use of the NGA Factors document in relation to a reporting period is subject to section 40 of this Determination. Factors published in this document will be updated from time to time to allow for more accurate estimates of emissions and maintain consistency with Australia's National Greenhouse Accounts.

NGER (Measurement) Determination refers to the *National Greenhouse and Energy Reporting (Measurement) Determination 2008*, made under subsection 10(3) of the *National Greenhouse and Energy Reporting Act 2007*. The NGER (Measurement) Determination is incorporated by the Determination as in force from time to time and is available at: www.comlaw.gov.au. The use of the NGER (Measurement) Determination in relation to a reporting period is subject to section 7 of this Determination.

NGER Regulations refers to the *National Greenhouse and Energy Reporting Regulations 2008***.** The NGER Regulations are incorporated by the Determination as in force from time to time and is available at: www.comlaw.gov.au. The use of the NGER Regulations in relation to a reporting period is subject to section 7 of this Determination.

Open windrow composting refers to the composting of material in open-air windrows, with turning or aeration of the material to maintain aerobic conditions.

Process engineered fuel manufacture refers to the production of a solid or liquid fuel substitute from ***eligible organic material***. The process for producing fuel may include sorting and processing of material collected by an activity.

Sludge refers to the residual, semi-solid or slurry-like material generated as a by-product of various commercial and industrial processes. Some examples include brewery sludge (sludge generated by brewing which comprises yeast, grain and other sediments) and food processing sludge (comprising water and suspended solids resulting from food production). Note that ***biosolids***, derived from sewage sludge, is not a type of ***eligible organic material*** (see eligible organic material above).

Trial waste diversion activity refers to testing source separation at a small scale to develop a potential full scale ***source separation activity***. Trial activities are generally for limited duration and assist in gathering data or planning for a source separation activity. The treatment of trial waste diversion activities is discussed in sections 10 and 11.

Waste mix type refers to the types of waste that make up mixed solid waste. For example, ***municipal solid waste*** is made up of several waste mix types including food waste, garden and park waste, paper and cardboard, nappies, rubber or leather and inert waste. The waste mix type categories are consistent with the NGER (Measurement) Determination. Note that the Determination uses the terms *garden and park*, *paper and cardboard* and *wood and wood waste*, which refer to the NGER (Measurement) Determination terms *garden and park* and *garden and green*, *wood* and *wood and wood waste*, and *paper and cardboard* and *paper and paper board* respectively.

Waste stream refers to ***municipal solid waste***, ***commercial and industrial waste*** or ***construction and demolition waste***.

Waste treatment facility or unit refers to a site or piece of equipment for the treatment of waste. A waste treatment facility or unit must comply with relevant Commonwealth, state or territory legislative requirements, such as compliance with a relevant Environment Protection Authority licence.

6 Meaning of *separated at the point of generation*

Waste is defined as ***separated at the point of generation*** if it is separated into a bin that is intended to contain either one ***waste mix type*** or a combination of several waste mix types at the location it is generated. For example, a household produces organic waste that can be separated into different bins. This could be a food waste bin or a mixed organic bin (containing both food and garden and park waste).

Waste is considered to be separated at the point of generation even if the receiving container is contaminated with other wastes not intended for the container. Emissions reductions are however only generated from the waste mix type(s) intended for the container.

For ***charity diversion activities***, surplus or unsaleable food is separated at the point of generation if it is diverted to a ***registered charity*** rather than being disposed of in landfill.

7 References to factors and parameters from external sources

Default and calculated parameters must be sourced or measured according to the instructions within the Determination. While the Determination aligns with the ***NGER (Measurement) Determination*** (as well as other sources of measurement), precedence is given to the Determination. Unless otherwise specified, proponents must refer to the version of the NGER (Measurement) Determination and other referenced documents current at the end of a reporting period.

If the NGER (Measurement) Determination is amended between the time the reporting period ends and the time the report is submitted, then proponents must refer to the version in force on the date the reporting period ended. Current and historical versions of the NGER (Measurement) Determination are available at www.comlaw.gov.au.

Paragraph 7(2)(a) provides that subsection 7(1) does not apply if the Determination sets out other requirements. For example, the electricity emissions factor (EF_{EP}) in section 40 applies to the project for the full seven year crediting period and the project proponent should not refer to any updated versions of the ***NGA Factors document*** during the crediting period.

Paragraph 7(2)(b) provides that subsection 7(1) does not apply where it is not possible to retrospectively apply a factor or parameter in an instrument that is in force at the end of the reporting period. This may occur, for example, where the monitoring approach defined in an external source is amended to require additional or different monitoring practices after the reporting period has commenced. In this circumstance it is not possible to retrospectively undertake monitoring activities in accordance with the new requirement.

As provided for by section 10 of the *Acts Interpretation Act 1901* and section 13 of the *Legislative Instruments Act 2003*, references to external documents which are legislative instruments (such as the NGER (Measurement) Determination) are references to versions of those instruments as in force from time to time. In circumstances where paragraph 7(2)(b) applies, it is expected that project proponents will use the versions of legislative instruments in force at the time at which monitoring was conducted or other actions taken. Section 51 sets out reporting requirements to be followed when paragraph 7(2)(b) applies.

Part 2 Source separated organic waste projects

8 Source separated organic waste projects

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

Section 8 provides that the Determination would apply to an offsets project that involves one or more activities that separate organic waste at the source of generation and divert ***eligible organic material*** away from landfill to be processed by an eligible waste treatment technology.

A ***source separation activity*** may be:

- A ***new waste diversion activity***;
- An ***expansion waste diversion activity***;
- An ***aggregated waste diversion activity***; or
- A ***charity diversion activity***.

An ***SSOW project*** (short for source separated organic waste project) consists of one or more source separation activities. The requirements for these activities are set out in Part 3.

A project proponent must have the legal right to carry out an SSOW project and all activities that form a part of the project (see definition of project proponent in section 5 of the Act). For example, this may require that a commercial agreement is in place between various entities (e.g. local governments, waste generators and a waste management organisations) that are both part of an SSOW project.

Further information regarding legal right is available on the Regulator's website: http://www.cleanenergyregulator.gov.au/ERF/Want-to-participate-in-the-Emissions-Reduction-Fund/Planning-a-project/Legal-right.

Figure 1 sets out the key timeframes that would apply to projects under the Determination.

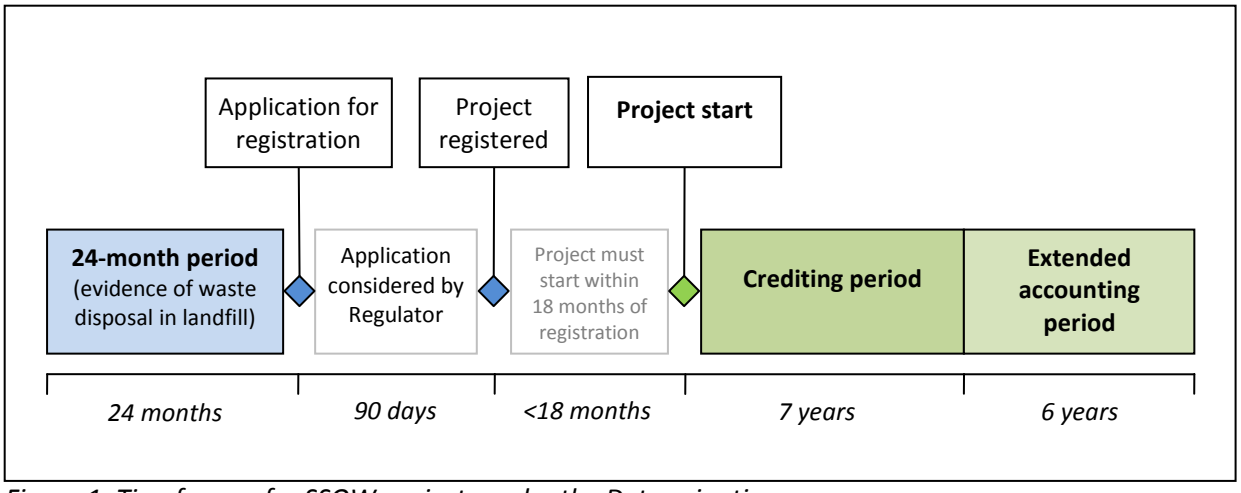


Figure 1: Timeframes for SSOW projects under the Determination

Part 3 Project requirements

Division 1 General requirements

9 Operation of this Division

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 the project meets these requirements.

Part 3 of the Determination sets out a number of requirements that must be met for a source separated organic waste project to be an eligible offsets project. These requirements are set out in sections 10 to 18.

10 Requirements for new waste diversion activities

Section 10 sets out the requirements for new waste diversion activities.

A new waste diversion activity involves separating eligible organic material from a ***waste stream*** to divert that material from landfill. The Determination allows for eligible organic material diverted from landfill by a new waste diversion activity to be processed at one or multiple waste treatment facilities or units, and requires that an eligible waste treatment technology is used to process the material.

The activity must also identify the ***activity area*** where the new waste diversion activity will take place (see section 16). It is a requirement that during the ***relevant 24-month period*** for the project (the 24-month period before a project application is made), waste of the same kind (i.e. the same waste mix type) must have been generated in the activity area and primarily disposed of in landfill.

If during the relevant 24-month period for the project a ***trial waste diversion activity*** was undertaken in the activity area, but this activity has not occurred within the last 12 months, then material diverted from landfill by the trial can be disregarded for the purposes of establishing that material previously went to landfill. This enables proponents who tested source separation activity with a trial to remain eligible to implement a new activity. If the trial activity occurred within the last 12 months, the proponent must account for this existing activity using the requirements for expansion waste diversion activities (see section 11).

A proponent for a new waste diversion activity must have the information, evidence and records as required by section 16 and Part 6 of the Rule. These records provide the required evidence that eligible organic material was previously disposed of in landfill and will be diverted from landfill as a result of the activity.

Examples of new waste diversion activities

The eligible organic material in the following examples differs based on historic practices and the type of source separation activity to be implemented. In the examples below, the activities are new waste diversion activities because eligible organic material that was previously disposed of in landfill is separated at the source of generation and processed using eligible waste treatment technology.

Example 1

Eligible organic material for a new waste diversion activity would be the waste mix types 'food' and 'garden and park' if the following applied to the activity:

- Mixed ***municipal solid waste*** in a local government area (the activity area) was disposed of in landfill for the relevant 24-month period and there was no existing source separation activity; and
- The new waste diversion activity would introduce mixed food or garden and park organics (FOGO) bins to source separate this material and divert it away from landfill.

In this example the eligible organic material is 'food' and 'garden and park' waste because both of these waste mix types were previously disposed of in landfill and are diverted from landfill using the activity implemented by the project.

The activity area for this new waste diversion activity could be established by identifying all properties in the local government area individually or by identifying the boundaries of the activity area and clearly specifying which properties within the area are included. In both cases, evidence for the relevant 24-month period prior to the project application is needed to verify that waste was previously disposed of in landfill.

Example 2

Eligible organic material for a new waste diversion activity would be restricted to the waste mix type 'food' if the following applied to the activity:

- Mixed municipal solid waste in the local government area (the activity area) was disposed of in landfill for the relevant 24-month period and the activity area was already serviced with a garden and park waste collection service provided to all properties in the activity area; and
- The project activity would be the upgrade of an existing garden and park waste collection service to collect mixed FOGO. Material collected by the new FOGO collection service would divert the waste mix types 'food' and 'garden and park' away from landfill.

In this example the eligible organic material is food waste because this waste mix type was previously disposed of in landfill and, as a result of the project activity, is diverted from landfill using source separation.

The waste mix type 'garden and park' is ineligible in this example for two reasons. First, because it had been separated at the source of generation and diverted from landfill before the project commenced, it is therefore not a new waste diversion activity. Second, the collection of garden and park waste would clearly not be expanded by implementation of the activity, thus the activity is not an expansion waste diversion activity.

The activity area for this example could be set in the same way as in example one—either individually identifying each property or identifying the boundaries of the activity area and clearly specifying which properties are included.

Example 3

A joinery firm which previously sent all waste to landfill implements an activity to separate its wood waste from the general waste stream. It provides this material to a nearby facility which produces a process engineered fuel from the wood waste.

In this example, the eligible organic material is wood and wood waste and the eligible waste treatment

technology is ***process engineered fuel manufacture***. The activity area for the project would simply be the location of the joinery firm.

Example 4

Since commencement of operation, a brewery has paid to send all waste to landfill. To celebrate its tenth year of operation, the brewery constructs and operates a biodigester to generate electricity from the biogas produced from the ***anaerobic digestion*** of brewing sludge, which is separated from the brewery's mixed waste stream.

In this case, the eligible organic material is sludge, and the eligible waste treatment technology is the use of one or more ***anaerobic digesters*** and the transfer of biogas to a ***combustion device*** for destruction.

11 Requirements for expansion waste diversion activities

Section 11 provides the requirements for expansion waste diversion activities.

An expansion waste diversion activity involves expanding an existing source separation collection service to increase the amount of organic material diverted from landfill. As with new waste diversion activities the Determination allows for eligible organic material diverted from landfill by an expansion waste diversion activity to be processed at one or multiple waste treatment facilities or units. Diverted material is required to be processed at the nominated facility (or facilities) using eligible waste treatment technology.

The activity must also identify the activity area where the expansion waste diversion activity will take place (see section 16). The activity area would include both the sites that receive the existing source separation collection service and the sites that will receive the new expanded collection service. It is a requirement that during the relevant 24-month period for the project, material of the same kind must have been generated in the activity area and diverted from landfill by an existing source separation collection service.

An expansion waste diversion activity must have the information, evidence and records as required by section 16. These records provide the required evidence that waste was previously disposed of in landfill and that an increase in source separation will divert increased quantities of eligible organic material from landfill.

Example of an expansion waste diversion activity

Expansion waste diversion activities introduce source separation to additional sites within an activity area in which an existing source separation collection service operates. An expansion enables the proponent to extend the existing source separation collection—it does not require specific monitoring of the material collected from the sites comprising the expansion. An example expansion waste diversion activity is provided below.

A local government provides a voluntary garden and park waste collection service to 500 properties in the local government area, and will expand the service to all 5000 properties within the area as part of an SSOW project. In this example, garden and park waste is the eligible organic material because the additional garden and park waste collected would, in the absence of the project, have gone to landfill. Under the Determination, the local government is able to choose the size of the expansion and may even choose to implement the expansion in several stages over the seven-year crediting period.

This activity would increase the quantity of garden and park waste collected and reduce the quantity of

organic material that goes to landfill. In order to register the expanded waste diversion activity as an eligible offsets project the local government would need to provide information about the expansion activity including:

- the type of waste to be source separated (municipal solid waste);
- the size of the expansion (approximately 4500 properties);
- evidence regarding the extent of the existing garden and park waste collection service (records of the number of properties that currently receive the service); and
- the waste treatment facility that will process the organic material collected.

Garden and park waste that was already collected in the activity area prior to the expansion activity is accounted for using the expansion proportion (see section 35). The effect of the expansion proportion is that only the eligible organic material from the additional 4500 properties is included in the calculations.

12 Requirements for aggregated waste diversion activities

Section 12 sets out the requirements for aggregated waste diversion activities, where eligible organic material collected by a proponent as a result of multiple new or expansion waste diversion activities is processed at a single ***waste treatment facility or unit***. The aggregated waste diversion activity approach provides simplified monitoring and calculation requirements for waste treatment facilities. Please note that the term 'aggregated' used in this Determination to define an aggregated waste diversion activity has a separate meaning from other uses of the term 'aggregated' under the Emissions Reduction Fund.

An aggregated waste diversion activity must contain two or more new waste diversion activities and/or expansion waste diversion activities. The activities that make up an aggregated waste diversion activity are referred to as 'sub-activities'.

An aggregated waste diversion activity may enable a waste management facility to be the proponent for several activities implemented in areas surrounding the facility. Proponents who propose to undertake several source separation activities, with waste treated at a single waste management facility, may choose to combine the activities and register as an aggregated waste diversion activity.

The Determination enables a proponent to remove a ***sub-activity*** from an aggregated waste diversion activity. If such a decision is made, the proponent must notify the Regulator in writing within 30 days of making the decision. This and other notification requirements are set out in Division 2 of Part 5 of this Determination.

Examples of aggregated waste diversion activities

An aggregated waste diversion activity enables proponents to implement combinations of new and/or expansion waste diversion sub-activities as a single activity. Aggregated waste diversion activities are likely to provide a number of benefits, which include:

- streamlining of reporting and audit requirements;
- opportunities to attain minimum abatement required for auction entry, by combining multiple sub-activities into a single project; and
- where the source separated organic material is processed at a single treatment facility, simplification of the calculation of project emissions using directly measured project emission values.

An aggregated waste diversion activity could be developed as a partnership between an organics processing facility and local governments. The activity could comprise the following three sub-activities:

- introduce a new mixed food and garden and park waste collection to all properties in local government area A;
- expand an existing garden and park waste collection service in local government area B; and
- introduce a new commercial food waste collection service to a network of businesses in the area surrounding the organics processing facility.

An aggregated waste diversion activity could alternatively be implemented by an energy generator in agreement with a number of manufacturers generating various types of eligible organic material. In exchange for supplying bins to the manufacturers for the collection and removal of particular types of waste material, the generator was able to secure a stream of suitable material which could be combined to produce a process engineered fuel to fire a boiler. In this case, the generator chose to undertake the following sub-activities in the aggregation activity:

- Sub-activity 1 was the collection of wood and wood waste from a large joinery firm;
- Sub-activity 2 was the collection of wood and wood waste from several local construction companies; and
- Sub-activity 3 was the collection of textiles from local clothing manufacturers.

It is important to note that an aggregated waste diversion activity requires information and supporting evidence be provided for each of the identified sub-activities. In this example, the organics processing facility may need to collaborate with the partner organisations to provide this evidence. The types of evidence required should be readily available as part of preparing to implement the source separation of organic waste. Relevant information includes:

- a description of each sub-activity to be implemented;
- the area in which each sub-activity will be implemented; and
- evidence, for each sub-activity, that material has been disposed of in landfill for the 24-month period prior to the project application.

If some information is unavailable at the time of project application a sub-activity can be identified as a ***potential activity*** and included in the calculations at a later date. When the project is registered as an eligible offsets project, the organics processing facility can begin to implement the source separation sub-activities in partnership with the business and other organisations involved in collecting, transporting and managing waste.

Organics processing facilities maintain detailed records such as invoices and weighbridge receipts for the quantity and origin of material processed. These records can be used to monitor the material that is received as a part of the aggregated waste diversion activity.

Emissions reductions would be calculated from the amount of eligible organic material diverted from landfill by each of the three sub-activities. The facility also measures the project emissions that result for processing waste.

13 Requirements for particular kinds of new waste diversion activities, expansion waste diversion activities and aggregated waste diversion activities

Section 13 sets out particular kinds of waste diversion activities, identified as likely to be the most common activities implemented under the Determination. The activities are a ***commercial food waste activity***, a ***municipal food waste activity***, a ***municipal garden and park waste activity*** and a

municipal food and garden and park waste activity. Definitions for these particular kinds of source separation activities are provided in subsections 13(2) to 13(5). These common activities are identified for the purpose of providing default waste composition values, set out in section 33.

If a source separation activity is not one of the particular, common kinds listed (a commercial food waste activity, a municipal food waste activity, a municipal garden and park waste activity or a municipal food and garden and park waste activity), and is not a ***charity diversion activity***, then a ***waste audit*** (set out in section 61) must be undertaken to determine waste composition. For example, if the activity involves the diversion of an eligible waste mix type other than food or garden and park from landfill (i.e. textiles, wood and wood waste, sludge, nappies, rubber and leather), a waste audit (section 61) must be undertaken to determine waste composition.

Commercial food waste activity means the source separation of food from a ***commercial and industrial waste*** stream. The food waste must be primarily free of packaging and separated into a bin intended only to contain food waste. Some packaging—whether organic (cardboard) or inorganic (plastic)—is eligible. The amount of packaging does need to be kept to a low level (in line with industry expectations) to ensure that the defaults for waste composition are accurate.

Municipal food waste activity means the source separation of the waste mix type food from mixed ***municipal solid waste***. The ***source separation bin*** used for municipal food waste activity must be intended to only contain the waste mix type food.

Municipal garden and park waste activity means the source separation of the waste mix type garden and park waste from mixed municipal solid waste. The garden and park waste must be separated into a bin intended to only contain that type of waste.

Municipal food and garden and park waste activity means the source separation of the waste mix type food and waste mix type garden and park from mixed municipal solid waste. The bin used for the activity must be intended to contain a combination of garden and park and food waste. The implementation of the activity must include community education and engagement activities. The requirement for a supporting education campaign helps to ensure that FOGO services are used correctly and therefore the waste composition is accurate and conservative.

14 Requirements for charity diversion activities

Section 14 provides the requirements for ***charity diversion activities***. Charity diversion reduces the amount of waste that is sent to landfill thereby reducing overall landfill emissions.

A ***charity diversion activity*** involves diverting surplus commercially or industrially-sourced food from landfill. The food must be distributed to a registered charity and used for a charitable purpose, as defined by the *Acts Interpretation Act 1901* (charity diversion activities do not require ***eligible waste treatment technology***). For charity diversion activities the eligible organic material is always the waste mix type 'food'.

It is also a requirement of charity diversion activities that food waste must have been generated in the activity area and disposed of in landfill for the relevant 24-month period prior to the project application. In general the activity area for a charity diversion activity would be the specific site(s) where food is collected.

Subsection 14(4) sets out that if charity diversion of food has occurred only intermittently or infrequently during the relevant 24-month period prior to application for project registration, this can be disregarded if the diversion occurred on no more than five occasions.

Example of a charity diversion activity

A charity diversion activity diverts food that would otherwise go to landfill from a commercial or industrial business to use by a registered charity. For example:

- A supermarket currently disposes of all surplus and unsaleable food in landfill. As part of a charity diversion activity the supermarket enters into an agreement with a charity to provide that food to the charity for distribution and consumption.
- The charity diversion activity must provide 24 months of records as evidence that the food had been disposed of in landfill prior to the project application.

Food is the only waste mix type eligible for a charity diversion activity.

15 Implementation of source separation activities

Section 15 sets out requirements that apply to all source separation activities. The requirements in this section help to clarify the ways in which project activities can be combined within an SSOW project.

Subsection 15(1) sets out that an activity area must be within a single state or territory. This is because the Determination uses some factors that apply specifically to individual states or territories.

Subsection 15(2) sets out that an activity area must not include a large-scale suburban development (often referred to as a greenfield development) or developments, since it is not possible to clearly identify the baseline scenario for these developments. The Determination is clear that the expansion of an existing source separation collection into a new large scale development would be business as usual activity and is not eligible for ERF support. Paragraph 15(2)(b) identifies that a large scale suburban development involves the construction of at least 400 new ***dwellings***, carried out as part of an overarching precinct, master plan or other development scheme. While individual stages of such developments may relate to the construction of less than 400 dwellings, these stages are excluded since they clearly form a part of the larger planned scheme of development.

If a development has landfill disposal records for the relevant 24-month period that are representative of all developed properties then the development could be eligible. Areas that do not have landfill disposal records for the relevant 24-month period would need to wait until the required records to support a baseline scenario are available. It is not the intent to exclude all developments that may change waste management services in an activity area. Developments such as minor sub-divisions or replacement of single dwellings with multi-unit dwellings in an established area can be included in an activity area. For these smaller developments it is recognised that waste would likely continue to be disposed of in landfill in the absence of the project.

Subsection 15(3) sets out that a project may involve more than one source separation activity in the same activity area. This enables an activity area to benefit from charity diversion or other source separation activities in conjunction with other improvements in waste diversion.

Example of an SSOW project with more than one source separation activity in the same activity area

Some SSOW projects may have more than one source separation activity within an activity area. Two examples of this situation are provided below.

Example 1

A project proponent intends to implement a significant upgrade to waste management services in a local government area as an SSOW project. The local government area (the activity area) already provides a garden and park waste collection service as a voluntary service to some properties. The SSOW project will expand the collection of garden and park waste to become a standard service provided to all properties. In addition, the current service will be upgraded to include food waste as well as garden and park waste.

This SSOW project will have two activities in the activity area: a new waste diversion activity that calculates the emissions reductions from food waste diverted from landfill to eligible waste treatment technology, and an expansion waste diversion activity that will calculate the emissions reductions from the garden and park waste collected from the expanded number of properties receiving the garden and park collection service.

Example 2

A commercial food retailer intends to implement an upgrade to waste management services as an SSOW project. The commercial food retailer may have two source separation activities in the activity area if it implements a new waste diversion activity to divert food waste from landfill as well as a charity diversion activity to divert surplus food to charity. These activities occur in the same activity area and the emissions reductions from each of the activities are calculated separately.

Project proponents must provide appropriate evidence to verify each source separation activity as set out in section 16.

16 Information to be included in application for declaration—original activities

Section 22 of the Act provides that a person may apply to the Regulator for the declaration of an offsets project as an eligible offsets project. Section 16 of the Determination requires information to be included in the application about each source separation activity forming part of the SSOW project.

For each source separation activity identified at the time of the application, the application must include:

- A description of the source separation activity (or sub-activity) and the eligible organic material that will be diverted from landfill, including:
  - the waste that will be source separated (e.g. municipal solid waste);
  - the eligible organic material (e.g. food waste);
  - how it will be source separated (e.g. new 240 litre bins provided to properties); and
  - all relevant information on the collection (e.g. material will be collected weekly).
- Information that clearly identifies the activity area, which may include information detailing each specific site or more general information indicating the total area that will participate in the activity (e.g. all properties in the local government area).

Note that references in the Determination to activity (in the singular) may also include references to activities (the plural) and vice-versa.

Further examples of the information required upon application, for different types of activities, include:

- If a new waste diversion activity, a description of any existing source separation activity and how the project activity meets the definition of a new activity. This may include information regarding existing source separation activity that is known to occur in the activity area and justification that it will not be included within the project activity and its calculations.
  For example, for an activity that will divert municipal food waste from landfill, relevant information could include information about an existing garden and park waste collection service in the activity area. For an activity to divert commercial food waste, relevant information could include information about municipal food waste collection services that occur in the activity area. In both examples it is important that the project application provides evidence that the proposed source separation activity is new and will not include existing activity within the calculations.

- If the activity is an expansion activity, a description of existing source separation activity and how it will be expanded, including:
  - the type of existing activity (e.g. a voluntary garden and park waste collection service providing 240 litre bins to 500 properties on a fortnightly basis); and
  - the actions that will expand the activity (e.g. new 240 litre garden and park waste bins will be provided to approximately 4500 additional properties in the activity area, with fortnightly collection).
- For both new and expansion waste diversion activities, a description of how the waste will be processed to divert it from landfill, including identifying the location of the waste treatment facility or unit or the organisation responsible for managing the waste.
- For aggregated waste diversion activities, the information set out in the preceding points is required as relevant for each of the new and/or expansion sub-activities in the aggregated waste diversion activity, as well as information to identify the waste treatment facility or unit that will process the eligible organic material diverted from landfill by the project.
- If the activity is a charity diversion activity, a description of the process for diverting food from landfill and the details of the registered charity to which the food will be supplied. This could include the charity or charities likely to receive the food or a description of the food rescue organisation and its general procedures for collecting and distributing surplus food.

In addition to the information provided upon application, a project must also provide appropriate evidence confirming that waste to be diverted by the project would be eligible organic material (i.e. evidence to verify that waste has been disposed of in landfill for the relevant 24-month period). If the activity is an expansion waste diversion activity then evidence is also required to verify the number and volume of ***source separation bins*** used by the existing activity.

For example, an expansion waste diversion activity would need to provide evidence for the relevant 24-month period to verify:

- that waste in the activity area was disposed of in landfill;
- the activity will expand the number of bins provided to properties within the area to increase the quantity of eligible organic material that is source separated;

- the number and volume of source separation bins that are currently in use (i.e. at the time of application) in the activity area and the expected expanded number of bins; and
- the waste mix types collected in those bins

Appropriate evidence consists of weighbridge evidence, waste transport contracts or invoices that provide evidence that the waste has been disposed of in landfill, and the landfill at which this disposal occurred.

For all types of activities to be considered eligible, it is a central requirement of the Determination that the waste proposed to be diverted by an activity has been disposed of in landfill for the 24-month period prior to the project application.

If a project does not have appropriate evidence to support the project application, or does not have evidence for the complete 24-month period, the application would not meet the project eligibility requirements.

The information specified in section 16 of the Determination is in addition to any requirements specified in the Act, regulations and legislative rules.

In particular, section 13 of the Rule specifies information and documents to accompany a project application. The Rule requires that information identifying each of the locations where the project will be undertaken should be provided. Paragraphs 16(1)(c), (f) and (g) of the Determination require this location information to be clearly linked to each relevant activity to ensure that each activity is eligible.

17 Information to be included in application for declaration—potential activities

Section 17 provides an option for ***potential activities*** to be included in an SSOW project. A potential activity is an activity that is likely to be implemented but for which not all the information specified in section 16 is available at the time of the project application. This enables a proponent to include a likely activity in a project application while finalising the exact data and other evidence that is required to meet eligibility requirements. In those cases where the full range of information required by section 16 is unavailable, subsection (2) requires a proponent to describe the potential activity in general terms.

Potential activities require the same supporting evidence and information as ***original activities*** in order for the activity to be included in the project calculations. This information is then required in the offsets report for the reporting period that the activity is implemented (see section 50).

At the time of project application, a proponent must provide a description of the likely nature of a potential activity and the likely type of eligible organic material to be diverted from landfill.

18 Information to be included in application for declaration—trial waste diversion activities etc.

Section 18 sets out information to be included in an application for relevant types of activities. If an activity includes a ***trial waste diversion activity*** during the relevant 24-month period, or undertook some charity diversion activity during the relevant 24-month period, information and evidence to verify these actions will also be required.

Division 2 Additionality requirements

19 Requirement in lieu of newness requirement

This section only applies to proponents who submitted a notice of intent in 2014 under the transition arrangements of the *Carbon Farming Initiative Amendment Act 2014* (the amendment Act).

Transitional provisions in the amendment Act allowed prospective proponents who gave notice of their intention before the date of Proclamation of that Act to have the newness of their projects assessed as at the time of their notice, provided that they made the section 22 application before 1 July 2015. The effect of this section is to extend this deadline to 1 July 2016 for the Determination.

Part 4 Net abatement amount

Division 1 Preliminary

20 Operation of this Part

Paragraph 106(1)(c) of the Act provides that a methodology determination must specify how to calculate the carbon dioxide equivalent (CO_2-e) net abatement amount for the project in relation to a reporting period. Part 4 sets out these rules.

21 Overview of gases accounted for in abatement calculations

This section provides a summary of the emissions sources that are assessed in the Determination in order to determine the net abatement amount. The emissions sources which need to be taken into account when calculating abatement for the project are set out in Table 1 below.

Table 1: Overview of gases accounted for in the abatement calculations

Greenhouse gases and emissions sources		
Relevant calculation	**Emissions source**	**Greenhouse gas**
Baseline emissions	The decomposition of eligible organic material in landfill	Methane (CH_4)
Project emissions	Fuel consumption	Carbon dioxide (CO_2) Methane (CH_4) Nitrous oxide (N_2O)
Project emissions	Electricity consumption	Carbon dioxide (CO_2) Methane (CH_4) Nitrous oxide (N_2O)
Project emissions	Emissions from composting processes	Methane (CH_4) Nitrous oxide (N_2O)
Project emissions	Emissions from anaerobic digester leakage or venting events	Methane (CH_4) Nitrous oxide (N_2O)
Project emissions	Emissions from the combustion of biogas	Methane (CH_4) Nitrous oxide (N_2O)

A number of emissions sources are excluded from the abatement calculations for the following reasons:

- In the baseline scenario, emissions from fuel or electricity used in the management of waste at a landfill are excluded as these emissions are likely to be small and it is impractical for project proponents to access this information;
- Carbon dioxide emissions emitted from organic waste decomposition or the combustion of biogas are excluded. These emissions are biogenic in origin and are not counted towards Australia's national greenhouse gas accounts; and
- Emissions from the transport of material collected by a source separation activity are considered immaterial to the overall emissions for the project. This exclusion is based on analysis of data from existing waste diversion projects and estimation of the likely distances the source separation activities will transport material. This exclusion also simplifies the record keeping and reporting requirements for project proponents.

Division 2 Method for calculating net abatement amount

The Determination calculates emissions reductions in equal portions over seven years subsequent to reporting eligible source separation activity. This approach is consistent with the *Carbon Credits (Carbon Farming Initiative—Alternative Waste Treatment) Methodology Determination 2015*.

This approach to crediting emissions reductions is used because in a landfill, organic material decays over several years. The time taken for organic material to decay depends on the type of material, but can be up to 100 years. Crediting over seven years avoids the administrative burden of reporting emissions reductions over a 100-year period, while still generally representing the profile of emissions generated. Emissions reductions from the avoidance of landfill disposal have no risk of reversal as diversion from landfill cannot be reversed.

As a result of crediting in equal portions over seven years, SSOW projects have an extended accounting period consistent with section 7A of the Act. The extended accounting period enables a proponent to submit offsets reports after the crediting period has ended. This is required as the project would have credits that continue to accrue after the end of the seven-year crediting period and credits may only be issued by the Regulator following receipt of a valid offsets report (see section 76 of the Act). The extended accounting period begins after the end of the crediting period and ends at the time specified in the legislative rules.

An SSOW project would be awarded credits upon submission of an offsets report. Offsets reports are submitted for each reporting period at intervals nominated by the proponent (typically periods of 6 months to 2 years). Offsets reports may be submitted throughout both the crediting period and the extended accounting period. Figure 2 illustrates the differences between the crediting period and the extended accounting period.

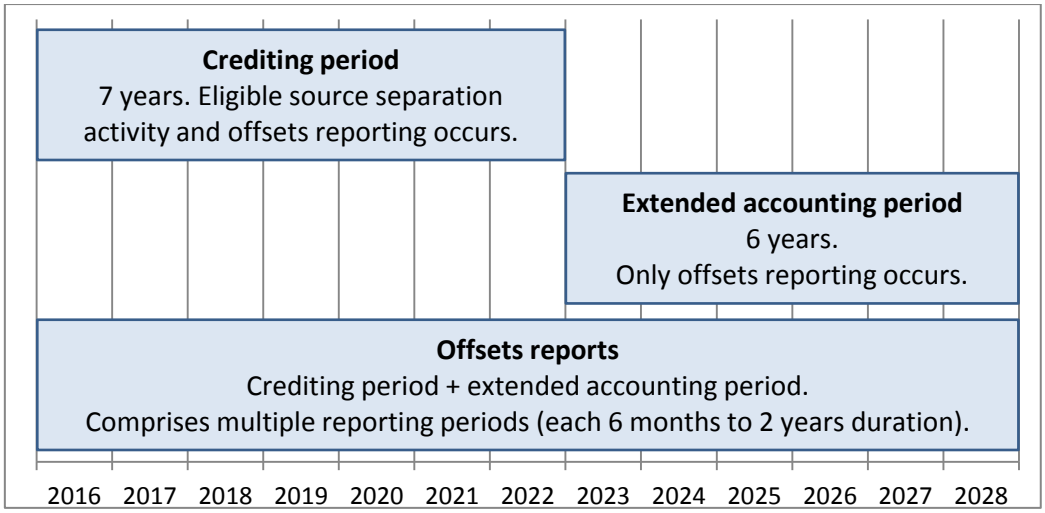


Figure 2: Diagram illustrating the crediting period and extended accounting period for an SSOW project commencing in 2016.

The result of the extended accounting period is that SSOW projects will receive credits over a period of approximately 13 years (the time period is approximate due to flexible reporting periods). Figure 3 provides an example of crediting in seven equal portions and the extended accounting period.

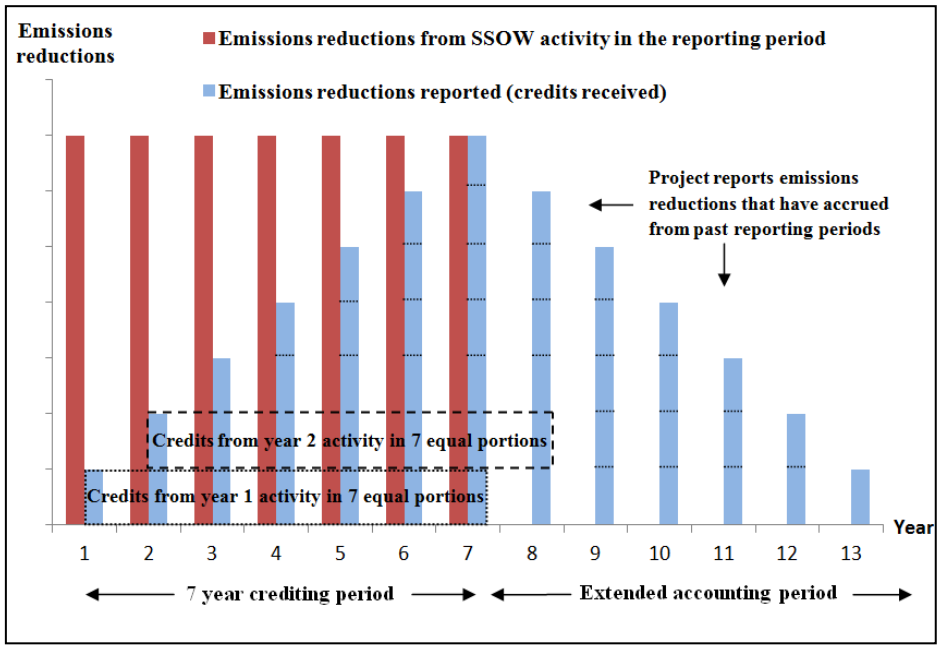


Figure 3: An example of crediting an SSOW project in seven equal portions and the extended accounting period. Note that the example assumes equal reporting periods at 12-month intervals and that emissions reductions in each reporting period remain the same over the seven year crediting period.

For SSOW projects the net abatement amount is the 'activity abatement portion' for the reporting period plus the sum of 'activity abatement portions' that have accrued from previous reporting periods. 'Activity abatement portion' is the term used to describe each of the seven equal portions of the SSOW emissions reductions. The first portion is included in the offsets report for the reporting period and remaining portions accrue over the subsequent six years. The portions that accrue will be included in future reporting periods.

Activity abatement portions, including baseline and project emissions for each source separation activity, are calculated in Division 3 of the Determination.

22 Summary

Section 22 provides a summary of the approach for calculating the net abatement amount.

23 Net abatement amount

Section 23 calculates the net abatement amount as the relevant activity abatement portion for the reporting period (worked out in accordance with section 26) plus the sum of activity abatement portions that have accrued from previous reporting periods.

Equation 1 is structured to satisfy the no double counting test in section 15A of the Act which requires that abatement is only reflected in the unit entitlement for a certificate of entitlement if it has not been reflected in the unit entitlement for another certificate or project.

Division 3 Method for calculating activity abatement portions

Subdivision A Activity abatement portions

24 Summary

Section 24 provides a summary of the approach for calculating the activity abatement portions for the reporting period.

25 Activities to be included in calculations

Section 25 provides information on the source separation activities to be included in the calculations for a reporting period. Each of the SSOW project's original activities should be included in the calculations. If the project had any potential activities and one or more of these were implemented during the reporting period then the potential activities must also be included in the calculations. In summary, all activities that the proponent is undertaking should be included in the calculations.

Subsections 25(2) and 25(3) provide the option for a proponent to leave out an activity from the calculations. If an activity is left out of the calculations then it must not be included in any future reporting periods or calculations. The option in subsections 25(2) and 25(3) to exclude an activity from the calculations simplifies reporting obligations if an activity ceases to be implemented.

When a potential activity is implemented, or when an activity is left out of the calculations, the proponent will be required to include additional information in the offsets report for the reporting period in accordance with section 50.

Section 25 enables a proponent to add and remove activities to and from the project calculations. This enables potential activities (for which all the required evidence is not available at the time of application) to be added to the calculation when they begin to be implemented. This enables projects to adjust the required calculations rather than apply to vary a registered offsets project. Requirements for a variation of declaration of an eligible offsets project are outlined in sections 29 to 31 of the Act.

Paragraph 25(4)(a) sets out that only original activities or potential activities may be included in abatement calculations.

Paragraph 25(4)(b) sets out that where a proponent chooses to divide a project in accordance with the provisions set out in Part 6, only those activities which are included in the relevant part of the divided project are to be included in the calculations of abatement.

26 Calculation and accrual of activity abatement portions

Activity abatement portions are calculated using equation 2. This is calculated as the sum of emissions reductions for each activity. Emissions reductions are the baseline emissions for an activity *less* project emissions for an activity. Emissions reductions are multiplied by the improvement factor (IF_n) to account for expected business as usual improvement in resource recovery over time. The improvement factor is a decay rate that accounts for business as usual improvements and is described in detail in section 48.

The Determination prescribes that SSOW projects receive abatement in equal portions over seven years subsequent to reporting eligible source separation activity. Therefore equation 2 divides the total emissions reductions calculated in a reporting period into seven equal portions. The first portion (A_0) is included in the offsets report for the reporting period and the remaining portions accrue over the subsequent six years. The portions that accrue will be included in future reporting periods.

Subsection 26(2) sets out that the activity abatement portions for the reporting period are taken to be zero if the reporting period is not included in the crediting period (this occurs during the extended accounting period). This enables the project proponent report accrued activity abatement portions without needing to undertake additional calculations.

Subsection 26(3) outlines the time when activity abatement portions A_1 to A_6 accrue. These activity abatement portions may only be included in a calculation of net abatement and reported at a time after they have accrued.

Worked example of the calculation and accrual of activity abatement portions

A registered SSOW project consisting of a single activity commences in 2016. The proponent nominates to calculate and report abatement annually.

Equation 2 in the Determination provides: $$A_Y = \frac{\sum_a \left(E_{B,a} - E_{P,a}\right) \times IF_n}{7}$$

Using equation 2, the proponent calculates total abatement and the seven activity abatement portions (one year intervals) for each reporting period. The activity abatement portions (A_0 to A_6) do not change once they have been calculated.

The first activity abatement portion (A_0) is included in the reporting period that the source separation activity occurs. The other six portions (A_1 to A_6) accrue over the subsequent six years and would be included in an

offsets report when they have accrued and are eligible to be reported.

To determine the net abatement for a reporting period (i.e. the credits that would be awarded), the proponent uses equation 1 of the Determination to add together relevant abatement portions: $A_N = A_0 + A_{Acc}$

This would include an activity abatement portion from the activity undertaken in the reporting period (i.e. A_0) and activity abatement portions from previous reporting periods that have accrued, if any (A_{Acc}).

The application of equation 1 and equation 2 to the calculation of net abatement for the example project is illustrated in Table 2 and Figure 4 below.

Table 2: Illustration of the net abatement generated during the crediting period (calculated using equations 1 and 2 of the Determination) for the example project. The column A_N (on the far right) shows the net abatement that would be reported. Cells are coloured to assist tracking of abatement portions through the example.

Year	Abatement portions from 1st reported period	Abatement portions from 2nd reported period	Abatement portions from 3rd reported period	Abatement portions from 4th reported period	Abatement portions from 5th reported period	Abatement portions from 6th reported period	Abatement portions from 7th reported period	A_N (net abatement for reporting period, tonnes CO_2-e)
2016	250 (A_0)							250
2017	250 (A_1)	500						750 (250+500=750)
2018	250 (A_2)	500	300					1050 (250+500+300 =1050)
2019	250 (A_3)	500	300	400				1450
2020	250 (A_4)	500	300	400	250			1700
2021	250 (A_5)	500	300	400	250	100		1800
2022	250 (A_6)	500	300	400	250	100	400	2200
2023		500	300	400	250	100	400	1950
2024			300	400	250	100	400	1450
2025				400	250	100	400	1150
2026					250	100	400	750
2027						100	400	500
2028							400	400

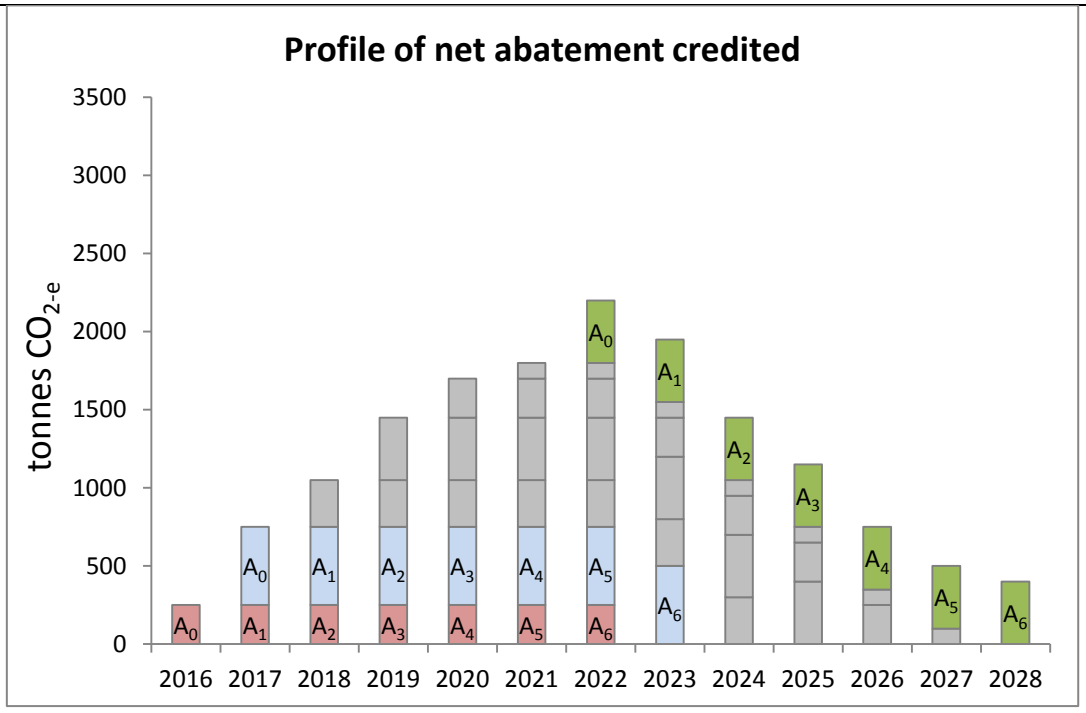


Figure 4: Crediting profile of the example project. This graph demonstrates how abatement generated in one reporting period is divided into seven parts, which are credited at the end of the reporting period (A_0) and over the six subsequent years (A_1–A_6). In the example project, peak crediting occurs in the seventh year, when there is an accrual of abatement portions for all reported periods (years, in this case).

Subdivision B Calculations relating to baseline emissions

The approach to calculating baseline emissions closely follows the approach established by other waste diversion methodologies. This is a conservative estimate of the emissions that would occur if the diverted material were otherwise to decay in landfill, and is consistent with the offsets integrity standards. For expansion activities (or sub-activities, for an aggregated waste diversion activity), the calculations for baseline emissions include a calculation to account for material collected by an established collection service (see section 35).

27 Summary

Section 27 provides a summary of the approach for calculating the baseline emissions for each source separation activity. The baseline emissions calculations should be repeated for each activity that is a part of the SSOW project.

28 Baseline emissions

Baseline emissions calculate the potential methane emissions from eligible organic material that would have been disposed of in landfill in the absence of the project. The amount of methane generated and released to the atmosphere is based on calculations for the organic content of the material including the type of organic material and emissions it would generate as it breaks down in landfill (see sections 29 to 35).

The baseline emissions calculation accounts for the portion of methane generated that would be oxidised in the landfill profile and soil cover. This is a default deduction using the factor for near surface methane oxidation in landfill used in the NGER (Measurement) Determination. Emissions of methane are converted to carbon dioxide emissions using the global warming potential for methane that is current in the ***NGER Regulations*** at the end of the reporting period (consistent with section 7 of this Determination).

The baseline calculation also accounts for the amount of methane that would be captured and combusted in a landfill. This is taken to be the average percentage of landfill gas captured in the state or territory in which the source separation activity occurs. The average value is determined using data from the Australian National Greenhouse Gas Inventory. Projects that are declared an eligible offsets project will use the value in force in the Determination at the time the project commences and retain the value for the seven-year crediting period.

The average percentage of landfill gas captured in the state or territory in which the project operates represents a conservative estimate of the amount of landfill gas capture that would have occurred if eligible organic material processed by the source separation activity had been sent to landfill. This is a straightforward approach that simplifies project administration and aligns with the offsets integrity standards. This approach is consistent with the approach used in other waste diversion methodologies.

The average percentage of landfill gas captured is determined using data from the *Australian National Greenhouse Gas Inventory Report 2012*. The average rate of landfill gas capture will be updated over time in line with data published in future Inventory reports.

29 Methane generation potential of degradable organic carbon content in eligible organic material

The calculation of the methane generation potential of the degradable organic carbon in eligible organic material (M_B) uses the quantity of each waste mix type in the eligible organic material diverted from landfill by the source separation activity and multiplies this by the degradable organic carbon values of the waste mix types (DOC_w) and the fraction of degradable organic carbon dissimilated ($DOC_{F,w}$).

DOC_w and $DOC_{F,w}$ are default values prescribed in the NGER (Measurement) Determination which determine the emissions of a specific waste mix type (for example, the emissions produced by food waste). The quantity of each waste mix type in eligible organic material EO_w) is calculated in section 30, 31 or 32 depending on the type of source separation activity.

30 Quantity of a waste mix type in eligible organic material—sub-method 1

Section 30 sets out the first of three sub-methods for determining the quantity of eligible organic material (EO_w) diverted from landfill. Sub-method 1 specifically applies to ***charity diversion activities***, for which food is the only waste mix type that may be source separated.

Sub-method 1 uses the quantity of material collected by the activity (less any material rejected and sent to landfill) and multiplies this by the default proportion of eligible organic material for charity diversion activities and the landfill diversion factor. Material collected by a charity diversion activity may be rejected and disposed of in landfill if, for example, a refrigeration system malfunctioned

requiring that food stored prior to distribution must be disposed of in landfill. Any such rejected material (Q_{RJ}) is subtracted from the calculation of abatement.

The default proportion of eligible organic material for charity diversion of food is 0.95 (95 per cent). This assumes that 95 per cent of the material collected by a charity diversion activity is usable food. The remaining 5 per cent accounts for food packaging.

The landfill diversion factor is applied to ensure that material processed by an activity represents genuine landfill diversion. For charity diversion activities, the landfill diversion factor of 0.75 (75 per cent) assumes that approximately 25 per cent of food diverted to a charity will not be consumed or distributed. Waste is generated from charity diversion activities from unavoidable sources such as bones or vegetable peel and from avoidable sources such as food that is spoiled or not consumed. It is assumed that this waste would be disposed of in landfill.

The Determination applies a default landfill diversion value (*LFD*) because the amount of waste generated from a charity diversion activity is difficult to measure and would be administratively burdensome for project proponents. The value of 25 per cent is taken as a conservative estimate of the waste disposed of in landfill by a charity diversion activity.

Subsection 30(2) sets out that if EO_w is less than zero then the value is taken to be zero. If this occurs no further calculations are required for the activity.

31 Quantity of a waste mix type in eligible organic material—sub-method 2

Section 31 sets out the second of three sub-methods for determining the quantity of eligible organic material diverted from landfill. Sub-method 2 applies to either new waste diversion activities or expansion waste diversion activities, and differs from sub-methods 1 and 3 in that it allows the processing of material diverted from landfill by one activity at one or multiple facilities (for example, where the proponent of a waste diversion activity implemented over a large activity area wishes to process waste at whichever facility is closest to the point of separation). An activity with more than one waste mix type in the eligible organic material must repeat this calculation for each waste mix type. Where an activity uses more than one facility to process waste, the calculation must also be repeated for each facility.

Sub-method 2 uses the quantity of material collected by the activity (less any material rejected and sent to landfill) and multiplies this by the proportion of eligible organic material, the landfill diversion factor and the expansion factor. Material may be rejected and sent to landfill because of excessive contamination that makes it unable to be processed by the waste treatment facility or unit. In general, this should be measured as whole loads of material. Where multiple facilities are used to process waste, sub-method 2, requires the total material collected and sent ($Q_{MC,f}$) and the rejected material ($Q_{RJ,f}$) to be measured separately for each facility. Any rejected material is deducted from the calculation of abatement. Note that whereas $Q_{RJ,f}$ measures the amount of material rejected before it enters the processing stream, $Q_{TRW,f}$ (section 38, equation 11) measures residual waste that remains following the treatment process. The waste measured by both $Q_{RJ,f}$ and $Q_{TRW,f}$ is sent to landfill.

Depending on the kind of sub-activity implemented, sub-method 2 provides two options for determining the proportion of waste mix type *w* in the eligible organic material ($W_{EO,w}$). If the activity

is a particular kind of source separation activity identified in section 13, a proponent may choose to either use default values for $W_{EO,w}$, or monitor $W_{EO,w}$ directly in accordance with the ***monitoring requirements***. If the activity is not a kind identified in section 13, a proponent must monitor $W_{EO,w}$ directly in accordance with the monitoring requirements. The monitoring requirements for $W_{EO,w}$ require that a ***waste audit*** is used to determine $W_{EO,w}$ (see section 61).

The landfill diversion factor (*LFD*) is applied to ensure that material processed by an activity represents genuine landfill diversion. If the waste mix type *w* is garden and park, the table in section 34 is used to determine the appropriate landfill diversion factor. Values for the landfill diversion factor are described in detail in section 34.

If the source separation activity is an expansion waste diversion activity then the expansion proportion (*EX*) in section 35 is applied to account for any source separation that was occurring prior to the project application. Only the additional component in an expansion activity is eligible for crediting.

Subsection 31(2) sets out that if EO_w is less than zero then the value is taken to be zero. If this occurs no further calculations are required for the activity.

32 Quantity of a waste mix type in eligible organic material—sub-method 3

Section 32 sets out the third of three sub-methods for determining the quantity of eligible organic material (EO_w) diverted from landfill. Sub-method 3 applies to aggregated waste diversion activities. An aggregated waste diversion activity with more than one waste mix type in the eligible organic material must repeat this calculation for each waste mix type.

Sub-method 3 uses the quantity of material collected by each sub-activity (less any material rejected and sent to landfill) and multiplies this by the proportion of eligible organic material, the landfill diversion factor and the expansion factor. Material may be rejected and sent to landfill because of excessive contamination that makes it unable to be processed by the waste treatment facility or unit. Any rejected material is measured (as $Q_{RJ,sa,f}$) and deducted from the calculation of abatement. Note that whereas $Q_{RJ,sa,f}$ measures the amount of material rejected before it enters the processing stream, $Q_{TRW,f}$ (section 38, equation 11) describes the residual waste that remains following the treatment process. The material measured by both $Q_{RJ,sa,f}$ and $Q_{TRW,f}$ is sent to landfill.

Equation 7 adds together material collected by each sub-activity that makes up an aggregated activity. The quantity of each waste mix type *w* needs to be calculated for each sub-activity to account for waste composition differences between sub-activities and to accurately reflect the expansion factor for any expansion sub-activities.

Depending on the kind of sub-activity implemented, sub-method 3 provides two options for determining the proportion of waste mix type *w* in the eligible organic material for each sub-activity ($W_{EO,w,sa}$). If the sub-activity is a particular kind of source separation activity identified in section 13, a proponent may choose to either use default values for $W_{EO,w,sa}$, or monitor $W_{EO,w,sa}$ directly in accordance with the monitoring requirements. If the activity is not a kind identified in section 13, a proponent must monitor $W_{EO,w,sa}$ directly in accordance with the monitoring requirements. The monitoring requirements for $W_{EO,w,sa}$ require that a waste audit is used to determine $W_{EO,w,sa}$ for each sub-activity (see section 61).

The landfill diversion factor (*LFD*) is used to ensure that material processed by an activity represents genuine landfill diversion. If the waste mix type *w* is garden and park the table in section 34 is used to determine the appropriate landfill diversion factor.

If the sub-activity is an expansion waste diversion activity then the expansion proportion (*EX*) in section 35 is used to account for existing source separation that was occurring prior to the project application. Note that *EX,* calculated using equation 8, is taken as EX_{sa} for the calculation of equation 7.

Subsection 32(2) sets out that if EO_w is less than zero then the value is taken to be zero. If this occurs no further calculations are required for the activity.

33 Default proportion of waste mix type w in material collected

Section 33 sets out the default values for proportions of waste mix types garden and park and food in material collected from particular kinds of source separation activities. These values are conservative estimates of the proportion of eligible organic material, and were developed from expert analysis of waste audit data and industry evidence of common kinds of source separation activities.

Default waste composition proportions are provided for four common types of source separation: commercial food waste, municipal food waste, municipal garden and park waste and municipal food and garden and park waste. These activities are defined in section 13 and must be identified at the time of project application. Proponents undertaking these activities may choose to use the conservative default proportions for simplicity and ease of calculation. Alternatively, where an activity is likely to achieve higher values of a waste mix type, a proponent may choose to directly determine waste composition by undertaking waste audits as set out in section 61. If a proponent chooses to take the waste audit approach to determine the composition of the material generated by the activity, they must continue to use this approach for the remainder of the project.

Due to data limitations, default waste mix proportions are not provided for other types of source separation activities (for example, activities involving the diversion of an eligible waste mix type other than food or garden and park from landfill). Such activities are still able to use the method to calculate abatement, but must use waste audits to determine waste composition. Waste audit requirements are set out in section 61.

The default value for source separation of commercial food waste is 0.95 (95 per cent). This conservatively assumes that 95 per cent of the material collected is food waste.

The default value for municipal food waste source separation is 0.80 (80 per cent) food waste. Municipal food waste source separation generally includes apartment buildings or multi-unit dwellings where high concentrations of food waste are generated. The default percentage is based on waste audit data and evidence that shows some variation in the performance of municipal food waste source separation activities.

The default value for municipal garden and park waste source separation is based on extensive waste audit data. The composition value of 96 per cent is a conservative default for the quantity of garden and park waste in the material collected.

Default values provided for municipal food and garden and park waste source separation are conservative estimates based on available waste audit data. The waste composition of municipal food and garden and park source separation can be highly variable based on the implementation and performance of the source separation activity. Due to this high variability it is necessary for the default composition to be highly conservative. The defaults for municipal food and garden and park waste source separation assume that garden and park waste is 0.70 (70 per cent) and food waste is 0.10 (10 per cent) of the material collected.

The eligible organic material for a municipal food and garden and park waste activity or (sub-activity) may be one or both of the waste mix types that is collected. The type of eligible organic material is determined at the time of project application in accordance with Part 3 requirements of the Determination. For example, a municipal food and garden and park waste activity in an activity area that previously collected source separated garden and park waste would only have food waste as eligible organic material. The garden and park waste would not be new and therefore would not be eligible organic material.

Note that the approach to determining the default values focussed on available data for each individual waste mix type, and it is not intended for the values to be interpreted as strictly additive. The default values do represent the proportion of material generated by particular activities which can confidently be assumed, on average, to be eligible waste based on available waste audit data. The high variability observed in these data for some activity types results in the lower default values for those activities. Whilst higher proportions may occur in certain instances, these values are provided as conservative average values.

34 Landfill diversion factor

The landfill diversion factor means the proportion of a waste stream that can be confidently assumed to have been diverted from landfill by a new or expanded source separation activity. Evidence shows that when a new source separation bin is introduced, existing use of disposal options such as drop-off services, home composting or commercial collection services will decline as customers take advantage of the new service that is provided. The landfill diversion factor captures the fact that while some garden and park waste diverted will represent additional diversion, much of the waste would previously not have gone to landfill, by use of existing disposal options (drop-off services, home composting, commercial collection etc).

The NGER (Measurement) Determination provides evidence for the development of the landfill diversion factor values and forms the starting point for estimating the amount of garden and park waste that is diverted from landfill when a source separation activity is introduced.

The NGER (Measurement) Determination differentiates between two and three bin systems as a part of estimating landfill emissions—these are referred to as class I or class II respectively. The NGER (Measurement) Determination national defaults for the waste composition of municipal solid waste class I and II are set out in Figure 5 below. Although some of the waste mix types listed include inorganic components, the methane generation potential is determined by the organic content only.

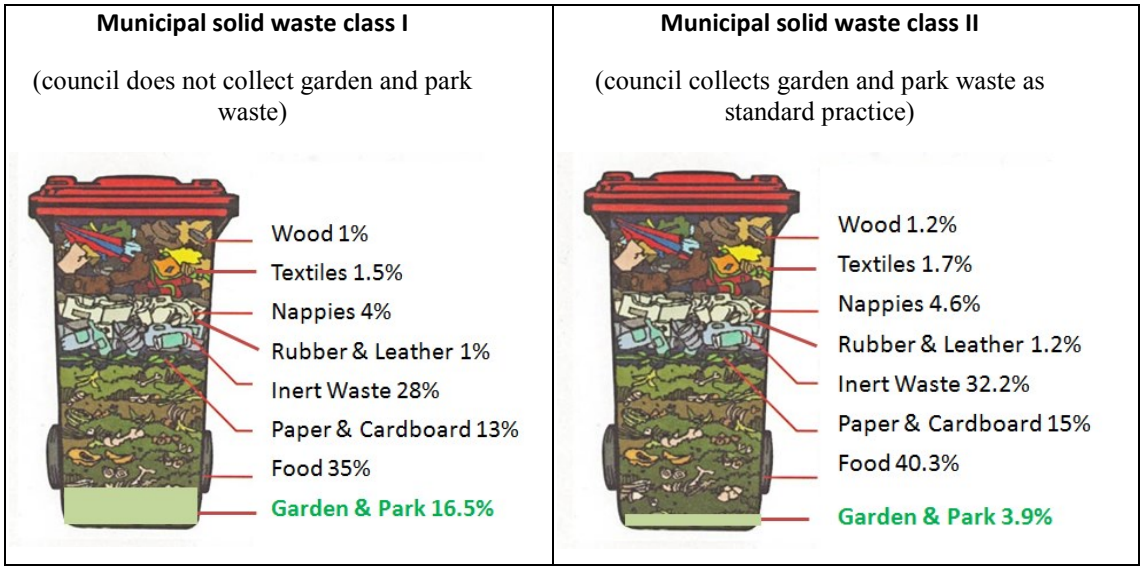


Figure 5: Illustration of the proportion of waste mix types within municipal solid waste class I and class II as provided under the NGER (Measurement) Determination.

The NGER (Measurement) Determination indicates that the introduction of a source separation garden and park collection service results in a significant reduction in the amount of garden and park waste that is disposed of in landfill. This reduction does not relate directly to the amount of garden and park waste that is eligible in the Determination.

The NGER (Measurement) Determination findings can be used to estimate the proportion of garden and park waste collected that is diverted from landfill. The NGER (Measurement) Determination defaults are based on analysis of waste audit data from thousands of individual households across the country. This data provides the quantity of garden and park waste in mixed municipal waste from both municipal solid waste class I and class II. Additional waste audit data from garden and park waste collection services can then be used to determine the quantity of garden and park waste that is collected. The difference between the amount of garden and park waste collected and the reduction in garden and park waste in mixed municipal solid waste provides the basis for a conservative estimate of the amount of garden and park waste diverted from landfill.

The values in the table in section 34 are based on detailed waste audit data and evidence of known differences between states and territories. These values were derived from audit data and evidence which demonstrated significant differences between states and territories in the amount of garden and park waste diverted upon the introduction of three bin systems. Such differences are likely the result of a combination of factors—including environmental (temperature, rainfall, soil productivity) and policy implementation factors—which vary between jurisdictions. Where data were limited or unavailable, values have been determined with reference to areas of similar environmental conditions.

The New South Wales landfill diversion factor value (30 per cent) is based on waste audit data from across the state. NSW has the most widely available data, which support an accurate estimation of the proportion of garden park waste collected that is genuinely diverted from landfill.

Victoria and Tasmania share the same landfill diversion factor value due to similar environmental conditions. Victorian waste audit data indicates that rates of landfill diversion are on average lower than NSW, consequently the landfill diversion factor value for Victoria is 19 per cent.

The landfill diversion factor values for Queensland and the Northern Territory are based on very limited data. It is expected that the generally warmer, tropical climates of these jurisdictions would result in a greater generation of garden and park waste in a year, and that existing alternatives to landfill disposal, such as drop off services, are already commonly used.

The landfill diversion factor values for Western Australia and South Australia are also based on limited data. While population centres for WA and SA share similar latitudes to those in NSW, it is expected that the landfill diversion rate will be lower in these states due to their generally drier climates resulting in lower overall production of garden and park waste.

The Australian Capital Territory has a very low amount of garden and park waste in the municipal waste stream due to its comprehensive existing waste diversion practices. This means that there is less garden and park waste that could be source separated and only a very small amount of garden and park waste collected by a new source separation activity would constitute genuine landfill diversion. A source separation bin would be likely to collect a large volume of material, however in most cases this would reflect a reduction in free drop off services that are widely used in the ACT. For these reasons the ACT has the very low landfill diversion factor of 5 per cent.

35 Expansion proportion

Expansion waste diversion activities must account for existing source separation collection services. The expansion proportion (*EX*) is calculated by comparing the total existing source separation bin volume with the total source separation bin volume after the expansion activity is implemented. The calculation uses both the number and size of bins to account for situations where multiple bin sizes are used within the activity area; the units used for s must be consistent. Note that the frequency of bin collection is not included as a factor in the calculation of the expansion proportion; an increase in the frequency of bin collection of an existing activity is not eligible as an expansion waste diversion activity.

Calculations of *EX* should be completed once for each reporting period for the project. This allows for further expansion to the service provided in the activity area over the crediting period. For example, a food waste collection service is expanded from a small service at selected properties in a local government area to a voluntary service provided to all properties in the local government area. The proponent can continue to add properties that receive the service to the expansion proportion as take up of the service increases. Note that *EX,* calculated using equation 8, is taken as EX_{sa} for the calculation of equation 7.

Expansion activities require evidence to calculate *EX* at the time of project application. An expansion activity without satisfactory evidence would not be included as part of an eligible offsets project.

Large scale suburban developments cannot be included in the calculation of the expansion proportion unless there are records of landfill disposal for the relevant 24-month period (see section 15).

Subdivision C Calculations relating to project emissions

36 Summary

Section 36 summarises the approaches for calculating project emissions. Project emissions sources include fuel use, electricity use and emissions from waste treatment processes. Project emissions calculations must be repeated for each source separation activity in an SSOW project.

37 Project emissions

The Determination provides two options for working out the project emissions of a source separation activity. Sub-method 1, set out in subsection 37(3), is a simplified approach that uses default estimation of project emissions based on the type of waste treatment technology that is used. Sub-method 2, set out in subsection 37(4), is a measurement-based approach that requires monitoring of fuel, electricity usage and other emissions from the processing of waste.

Subsection 37(2) sets out that if a proponent chooses to use sub-method 2 in a reporting period, then sub-method 2 must be used for all subsequent reporting periods for the source separation activity. Subsection 37(2) also sets out that sub-method 2 may only be used if certain parameters are monitored.

Sub-method 1

Subsection 37(3) sets out the calculations for project emissions using a simplified conservative estimate of project emissions, developed using project emissions data for existing alternative waste treatment facilities. The default values for the estimated project emissions from different types of eligible waste treatment technology are:

- for ***charity diversion activities***, 0.10; and
- for new, expansion or aggregated waste diversion facilities, 0.15.

Default project emissions values will significantly reduce monitoring obligations for proponents. In particular, default values will be most useful for proponents who may not have access to the detailed operations of the waste treatment process, and thus will assist in enabling a wider range of potential proponents to participate. For example, a supermarket is unlikely to have access to detailed waste processing information such as the quantity of fuel used to process organic material.

Sub-method 2

Sub-method 2 (equation 10) provides for the calculation of project emissions for a source separation activity by taking into account emissions from fuel use, electricity use and organic waste processing multiplied by the proportion of eligible organic material within the total waste processed by a waste treatment facility or unit. In the case that multiple facilities are used to treat waste for a new or an expansion waste diversion activity (set out in section 31), sub-method 2 determines total project emissions by taking the sum of the relevant emissions generated by each facility, f.

The project emissions calculations in sub-method 2 are repeated for each source separation activity in an SSOW project. An aggregated waste diversion activity is one activity and the project emissions calculations are completed for all of the eligible organic material that is processed by the waste

treatment facility or unit. This simplifies the project emissions calculations for these types of activities.

Sub-method 2 (subsection 37(4)) applies a proportion factor to the project emissions to exclude emissions from processing ineligible waste from being counted as a project emissions source. The emissions from processing eligible organic material are then multiplied by the proportion of eligible organic material in the total quantity of waste processed by the waste treatment facility or unit. If a project proponent were to only process eligible organic material then the proportion assigned is one (1) and all emissions from the processing of waste would be counted.

38 Total quantity of waste

Section 38 determines the total quantity of waste processed using equation 11. The total amount of waste is the total quantity of waste processed by the waste treatment facility or unit *less* the total quantity of residual waste disposed of in landfill.

Note that whereas $Q_{TRW,f}$ measures residual waste that remains following the treatment process Q_{RJ}, $Q_{RJ,f}$ and $Q_{RJ,sa,f}$ (referred to in sections 30, 31 and 32 respectively) measure the amount of material rejected before it enters the processing stream. The waste measured by all of these parameters is sent to landfill.

39 Emissions from fuel

Fuel use emissions are calculated using the quantity of fuel used for each type of fuel multiplied by the relevant fuel energy content and emissions factors. Emissions for each greenhouse gas and for each fuel type are then added together to determine the total emissions from fuel. Default fuel energy content and emissions factors from the NGER (Measurement) Determination are used to estimate emissions.

Biogas produced by a waste treatment facility or unit and used as a fuel source is not counted in equation 12. Emissions from the combustion of biogas are calculated separately in section 46.

40 Emissions from purchased electricity

Emissions from electricity are calculated based on the quantity of electricity used in the operation of a waste treatment facility or unit multiplied by the relevant scope 2 electricity emissions factor.

Electricity emission factors are set out in the NGA Factors document. Proponents must apply the relevant electricity emissions factor from the document as in force on the ***declaration day***. This is intended to provide 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. The NGA Factors document clearly identifies the table of emissions factors relevant to this definition.

If the electricity is from a source other than an electricity grid included in the NGA Factors document then the project proponent should apply the factor provided by the supplier of the electricity, or if that factor is not known, then the factor for off-grid electricity included in the NGA Factors document should be used.

Subsection 40(3) clarifies that section 7 (the use of factors current at the end of a reporting period) does not apply to the electricity emissions factor (EF_{EP}).

41 Emissions from processing eligible organic material

Emissions sources from processing eligible organic material include emissions from composting, emissions from the combustion of biogas and emissions from the leakage or venting of an anaerobic digester. Section 41 outlines steps for adding the emissions from each of these waste treatment processes together if multiple processes are used within an activity.

Processed engineered fuel manufacture is assumed to not have any specific emissions sources other than the emissions from fuel and electricity use—this is consistent with the approach used in the AWT Determination.

42 Emissions from composting processes

Two sub-methods are provided for the calculation of compost emissions, consistent with the approach used in the NGER (Measurement) Determination.

Sub-method 1, set out in subsection 42(6), provides the simpler approach, using default compost emissions factors provided by the NGER (Measurement) Determination. Due to the difficulties of measuring emissions from ***open windrow composting***, sub-method 1 must be used where an activity includes open windrow composting. If a proponent uses both enclosed and open windrow composting then emissions must be estimated using sub-method 1.

Sub-method 2, set out in subsection 42(7), requires direct measurement of compost emissions as prescribed in the NGER (Measurement) Determination. A proponent may choose to use sub-method 2, but only where enclosed composting is the sole treatment type.

Proponents who use enclosed composting may choose to directly measure the methane emissions of an enclosed composting activity (using sub-method 2), while estimating nitrous oxide emissions using the default emission factor (sub-method 1). This provides opportunities to reduce the cost for emissions measurement for proponents who directly measure methane emissions.

It is important to note that if a proponent uses sub-method 2 to calculate emissions for a gas, then sub-method 2 must be used to calculate those emissions for the duration of the project. Additionally, a proponent may not use sub-method 1 for methane measurement while using sub-method 2 to directly measure nitrous oxide.

For both compost emissions sub-methods the emissions recovered through a ***biofilter*** can be deducted using a default 10 per cent deduction.

43 Emissions from anaerobic digesters

Emissions from an anaerobic digester occur under two circumstances. The first is related to the ***biogas collection efficiency*** of the anaerobic digester. Under normal operation minor leakage will occur. Emissions from normal operation of the anaerobic digester are taken to be two per cent of the total methane produced. The value of two per cent is used consistent with the default 98 per cent collection efficiency of an anaerobic digester used in other methodology determinations. Two

per cent was determined based on the total amount of methane produced, rather than the methane sent to the combustion device, since leakage occurs prior to sending (therefore the equation applies the factor $\left(\frac{1}{CE} - 1\right)$ to $M_{Sent,h}$).

The second circumstance when emissions from an anaerobic digester occur is when there is a ***major venting event*** and biogas stored in the system is released to the atmosphere. In this circumstance proponents must use section 45 to determine the venting emissions.

44 Volume of methane sent to a combustion device

Project proponents may use either of two sub-methods to calculate the methane sent to combustion device *h*.

Subsection 44(2) (sub-method 1) uses the biogas sent to the combustion device and subsection 44(3) (sub-method 2) uses the electricity produced by an internal combustion engine. Each sub-method requires a different parameter to be monitored; either the volume of biogas sent to the combustion device, or the electricity produced by the internal combustion engine.

If a project proponent uses sub-method 1 then the fraction of the volume of biogas sent to the combustion device *h* that is methane ($W_{BG,CH4}$) may either be monitored continuously or a default value may be used. Further information for the monitoring requirements for $W_{BG,CH4}$ is included in Part 5 Division 2 of the Determination.

The energy content factor for 'sludge biogas that is captured for combustion (methane only)' is found in Part 2 of Schedule 1 to the NGER (Measurement) Determination.

45 Volume of methane vented due to a major venting event

The fugitive emissions from anaerobic digester major venting events, for example, when maintenance is required, must be calculated using equation 20. Venting emissions are calculated by adding the maximum biogas storage capacity of the storage system to the average daily flow of biogas multiplied by the number of days over which the venting occurs.

Venting emissions from combustion devices are not included. This is because if a flare is used as a combustion device it must have a ***monitoring and control system*** that shuts off the flow of gas when the device is not operating in accordance with manufacturer specifications or when no flame is detected. This reduces the potential for venting emissions from combustion devices and therefore this emissions source is considered immaterial.

46 Emissions from combustion devices

Methane and nitrous oxide emissions released as a result of methane combustion are calculated using equation 21. In this calculation the approach to emissions from combustion devices is consistent with the NGER (Measurement) Determination. The emissions factor for 'sludge biogas that is captured for combustion (methane only)' is found in Part 2 of Schedule 1 to the NGER (Measurement) Determination.

Subdivision D Calculation of improvement factor

47 Summary

Section 47 provides a summary of the improvement factor that accounts for expected business as usual improvements in waste management and resource recovery.

48 Improvement factor

Methodology determinations are required under the Act to ensure that emissions reductions calculated would be unlikely to occur in the ordinary course of events, commonly referred to as business as usual. The Determination accounts for these expected business as usual changes using an improvement factor that discounts the abatement over the seven-year crediting period.

Many factors affect waste management and result in improvements over time in the way waste is managed. These factors include environmental considerations and the cost of disposal in landfill as landfill sites reach capacity. The various strategies developed and implemented by state and local governments that seek to improve waste management and reduce the amount of waste sent to landfill are also of principal importance. A range of policies support these strategies, including landfill levies, waste management regulations, incentives for alternative waste treatment and education or information campaigns. Other major factors include population growth, increased waste generation, reduced landfill capacity, technological improvements and development of new waste processing infrastructure. These and other factors will mean that regardless of ERF incentives, there is likely to be improvement in the level of source separation activity over time.

To take these factors into account, the Determination includes an improvement factor that will discount abatement over the seven-year crediting period. The Department has undertaken an extensive review of current and projected waste management activity to develop a conservative improvement factor that would reflect likely improvements in waste management over the next decade.

This improvement factor represents business as usual improvements in resource recovery and assists to ensure emissions reductions are genuine and additional. The value for improvement is approximately 21 per cent over a 10-year period. This value was derived from data and modelling of waste management improvements over time. This means that in ten years, in the absence of the ERF, around 21 per cent more organic waste will be diverted from landfill. This is a national value, and would apply to all projects under the Determination. A 21 per cent improvement would translate to approximately a 2.1 per cent discount for each year of the crediting period. The improvement factor is applied to an SSOW project as zero in the first year, 2.1 per cent in the second year, 4.2 per cent in the third year and so on for the project's full seven-year crediting period.

Due to different waste management policies and factors such as the level of economic development and population growth, there may be significant variations in the rate of improvement in resource recovery which apply in specific jurisdictions and for different activities. This factor has been determined at a national level to represent the broad scale changes that are likely to occur across all forms of resource recovery.

Part 5 Reporting, record-keeping and monitoring requirements

Subsection 106(3) of the Act provides that a methodology determination may subject the project proponent of an eligible offsets project to 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 the Determination are in addition to any requirements specified in the Act, regulations and legislative rules.

Reporting periods

The Act and subordinate legislation provide for flexible reporting periods generally between six months and two years in duration (with monthly reporting available on application to the Regulator if abatement in a reporting period meets or exceeds 2000 tonnes of carbon dioxide equivalent).

Audit requirements

The Act provides for a risk-based approach to auditing emissions reductions. Subsections 13(1) and 76(4) of the Act provide for legislative rules to be made by the Minister, specifying the level of assurance, and the frequency and scope of the audit report that must be provided with offsets reports for different types of projects. These can be found in the *Carbon Credits (Carbon Farming Initiative) Rule 2015.*

Reporting, notification and record-keeping requirements

In addition to the requirements in the Determination, the Act and the *Carbon Credits (Carbon Farming Initiative) Rule 2015* specify other reporting, notification, record-keeping, and monitoring requirements that apply to all ERF projects.

Division 1 Offsets report requirements

49 Operation of this Division

The effect of paragraph 106(3)(a) of the Act is that a methodology determination may set out requirements to be included in each offsets report. Division 1 sets out offsets report requirements.

50 Information about source separation activities

Section 50 sets out the information for source separation activities that must be included in an offsets report. An offsets report must identify each source separation activity that is included in the calculations and provide the information listed about each of these activities. This includes the location of the activity area, the type of eligible waste treatment technology used and the quantity of each type of eligible organic material.

If a potential activity is included in the calculations then the proponent must provide the information and evidence to support the activity (as required in section 17).

If a proponent has chosen to leave out one or more source separation activities from the calculations then the offsets report must identify those activities and provide reasons why it was not included.

51 Determination of certain factors and parameters

Subsection 51(1) sets out that the offsets reporting requirements in this subsection apply where it is not possible to meet the requirements of subsection 7(1), as outlined in paragraph 7(2)(b). Further explanation of these circumstances is provided in section 7. The purpose of subsection 51(1) is to provide the Regulator with information on which version of the NGER (Measurement) Determination or other relevant external source has been used by a project proponent to meet the monitoring requirements set out in section 51. The proponent is required to detail in the offsets report the version of the NGER (Measurement) Determination or external source that was used when undertaking monitoring, the dates that the version was used and why it was not possible for the proponent to use the version that was in force at the end of the reporting period.

Subsection 51(2) makes clear that the requirements in this section only apply if a parameter is worked out using section 62, which is applied if a project proponent fails to meet requirements to monitor certain parameters.

The information required to be reported is listed in subsection 51(2) and is to provide the Regulator with evidence that will allow it to determine the nature and frequency of the failure to meet the monitoring requirements of the Determination and determine what compliance action may be appropriate.

Division 2 Notification requirements

52 Operation of this Division

The effect of paragraph 106(3)(b) of the Act is that a methodology determination may set out notification requirements for an eligible offsets project. Division 2 sets out these requirements.

The intention of the requirements in this Division is to assist proponents and the Regulator clearly track which activities and facilities are associated with particular projects, and to avoid possible confusion arising where more than one project purports to cover the same activities or waste streams.

53 Implementation of potential activities

Section 53 sets out that where a potential new, expansion or aggregated waste diversion activity identified in a project application under section 17 is implemented during a reporting period, the proponent must notify the Regulator within 14 days of the implementation of the activity.

Subsection 53(2) makes clear that in notifying the Regulator of the commencement of an activity, the proponent must identify the waste treatment facility or facilities at which the material will be processed, as well as the treatment technology used to process the material.

54 Change to nominated waste treatment facility or unit

Section 54 sets out that a proponent may switch treatment facilities, but in doing so, must notify the Regulator within 14 days of the switch. Section 54(2) sets out the information that must be provided in this written notification. The requirement to report within 14 days is to ensure timely updating of the Regulator's records; for example where an activity may be required by circumstances to process waste temporarily at another facility.

55 Change to sub-activities included in aggregated waste diversion activities

Section 55 sets out the process by which a proponent is able to no longer include a particular sub-activity in an aggregated waste diversion activity. This process requires written notification to be provided to the Regulator, within 30 days of making the decision to no longer include the sub-activity.

Division 3 Record-keeping requirements

56 Operation of this Division

The effect of paragraph 106(3)(c) of the Act is that a methodology determination may set out record-keeping requirements for an eligible offsets project. Division 2 sets out these requirements.

57 Record-keeping requirements—waste audits

Section 57 applies to proponent who use waste audits to determine the composition of material generated by one or more activities or sub-activities. These proponents must keep a record of evidence that each waste audit period occurred at a time representative of relevant seasonal variation.

Waste audit requirements are set out under section 61.

Division 4 Monitoring requirements

58 Operation of this Division

Monitored parameters are measured according to the instructions provided in Part 5 of the Determination. In general, monitored parameters refer to requirements specified in the NGER (Measurement) Determination.

59 Requirements to monitor certain parameters—charity diversion activities

Section 59 lists parameters used in the calculations for ***charity diversion activities*** in Part 4 of the Determination that require monitoring, including specifications for the procedure, frequency of monitoring, and how to derive the parameter value based on the measurements and monitoring data.

Charity diversion activities are required to monitor the quantity of eligible organic material collected and the quantity of any material rejected and disposed of in landfill. It is possible that in some cases, charity diversion activities may not result in the disposal of any material in landfill.

These parameters can be monitored using a scale or weighbridge for sufficiently large quantities. The scale or weighbridge must be calibrated according to manufacturer's specifications to ensure that values are accurate.

Any equipment or device used to monitor a parameter must be regularly calibrated by an accredited third party technician in accordance with the manufacturer's specifications.

60 Requirements to monitor certain parameters—other source separation activities

Section 60 includes a table of parameters used in the calculation of baseline and project emissions in Part 4 of the Determination that require monitoring. This details specifications for the monitoring procedures, frequency of monitoring, and how to derive the parameters from measurements taken during monitoring.

The Determination requires that measurement procedures meet the specifications of the NGER (Measurement) Determination or other relevant standards and other requirements under the *National Measurement Act 1960*.

This is implicit where a parameter must be measured in accordance with the NGER (Measurement) Determination, and otherwise a monitoring parameter must meet ***appropriate measuring requirements***. Any equipment or device used to monitor a parameter must be regularly calibrated by an accredited third party technician in accordance with the manufacturer's specifications.

Key monitoring parameters are:

- the quantity of material collected by each source separation activity (or sub-activity); and
- the quantity of rejected material that is disposed of in landfill by the activity (or sub-activity).

Other parameters may also require monitoring depending on the sub-methods used by the proponent and the type of waste treatment activity. These include:

- the quantity of fuel and electricity used to process the eligible organic material collected by the activity;
- the quantity of compost produced by the waste treatment facility or unit;
- the total quantity of waste processed by the waste treatment facility or unit; and
- the volume of biogas sent to combustion devices and the methane content of that biogas.

The table in subsection 60(1) sets out instructions for monitoring and determining parameters which relate to individual facilities, whereas the table in subsection 60(3) sets out instructions for parameters which are monitored and determined on an activity or sub-activity basis. In the tables in subsection 60(1), where the monitoring frequency of a parameter is specified as 'continuous', this means it should be monitored throughout the reporting period at intervals necessary to meet the specified standards.

Subsection 60(2) requires that if a proponent chooses to monitor the fraction of biogas sent to combustion devices that is methane ($W_{BG,CH4}$) continuously, they must monitor continuously for the entire crediting period. If a project proponent uses the default value for $W_{BG,CH4}$, the project proponent may change to continuous monitoring but cannot change back to the default.

Subsection 60(4) requires that if a proponent chooses to monitor the proportion of eligible organic material ($W_{EO,w}$) using a waste audit, they must continue to use this approach for the entire crediting period. If a proponent used the default values provided for $W_{EO,w}$, the proponent may change to the waste audit approach but cannot change back to the default.

As reiterated by subsection 62(4) below, failure to monitor parameters in accordance with this section is a breach of requirements of the Determination. In the case of certain parameters, where it has not been possible to monitor in accordance with the requirements, project proponents should use one of the approaches provided in section 62.

61 Requirement to undertake waste audits

Note that references to waste audits within this Determination refer to the requirements set out under section 61 of this Determination, and not to other project audit requirements set out under the Act and the Rule.

For the four common source separation activities identified in section 13, waste audits provide an option for directly monitoring the composition of eligible organic material diverted from landfill by an activity or, for an aggregated waste diversion activity, by a sub-activity. This enables an activity which has a composition of eligible organic material that is higher than the default (set out in section 33) to receive emissions reductions for the full amount of eligible organic material diverted.

For source separation activities other than ***charity diversion activities***, or those identified in section 13, default waste composition values are not provided and waste audits must be undertaken to determine the composition of eligible organic material. For example, a commercial business currently producing organic waste sludge that is disposed of in landfill could be eligible to separate the material and divert it to eligible waste treatment (provided that there is evidence of landfill disposal for the relevant 24-month period and other eligibility requirements have been met). As the Determination does not provide default waste composition values for this activity, the project must use waste audits to determine the composition of the eligible organic material.

Waste audits must account for typical variations in waste composition—due to seasonality or other factors. This variation will depend on the type of waste subject to the source separation activity, and the manner in which it varies throughout a year. For example, the relative proportions of food and garden and park waste mix types in a FOGO collection are likely to vary due to seasonality in the activity area. Alternatively, the composition of sludge produced during a food manufacturing process may be determined by production cycles which may not necessarily be linked to climatic seasons. The waste audit requirements recognise that such representativeness is best defined on a case by case basis. It is expected that the waste audit sampling periods for an activity, which must be representative of ordinary variation in the composition of the separated material, will be determined by the specialist waste auditor.

Where eligible organic material for an activity or sub-activity is processed at multiple facilities, the relevant waste audit or waste audits must ensure that waste composition is characterised for the activity or sub-activity, and account for any inter-facility variation in waste composition. It would be important for a proponent to demonstrate, where more than one facility is engaged to process material generated by an activity or sub-activity, that the waste audits have considered potential

variations between facilities in waste composition, and that the composition of the material does not differ markedly between facilities.

Waste audits need to be repeated to verify the waste composition and confirm the proportion of eligible organic material. A waste audit is based on samples from whole loads or bulk containers of material collected by the activity prior to processing by the eligible waste treatment technology. A waste audit should not collect samples from individual sites or bins. Sampling units (i.e. the amount of material that should be taken in any one sample) should be defined by the waste auditor at the first waste audit, and consistently applied throughout that and subsequent audits. Where sampling units differ in size due to circumstances, variation in sampling unit size should be corrected for. Samples should be taken such that all material generated during the waste audit period should be equally likely to be sampled. It is intended that while loads should be randomly sampled, relevant application of systematic sampling methods may also be employed in devising a robust sampling approach.

Waste audits need to achieve 95 per cent statistical confidence (with respect to sampling error) for each waste mix type that is the subject of the source separation activity contained within the eligible organic material diverted from landfill. This is to ensure that the audit provides an accurate representation of the waste composition generated by the activity. A waste audit does not need to detail all waste mix types in the material collected by the activity, but sorts material into eligible organic material, other organic waste and inert waste. The eligible organic material will need to be further sorted into component waste mix types if more than one waste mix type in the eligible organic material is the subject of the source separation activity.

For example, if a new waste diversion activity has introduced mixed food and garden and park source separation then the eligible organic material is both of these waste mix types. If the waste audit approach is used to determine the waste composition then the waste audit should be used to determine the proportion of food waste, garden and park waste, other organic waste and inert waste. These waste audit results should document the proportion of each type of eligible organic material (i.e. food waste 0.20, garden and park waste 0.70, other organic material 0.05 and inert waste 0.05). The results of the waste audit expressed as a proportion when used to in the calculation of eligible organic material in section 31 or 32.

Subsection 61(3) sets out that the required frequency of waste audits varies depending on the average annual abatement generated by the project. Projects generating small amounts of abatement are required to undertake fewer waste audits than projects generating large amounts of abatement. This ensures that the relative cost of audits is similar for projects regardless of the total number of ACCUs they are able to generate, as well as ensuring that larger projects can demonstrate higher levels of certainty in the composition of the material processed.

Subsection 61(4) sets out the requirements for a person that conducts a waste audit. In summary a waste audit must be conducted by a qualified third party engaged by the proponent for the purpose of conducting the audit, and includes cases where that person supervises the waste audit and is ultimately responsible for its proper conduct. The audit results must be recorded in a report that includes the process, calculations and assumptions that were used.

62 Consequences of not meeting requirement to monitor certain parameters

Compliance with requirements for monitoring of parameters is important to ensure that abatement credited by the project is calculated correctly. Monitoring requirements (sections 59 and 60) include the process for monitoring and the standard to which monitoring must occur.

In some cases for reasons beyond their control, a proponent may be unable to monitor a parameter to the requirements specified at one or more of the waste treatment facilities participating in the project. When this occurs, section 62 requires that adjustments must be applied for the affected facilities for the time intervals that the parameters are not being monitored in accordance with requirements (termed the ***non-monitored period***). The adjustment is necessary to ensure that all estimates or assumptions used in the Determination are conservative and in accordance with the offsets integrity standards outlined in section 133 of the Act.

For the parameters listed in item 1 of the table in subsection 62(1) and $DM_{Compost,j,f}$ in subsection 62(3), the consequence for not monitoring in accordance with the requirements is that the proponent must work out the parameter at the affected facilities using the default emissions factor for that parameter. The proponent must apply a 10 per cent adjustment to the default emissions factor (i.e. multiply the default factor by 1.1) for a period of up to three months in any 12 month period. For any period in excess of that three months the adjustment is 50 per cent (i.e. the factor is multiplied by 1.5).

For parameters listed in item 2 of the table in subsection 62(1), the proponent may make a conservative estimate of the parameter at the affected facilities for the duration of the period when monitoring has not occurred in accordance with the requirements. For example, a conservative estimate for W_{EO} for a proponent that is required to undertake waste audits would be to use the default values for W_{EO} at a conservative discount (such as 10 per cent) or to use historical waste audit data and other substantiating evidence from the project activity that supports a conservative estimate (such as data on residual waste).

The need for a proponent to apply the measures set out in section 62 arises from failure to meet monitoring requirements. In accordance with the Act, the Regulator may determine an appropriate response within its compliance and enforcement framework depending on the nature of the non-compliance (i.e. whether it is a one-off minor event or a more significant or repeated breach). This could include determining that that no eligible net abatement has been achieved by the project for the period of the breach. A note to subsection 62(4) indicates other actions the Regulator may take in response to a project proponent failing to meet monitoring requirements.

When measures set out in section 62 are used, project proponents will be required to include information relating to the monitoring failure in its offsets report for the relevant reporting period (see section 51). This is to provide the Regulator with evidence that will allow it to determine the nature and frequency of the failure to meet the monitoring requirements, and to determine what compliance action may be appropriate.

Section 62 does not provide an exhaustive list of all parameters used in the Determination. Parameters that do not have an option to use a default emissions factor are considered integral to

the abatement calculation. Such parameters may only be monitored in accordance with the requirements set out in the Determination.

Part 6 Dividing an SSOW project

Dividing a project provides flexibility and can assist aggregation. In addition to the provisions set out in section 77A of the Act for dividing a project (to realise reporting and certificates of entitlement application benefits), some additional requirements for SSOW projects are included here—as provided for under subsection 77A(2) of the Act.

63 Operation of this Part

This section provides that for the purpose of submitting an offsets report to the Regulator pursuant to subsection 77A(2) of the Act, the division of the overall project must comply with the requirements of this Part.

64 Requirements for division of a project

An SSOW project may be divided into parts provided that the project involves the implementation of two of more source separation activities and each part must include one or more source separation activities.

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—Source Separated Organic Waste) Methodology Determination 2016

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—Source Separated Organic Waste) Methodology Determination 2016* (the Determination) sets out the detailed rules for implementing and monitoring offsets projects that avoid greenhouse gas emissions by sorting organic waste at its point of origin and diverting it away from landfill. By sending separated organic waste to eligible alternative treatments, such as charity use of food or composting, projects avoid the generation of methane due to anaerobic decomposition of organic waste in landfill.

Project proponents wishing to implement the Determination must make an application to the Clean Energy Regulator and meet the eligibility requirements set out under the 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

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

Conclusion

The 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*.

Greg Hunt, Minister for the Environment