**EXPLANATORY STATEMENT**

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

*Carbon Credits (Carbon Farming Initiative—Alternative Waste Treatment) Methodology Determination 2015*

**Background**

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 Parliament agreed to the *Carbon Farming Initiative Amendment Act 2014*, which establishes 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 theAct 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 reductions and sequestration) from eligible projects and rules for monitoring, record keeping and reporting. These methodologies will ensure that emissions reductions are genuine—that they are both real and additional to business as usual.

In deciding to make a methodology determination the Minister must have regard to the advice of the Emissions Reduction Assurance Committee, an independent expert panel established to advise the Minister on proposals for methodology determinations. The Minister will also consider any adverse environmental, economic or social impacts likely to arise as a result of projects to which the determination applies.

Offsets projects that are undertaken in accordance with the methodology determination and approved by the Clean Energy Regulator (the Regulator) can generate Australian Carbon Credit Units (ACCUs), representing emissions reductions from the project.

Project proponents can receive funding from the ERF by submitting their projects into 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](http://www.environment.gov.au/emissions-reduction-fund).

**Application of the Determination**

The *Carbon Credits (Carbon Farming Initiative—Alternative Waste Treatment) Methodology Determination 2015* (theDetermination) sets out the requirements for implementing and monitoring offsets projects that would avoid emissions by diverting waste from landfill to alternative waste treatment (AWT) facilities. AWT describes a range of activities that process mixed solid waste, that would have gone to landfill, into products (such as compost, fuel or biogas) and increase recovery of resources including plastics, glass and metals. AWT projects avoid the emissions that would have occurred if the waste had been sent to landfill.

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 include 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
* estimates, assumptions or projections used in the determination should be conservative.

The Carbon Farming Initiative (CFI), on which the ERF is built, developed four AWT methodology determinations for crediting emissions reductions from diverting waste from landfill between the period 1 July 2010 (the start date for the CFI) and 1 July 2012 (the start date of the carbon tax). The existing methodology determinations (collectively referred to as CFI AWT Determinations) are:

* *Carbon Credits (Carbon Farming Initiative) (Avoided Emissions from Diverting Legacy Waste from Landfill for Process Engineered Fuel Manufacture) Methodology Determination 2012*
* *Carbon Credits (Carbon Farming Initiative) (Avoided Emissions from Diverting Legacy Waste from Landfill through a Composting Alternative Waste Technology) Methodology Determination 2013*
* *Carbon Credits (Carbon Farming Initiative) (Diversion of Legacy Waste to an Alternative Waste Treatment Facility) Methodology Determination 2013*
* *Carbon Credits (Carbon Farming Initiative) (Enclosed Mechanical Processing and Composting Alternative Waste Treatment) Methodology Determination 2013.*

The Determination provides an incentive to develop new AWT facilities or expand existing AWT facilities to increase the capacity of waste that can be processed.

The Determination also enables projects under the CFI AWT Determinations to transition to the ERF and continue to generate emissions reductions for processing waste that would have gone to landfill.

All eligible projects will be able to receive ACCUs for emission reductions for the processing of eligible waste for a seven-year crediting period.

**Public consultation**

The Determination has been developed by the Department of the Environment in collaboration with a technical working group of experts from the waste industry and the Regulator. The waste sector technical working group held multiple meetings in 2013 and 2014 and has reviewed several draft versions of the Determination.

The exposure draft of the Determination was published on the Department’s website for public consultation from 3 September 2014 to 1 October 2014. Eighteen submissions were received. Details of the non-confidential submissions are provided on the Department of the Environment website: [www.environment.gov.au](http://www.environment.gov.au).

**Determination details**

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

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

Subitem 393(2) of Schedule 1 of the *Carbon Farming Initiative Amendment Act 2014* operated in relation to this Determination to deem the request to, and advice from, the Interim Emissions Reduction Assurance Committee to be the relevant request to and advice from the statutory Emissions Reduction Assurance Committee under subsections 106(10) and 123A(2) of the Act respectively.

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

Attachment A

**Details of the Methodology Determination**

**Part 1 Preliminary**

1 Name of determination

Section 1 sets out the full name of the Determination, which is the *Carbon Credits (Carbon Farming Initiative—Alternative Waste Treatment) Methodology Determination 2015.*

2 Commencement

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

3 Authority

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

4 Duration

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

Section 4 provides that the Determination will be in force from its commencement (as provided for in section 2) until the day before it would otherwise be repealed under subsection 50(1) of the *Legislative Instruments Act 2003*.

Instruments are repealed under that provision on the first 1 April or 1 October following the tenth anniversary of registration of the Determination on the Federal Register of Legislative Instruments. In accordance with subparagraph 122(1)(b)(i) of the Act, paragraph 4(b) of the Determination sets out the time that the Determination would expire.

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

Under section 27A of the Act the 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 apply the Determination.

5 Definitions

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

Under section 23 of the *Acts Interpretation Act 1901*, words in 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.

***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 mixed solid waste produced by commercial or industrial businesses. The *NGER (Measurement) Determination* describes the default combination of ***waste mix types*** that are contained in commercial and industrial waste.

***Construction and demolition waste*** refers to mixed solid waste produced by the construction and demolition industry. The *NGER (Measurement) Determination* describes the default combination of ***waste mix types*** that are contained in construction and demolition waste.

***Eligible waste*** is defined as either ***eligible CFI waste*** (see section 6) for a ***transitioning project*** or as ***mixed solid waste*** (see definition below) for a ***new project*** or ***expansion project***.For transitioning projects eligible CFI waste must beprocessed on or after ***ERF commencement day***, which is the day that the legislation officially commences. Transitioning projects automatically commence a second crediting period which begins on ERF commencement day.For new or expansion projects, eligible waste can only be processed once the project is in an eligible offsets project.

***Eligible waste treatment technology*** refers to three types of waste treatment technologies which are eligible in the Determination; ***enclosed composting technology***, ***process engineered fuel manufacture***, or use of an ***anaerobic digester*** (including the destruction of biogas in a combustion device).

***Enclosed composting technology*** refers to composting that uses an enclosed environment to control the composting process. Proponents that use enclosed composting technology may also use ***open windrow composting*** to mature the final compost product. However, a proponent is not eligible to use only open windrow composting. Examples of enclosed composting are included in the definition and other composting types would be eligible if they satisfy the requirements of the definition.

***Mixed solid waste*** refers to ***commercial and industrial waste***, ***construction and demolition waste*** or ***municipal solid waste*** but does not include some specific waste types. Waste types that are not included are:

* recyclable paper, paperboard, glass, metal or plastic that is separated at the point of generation
* green waste or wood waste that is separated at the point of generation
* organic waste from the livestock industry, such as straw bedding and manure mixes;
* biosolids
* waste that is comprised of only putrescible waste that is separated at the point of generation.

These waste types are excluded consistent with the CFI AWT Determinations and the decisions of the Domestic Offsets Integrity Committee (DOIC). The DOIC was an independent expert committee under the CFI whose role was to support the environmental integrity of carbon offsets. The exclusion of these waste types is important to ensure the Determination meets the offsets integrity standards. The excluded waste types are not commonly sent to landfill and can be disposed or treated through other methods. For example, green waste, food waste and mixed organic waste are not generally sent to landfill and are often turned into compost or other products. ***Separated at the point of generation*** is explained further in section 7.

***Municipal solid waste*** refers to mixed solid waste produced by the domestic sector. The *NGER (Measurement) Determination* describes the default combination of ***waste mix types*** that are contained in municipal solid waste. A planned change to the *NGER (Measurement) Determination* will require project proponents to define municipal solid waste into either *class I* or *class II* from 1 July 2015. This is to differentiate between areas that collect green waste separately and those that do not. This planned change is reflected in the Determination.

***NGA Factors document*** means the document entitled ‘National Greenhouse Account Factors, published the Department of the Environment’s website, [www.environment.gov.au](http://www.environment.gov.au), and as in force from time to time. Factors published in this document will be updated from time to time to allow for more accurate estimates of emissions that 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*, as amended from time to time.

***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, green waste, paper, nappies, rubber or leather and inert waste.

6 Meaning of *eligible CFI waste*

Eligible offsets projects that were covered by a CFI AWT Determination retain the definitions for eligible waste that previously applied to the offsets project. This provides consistent treatment to these project proponents as changes to waste definitions could impact existing projects.

Each of the CFI AWT Determinations have technical differences in definitions including the use of different definitions of ‘separated at the point of generation’ and ‘mixed solid waste’. Transitioning project proponents should refer to the relevant definitions in the CFI AWT Determination that previously applied to their project. In general the differences in the definitions of eligible waste are as follows:

* The *Carbon Credits (Carbon Farming Initiative) (Avoided Emissions from Diverting Legacy Waste from Landfill for Process Engineered Fuel Manufacture) Methodology Determination 2012* applies to construction and demolition and commercial and instrustrial waste but excludes municipal solid waste as an eligible waste stream.
* The *Carbon Credits (Carbon Farming Initiative) (Enclosed Mechanical Processing and Composting Alternative Waste Treatment) Methodology Determination 2013* applies to municipal solid waste and commercial and industrial waste but excludes construction and demolition waste as an eligible waste stream.
* The *Carbon Credits (Carbon Farming Initiative) (Diversion of Legacy Waste to an Alternative Waste Treatment Facility) Methodology Determination 2013* and the *Carbon Credits (Carbon Farming Initiative) (Avoided Emissions from Diverting Legacy Waste from Landfill through a Composting Alternative Waste Technology) Methodology Determination 2013* both define eligible waste as including municipal solid waste, commercial and industrial waste and construction and demolition waste. However, these determinations define excluded waste types differently and definitions include differences that impact waste eligibility.

Subsection 6(2) sets out that references to ‘legacy waste’ in the CFI AWT Determinations are to be disregarded.

7 Meaning of *separated at the point of generation*

Waste ***separated at the point of generation*** would generally be disposed of in ways other than landfill. These wastes are excluded as they do not meet the requirements of the baseline scenario which is that waste would have gone to landfill in the absence of the project.

Waste is defined as separated at the point of generation if it is separated into a container that is intended to contain either one ***waste mix type*** or a combination of several ***waste mix types***. For example, a food waste bin or a mixed organic bin (containing both food and green waste) are both examples of waste that is comprised of only putrescible waste that is separated at the point of generation. Waste is considered to be separated at the point of generation even if it is contaminated with other wastes not intended for the container.

8 References to factors and parameters from external sources

Default and calculated parameters must be sourced or measured according to the instructions within the Determination. The Determination aligns with the *NGER (Measurement) Determination*; however, this Determination must take precedence over other sources. Unless otherwise specified, the proponent should use the *NGER (Measurement) Determination* approaches and default values that are sourced from 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 source the correct version that was 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](http://www.comlaw.gov.au).

Paragraph 8(2)(a) provides that subsection 8(1) does not apply if the Determination sets out other requirements. For example, the electricity emissions factor (***EFEP***) in section 31 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***.

Paragraph 8(2)(b) provides that subsection 8(1) does not apply where it is not possible to retrospectively apply a factor or parameter in an instrument that is in force at the end of the reporting period. An example of circumstances where this may occur is where the monitoring approach defined in an external source is amended to require additional or different monitoring practices after the reporting period has commenced. In this circumstance it is not possible to retrospectively undertake monitoring activities in accordance with the new requirement.

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 8(2)(b) applies, it is expected that project proponents will use the version of legislative instruments in force at the time at which monitoring or other actions were conducted. Subsection 43(1) sets out reporting requirements to be followed when paragraph 8(2)(b) applies.

**Part 2 Alternative waste treatment projects**

9 Alternative waste treatment 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 9 provides that the Determination would apply to an offsets project that involves the diversion of eligible waste to an AWT facility. The facility must process the waste using eligible waste treatment technology. The Determination defines these kinds of projects as ***alternative waste treatment projects*** (also referred to in the Determination as ***AWT projects***).

There are three types of AWT projects to which the Determination applies:

* a ***new project*** (see section 11)
* an ***expansion project*** (see section 12)
* a ***transitioning project*** (see section 13).

**Part 3 Project requirements**

A key requirement under both the ERF and the CFI is that credits are issued for emissions reductions that are ‘additional’ - that is, emissions reductions that would not likely have occurred under normal business conditions, in the absence of the ERF.

In accordance with the offsets integrity standards, processing of eligible waste by an AWT project is unlikely to occur in the ordinary course of events as disposal of waste to landfill is the most likely scenario in the absence of the project. This is consistent with the development of CFI AWT Determinations where the project types covered were considered not to be common practice and unlikely to occur in a business as usual scenario.

The newness requirement, regulatory additionality requirement and government program requirement are additionality requirements set out in subsection 27(4A) of the Act. Project proponents must meet the additionality requirements in subsection 27(4A) of the Act in addition to the project eligibility requirements set out in Part 3 of the Determination.

10 Operation of this Part

The effect of paragraph 106(1)(b) of the Act is that a methodology determination must set out requirements that must be met to be an eligible offsets project. Under paragraph 27(4)(c) of the Act, the Regulator must not declare that a project is an eligible offsets project unless the Regulator is satisfied that the project meets these requirements.

Part 3 of the Determination sets out requirements that must be met in order for a project to be an eligible offsets project.

11 Requirements for a new project

A ***new project*** is the construction of a new AWT facility to process eligible waste that would have gone to landfill and uses eligible waste treatment technology.

12 Requirements for an expansion project

An ***expansion project*** requires an increase in the capacity of eligible waste that an existing AWT facility is able to process. In order to have a project declared eligible, a proponent must have 24-months of evidence to determine the historic quantity of eligible waste processed (the baseline). The calculation of net abatement is based on the increased quantity of eligible waste processed by the expanded AWT facility that in the absence of the project would have otherwise been disposed of in landfill. An application that does not have the required evidence of historic activity is ineligible.

13 Requirements for a transitioning project

A ***transitioning project*** must have been an eligible offsets project covered by one of the four CFI AWT Determinations prior to ***ERF commencement day***. Transitioning projects are also required to process eligible waste using an eligible waste treatment technology consistent with the requirements of new and expansion projects. As transitioning projects have already been declared eligible offsets projects and met the additionality criteria in the Act at the time they were declared eligible, they do not need to apply under section 22 of the Act to remain an eligible offset project.

The Determination does not automatically apply to CFI AWT projects. Instead, a project proponent must make an application to the Regulator under section 128 of the Act to request to have the Determination apply to the project with effect from the start of the reporting period. Under subsection 130(3) of the Act, the Regulator must be satisfied that the project is covered by this Determination. The additionality and other requirements of subsections 27(4) and 27(4A) of the Act are not assessed for a transition to be approved as the project has already been assessed and determined to be an eligible offsets project.

**Part 4 Net abatement amount**

**Division 1 Preliminary**

14 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 (CO2-e) net abatement amount for the project in relation to a reporting period. Part 4 sets out these requirements.

15 Overview of gases accounted for in abatement calculations

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

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 waste at landfill | Methane (CH4) |
| Project emissions | Fuel consumption | Carbon dioxide (CO2)Methane (CH4)Nitrous oxide (N2O) |
| Project emissions | Electricity consumption | Carbon dioxide (CO2)Methane (CH4)Nitrous oxide (N2O) |
| Project emissions | Emissions from composting processes | Methane (CH4)Nitrous oxide (N2O) |
| Project emissions | Emissions from anaerobic digester leakage or venting events | Methane (CH4)Nitrous oxide (N2O) |
| Project emissions | Emissions from the combustion of biogas | Methane (CH4)Nitrous oxide (N2O) |

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.
* Emissions from the transport of waste or products are excluded as these emissions are considered immaterial to the overall emissions for the project. This exclusion is based on analysis of data from existing CFI AWT projects. This exclusion also streamlines the recording keeping and reporting requirements for project proponents.
* Carbon dioxide emissions emitted from organic waste decomposition or the combustion of biogas are excluded. These emissions have biogenic origin (originate from organic material) and are not counted towards Australia’s national greenhouse gas accounts.

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

The Determination credits emissions reductions in equal portions over seven years subsequent to reporting eligible waste diversion activity. In a landfill, emissions occur over a period of up to 100 years as the organic material in the waste decays. Crediting over seven years avoids the administrative burden of reporting emissions reductions over 100 years. Credits are issued over a seven-year period consistent with the CFI AWT Determinations that were developed for Greenhouse Friendly projects that transitioned to the CFI.

As a result of crediting in equal portions over seven years, AWT projects have an extended accounting period consistent with section 7A of the Act. This is required as the project will have credits that accrue after the end of the seven-year crediting period. The extended accounting period begins after the end of the crediting period and ends at the time specified in the legislative rules. The result of the extended accounting period is that AWT projects will receive credits over a period of approximately 13 years (the time period is approximate due to flexible reporting periods). Figure 1 provides an example of crediting in seven equal portions and the extended accounting period.



*Figure 1: An example of crediting an AWT project in seven equal portions and the extended accounting period. Note: 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 AWT 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 phrase used to describe each of the seven equal portions that AWT abatement is divided into. 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 are calculated in Division 3 of the Determination.

If a project is a ***transitioning project***, Division 4 of the Determination is used to calculate the credits remaining as a result of CFI AWT activity.

16 Summary

Section 16 provides a summary of the approach for calculating the net abatement amount.

17 Net abatement amount

Section 17 calculates the net abatement amount as the relevant activity abatement portion for the reporting period (worked out in accordance with section 19) plus the sum of activity abatement portions that have accrued from previous reporting periods. Accrued activity abatement portions may be either from a previous reporting period or a legacy abatement portion.

A legacy abatement portion is generated from CFI AWT activity that has yet to be credited. ***Transitioning projects*** are able to produce a single offsets report for both new activity and the credits remaining as a result of CFI AWT activity. Calculations for the legacy abatement amount are included in Division 4 of the Determination.

***Equation 1*** is structured to satisfy the no double counting test in section 15A of the Act that 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**

18 Summary

Section 18 provides a summary of the method for calculating the activity abatement portions for the reporting period.

19 Calculation and accrual of activity abatement portions

Activity abatement portions are calculated using ***equation 2***. The Determination prescribes that AWT projects receive abatement in equal portions over seven years subsequent to reporting eligible waste diversion activity. This equation divides the abatement of the reporting period into seven equal portions. The first portion 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.

If the quantity of putrescible eligible waste processed by the project in a reporting period is taken to be zero, then abatement from activity in the reporting period is taken to be zero and no further calculations are required. The project proponent can still report accrued activity abatement portions if no putrescible eligible waste is processed. The quantity of putrescible eligible waste is calculated in accordance with section 25 of the Determination.

Activity abatement portions are not required to be calculated after the project’s seven-year crediting period. After this time the project proponent only needs to calculate net abatement with the activity abatement portions that accrue over time (using section 17).

Subsection 19(3) outlines the time when activity abatement portions (***A1***) to (***A6***) accrue. These activity abatement portions may only be included in a calculation of net abatement and reported at a time after they have accrued.

20 Activity abatement portions for certain transitioning projects

For some transitioning projects the Determination may apply to the project for a reporting period that commences before ***ERF commencement day***. Section 20 clarifies that no activity should be counted prior to ERF commencement day. For transitioning projects waste is not eligible prior to ERF commencement day and therefore no other activity should be counted before that date.

**Subdivision B Calculations relating to baseline emissions**

The approach to calculating baseline emissions closely follows the approach established by the CFI AWT Determinations. This is a conservative estimate of the emissions likely to occur as waste decays in landfill consistent with the offset integrity standards. For expansion projects, the calculations for baseline emissions include a calculation to determine the historic quantity of eligible waste processed by the project (section 27).

21 Summary

Section 21 provides a summary of the approach for calculating the baseline emissions.

22 Baseline emissions

Baseline emissions calculate the potential methane emissions from eligible waste that would have been disposed 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 waste including the type of organic material and emissions it would generate as it breaks down in landfill (see sections 23 to 27).

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 time the reporting period ends (consistent with section 8).

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 project operates. 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 waste had been sent to landfill. This is a straightforward approach that simplifies project administration and complies with the offsets integrity standards. This approach is consistent with the approach used in CFI AWT Determinations.

For new and expansion projects, the average percentage of landfill gas captured is determined using data from the Australian National Greenhouse Gas Inventory Report 2012. The averages used for transitioning projects are taken from the CFI AWT Determinations and were determined from data in the Australian National Greenhouse Gas Inventory Report 2010 as these were applicable when these CFI projects were declared eligible offsets projects. The South Australian value for transitioning projects has been revised to be consistent with the other AWT projects (2012 average values). The revision addresses inconsistencies in the values used for South Australia between the four CFI AWT Determinations.

The average rate of landfill gas capture will be updated over time in line with data published in the Australian National Greenhouse Gas Inventory.

23 Methane generation potential of degradable organic carbon content in eligible waste

The calculation of the methane generation potential of the degradable organic carbon in eligible waste (***MB***) uses the quantity of each waste mix type received by the facility and multiplies this by the degradable organic carbon values of the waste mix types (***DOCw***) and the fraction of degradable organic carbon dissimilated (***DOCF,w***). ***DOCw*** and ***DOCF,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 waste (***WMw***) is calculated in section 24 of the Determination.

24 Quantity of a waste mix type in eligible waste

***Equation 5*** uses waste mix type percentages, prescribed in the *NGER (Measurement) Determination*, to estimate the quantity of waste mix types in eligible waste.

There is a planned change to the *NGER (Measurement) Determination* to take effect from 1 July 2015. This will define ***municipal solid waste*** into two separate classes, *class I* and *class II*. This planned change has been incorporated into the Determination (see definition of ***municipal solid waste*** in section 5). Project proponents must use the definition and related default values that are current at the time a reporting period ends (consistent with section 8).

Section 24 is used to determine the proportion of each waste mix type (***w***) in the eligible waste. The proportion is the percentage mentioned in paragraph 5.11(2)(c) of the *NGER (Measurement) Determination* unless it is adjusted in accordance with paragraphs 24(2)(a) or 24(2)(b) of this Determination.

If the eligible waste contains inert waste then paragraph 24(2)(a) is used to adjust default percentages using the process outlined in subsection 5.11(3) of the *NGER (Measurement) Determination*.

If a project proponent has a licence or other requirement that restricts the quantity of specified waste mix types received by the AWT facility then paragraph 24(2)(b) is used to adjust the default percentages in accordance with the process outlined in subsection 5.11(3) of the *NGER (Measurement) Determination*.

If paragraphs 24(2)(a) or 24(2)(b) do not apply then the default percentages in paragraph 5.11(2)(c) of the *NGER (Measurement) Determination* are used.

In order to enable proponents to use subsection 5.11(3) of the *NGER (Measurement) Determination*, references to “the landfill” in subsection 5.11(3) of the *NGER (Measurement) Determination* are taken to be a reference to the project proponent’s AWT facility.

25 Quantity of putrescible eligible waste

The quantity of putrescible eligible waste processed by the AWT project is the quantity of eligible waste processed less residual waste that is disposed of and non‑biobased materials recovered by the facility.

All residual waste that is disposed of is assumed to go to landfill, as this is a conservative estimate. The quantity of residual waste may include residual waste from ineligible waste processed by the AWT facility; however, this is unlikely to materially affect the total volume of residual waste produced by the project. In general, ineligible waste types are very high in putrescible material and therefore have very low rates of residual waste.

The historic quantity of putrescible eligible waste (***HW***) is deducted from the quantity of waste diverted by the facility to determine the amount of putrescible eligible waste (***HW*** is calculated in section 27).

26 Total quantity of eligible waste received

This parameter is needed to determine the total eligible waste received by the AWT facility. It is the sum of each eligible waste stream (commercial and industrial waste, construction and demolition waste, or municipal solid waste).

27 Historic quantity of putrescible eligible waste

***New projects*** and ***transitioning projects*** are assigned a historic quantity of putrescible eligible waste that is zero. Project proponents that establish a new AWT facility will have no historic activity and therefore receive a zero value. Transitioning projects receive a value of zero as a transition arrangement for these projects.

***Expansion projects*** must calculate the historic quantity of putrescible eligible waste (***HW***) processed. The calculations for ***HW*** are only required in the first reporting period for the project. The project proponent will then continue to use the value calculated for all subsequent reporting periods in the crediting period.

***HW*** is calculated for a 24-month period prior to the project’s application and then should be adjusted on a *pro rata* basis to the length of each reporting period. For example, if a reporting period is six months the project should use the value determined for ***HW*** multiplied by$ \frac{6}{24}$; where six is the length of the reporting period and 24 is the 24-month period prior to the project application.

For expansion projects, evidence to calculate ***HW*** is required at the time of project application and must meet industry estimation practices and appropriate measuring requirements. ***Appropriate evidence*** may include: weighbridge records or evidence of waste transport contracts and invoices that refer to the relevant quantities of waste. An expansion project without satisfactory evidence would not be declared an eligible offsets project.

**Subdivision C Calculations relating to project emissions**

28 Summary

Section 28 provides a summary of the approach for calculating project emissions. Project emissions sources include fuel use, electricity use and emissions from waste treatment processes.

29 Project emissions

Emissions from the project are calculated by taking into account emissions from fuel and electricity use and multiplied by the proportion of putrescible waste within the total eligible waste received by the AWT facility. Fuel and electricity emissions are multiplied by this proportion because only emissions from the processing of waste materials related to the manufacture of biobased products are included. The emissions associated with the manufacture of non-biobased materials (for example recovery of steel) are excluded. This approach is consistent with the CFI AWT Determinations.

Project emissions also include emissions from the waste treatment process depending on the type (or types) of waste processing technology used (see sections 32 to 38).

30 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 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. If biogas is produced by the project and used as a fuel source it should not be counted in this equation. Emissions from the combustion of biogas are calculated separately in section 38.

31 Emissions from purchased electricity

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

Electricity emission factors are set out in the ***NGA Factors document***, as updated from time to time. Proponents will apply the relevant electricity emissions factor from the document as in force on the ***relevant 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 will clearly identify the table of emissions factors relevant to this definition.

For a new or expansion project the relevant day is the day the project is declared an eligible offsets project. For transitioning projects, the relevant day is the day the first version of the NGA Factors document published after ***ERF commencement day*** is in force. This is the ‘NGA Factors – December 2014’ update and is the first version that contains the relevant electricity emissions factors.

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 a factor for off-grid electricity should be used.

Subsection 31(3) makes clear that section 8 (the use of factors current at the end of a reporting period) does not apply to the electricity emissions factor (***EFEP***).

32 Emissions from the processing of eligible waste

Section 32 outlines steps for adding the emissions from waste treatment processes together if multiple processes are used within the one project. ***Processed engineered fuel manufacture*** is assumed to not have any specific emissions sources other than the emissions from fuel and electricity use. Emissions sources from processing eligible waste include emissions from composting, emissions from the combustion of biogas and emissions from the leakage or venting of an anaerobic digester.

The emissions from processing eligible waste are multiplied by the proportion of putrescible eligible waste over the total quantity of putrescible waste that is processed. Emissions from the processing of waste are multiplied by this proportion so that emissions from processing ineligible waste are not counted as a project emission source. If a project proponent were to only process eligible waste then the proportion assigned is one and all emissions from the processing of waste would be counted.

33 Total quantity of putrescible waste

Section 33 determines the total quantity of putrescible waste using ***equation 13***. The total amount of putrescible waste is the total quantity of waste processed by the facility minus the quantities of residual waste and non-biobased products.

34 Emissions from composting processes

Compost emissions may be calculated with two different sub-methods consistent with the approach used in the *NGER (Measurement) Determination*. If a proponent uses both enclosed and open windrow composting then emissions must be estimated using subsection 34(6) (sub-method 1) which uses the default emissions factors for compost (as prescribed in the *NGER (Measurement) Determination*).

Subsection 34(7) (sub-method 2) can only be used for enclosed composting and uses direct measurement techniques as prescribed in the *NGER (Measurement) Determination*.

Proponents may also use a combination of sub-method 1 and 2 to determine composting emissions. A proponent may choose to directly measure the methane emissions (using sub‑method 2) while the nitrous oxide emissions are estimated using the default emission factor (using sub-method 1). The ability for a proponent to measure methane emissions directly and estimate nitrous oxide emissions using default emissions factors is consistent with the *Carbon Credits (Carbon Farming Initiative) (Diversion of Legacy Waste to an Alternative Waste Treatment Facility) Methodology Determination 2013.*

If a proponent uses sub-method 2 to calculate either methane or total compost emissions then sub-method 2 must continue to be used from that point on. 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. The default of 10 per cent is consistent with the *Carbon Credits (Carbon Farming Initiative) (Diversion of Legacy Waste to an Alternative Waste Treatment Facility) Methodology Determination 2013.*

35 Emissions from anaerobic digesters

Emissions from an anaerobic digester occur in two circumstances. The first results from the biogas collection efficiency of the anaerobic digester because under normal operation a small percentage of 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 two per cent is used consistent with the default 98 per cent collection efficiency of an anaerobic digester which has been used in previous CFI determinations. Two per cent is determined based on the total amount of methane produced rather than only the methane that is sent to the combustion device as leakage has already occurred for the methane that is sent (therefore the equation applies the factor $\left(\frac{1}{CE}-1\right) $to ***MSent***).

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 37 to determine the venting emissions.

36 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 36(2) (sub-method 1) uses the biogas sent to the combustion device and subsection 36(3) (sub-method 2) uses the electricity produced by an internal combustion engine. Each sub-method requires a different monitored parameter, 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 (***WBG,CH4***) may either be monitored continuously or a default value may be used. Further information for the monitoring requirements for ***WBG,CH4*** is included in Part 5 Division 2 of theDetermination.

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*.

37 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 19***. 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 at 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.

38 Emissions from combustion devices

Methane and nitrous oxide emissions released as a result of methane combustion are calculated using ***equation 20***. 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*.

**Division 4 Method for calculating legacy abatement portions**

Division 4 is only applicable to transitioning projects and provides for these projects to receive credits for abatement generated under the relevant CFI AWT Determination that has not yet been credited. CFI AWT projects automatically begin a second crediting period on ERF commencement day. As CFI AWT Determinations are restricted to legacy waste the project proponent is unable to undertake any further activity under one of these determinations. This Determination enables transitioning projects to undertake seven years of additional waste diversion activity and also receive the remaining credits for abatement generated using the CFI AWT Determination. This remaining abatement is to be calculated into equal portions that will accrue over a three-year period.

39 Summary

Section 39 provides a summary of the approach to calculating legacy abatement portions. CFI AWT projects that were previously Greenhouse Friendly projects receive credits over a seven-year period beginning 1 July 2010. Other CFI AWT projects had a 100-year crediting period and were required to report abatement over a 100-year period. This section applies a consistent approach so that credits are received in equal portions over seven years.

In order to simplify the process, transitioning projects receive the remainder of their credits in equal portions over three years rather than using the exact time period that remains in the original seven-year crediting period (1 July 2010 to 1 July 2014 is four years and projects have approximately three years remaining).

40 Timing of calculation

The legacy abatement portions for ***transitioning projects*** are calculated in the first reporting period for the project. The calculation determines when remaining abatement accrues and can be reported and does not need to be repeated in future reporting periods.

41 Calculation and accrual of legacy abatement portions

***Equation 21*** calculates remaining abatement into three equal portions (***ACFI,1***, ***ACFI,2*** and ***ACFI,3***). The first portion (***ACFI,1***) accrues one year after the beginning of the first reporting period that this Determination applies to the project. Portions two and three accrue in years two and three respectively.

The abatement calculations use the applicable equations of the relevant CFI AWT Determination. All values should be consistent with those used to calculate original net abatement amounts (any changes to the *NGER (Measurement) Determination* do not apply to these calculations).

**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 or legislative rules.

**Division 1 Offsets report requirements**

42 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.

43 Determination of certain factors and parameters

Section 43 sets out requirements that must be included in each offsets reporting addition to the offset report requirements specified in the Act, Regulations and legislative rules.

Subsection 43(1) sets out that the offsets reporting requirements in this subsection apply where it is not possible to meet the requirements of subsection 8(1), as outlined in paragraph 8(2)(b). Further explanation of these circumstances is provided in section 8. The purpose of subsection 43(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 45. The proponent is required to detail in their 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 43(2) makes clear that the requirements in this section only apply if a parameter is worked out using section 46, 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 43(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 Monitoring requirements**

44 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*.

45 Requirements to monitor certain parameters

Section 45 lists parameters used in the calculation of net abatement amounts 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.

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 calibrated by an accredited third party technician at intervals, and using methods, that are in accordance with the manufacturer’s specifications.

Key monitoring parameters are:

* the quantities of waste received and processed by the project including the quantity of products produced
* the quantity of fuel and electricity used by the project
* the volume of biogas sent to combustion devices and the methane content of that biogas.

In subsection 45(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 45(2) requires that if a project proponent chooses to monitor the fraction of the volume of biogas sent to combustion devices that is methane (***WBG,CH4***) continuously then they must monitor continuously for the entire project. If a project proponent uses the default value for ***WBG,CH4***, the project proponent may change to continuous monitoring but cannot change back to the default.

As reiterated by subsection 46(3) 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 46.

46 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 (section 45) include the process for monitoring and the standard to which monitoring must occur.

In some cases for reasons beyond their control, a project proponent may be unable to monitor a parameter to the requirements specified. When this occurs, section 46 requires that adjustments must be applied 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 are in accordance with the offsets integrity standards outlined in section 133 of the Act.

For the parameter listed in item 1 of the table in subsection 46(1) and ***DMCompost,j*** in subsection 46(2), the consequence for not monitoring in accordance with the requirements is for the project proponent to work out the parameter using the default emissions factor for that parameter (as is included in the lower order monitoring option for the parameter). The project proponent must apply a 10 per cent adjustment to the default emissions factor (i.e. the factor is multiplied 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 46(1), the consequence for not monitoring these parameters in accordance with the monitoring requirements is for the project proponent to make a conservative estimate of the parameter for the duration of the non‑monitored period.

The need for a proponent to apply section 46 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 46(3) indicates other actions that the Regulator may choose to take in response to a project proponent failing to meet monitoring requirements.

When section 46 is used the project proponent will be required to include information relating to the monitoring failure in its offsets report for the relevant reporting period (see section 43). This is to provide the Regulator with evidence that will allow them 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.

Section 46 does not provide an exhaustive list of all parameters used in the Determination. Parameters that do not have an option for lower order estimation (such as a default emissions factor) are considered integral to the integrity of the abatement calculation and may only be monitored in accordance with the requirements set out in the Determination.

Attachment B

**Statement of Compatibility with Human Rights**

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

***Carbon Credits (Carbon Farming Initiative—Alternative Waste Treatment) Methodology Determination 2015***

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—Alternative Waste Treatment) Methodology Determination 2015*(the Determination) sets out the detailed rules for implementing and monitoring offsets projects that avoid greenhouse gas emissions by diverting waste from landfill to alternative waste treatment facilities. The Determination applies to new projects or expansion projects that divert eligible waste from landfill to alternative waste treatment. Carbon Farming Initiative alternative waste treatment projects are also able transition from existing determinations to this Determination.

Project proponents wishing to implement the Determination must make an application to the

Clean Energy Regulator (the Regulator) and meet the eligibility requirements set out under

the Determination. Offsets projects that are approved by the Regulator can generate Australian Carbon Credit Units, representing emissions reductions from the project.

Project proponents can receive funding from the Emissions Reduction Fund by submitting their projects into 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.

**Human rights implications**

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

**Conclusion**

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

**Greg Hunt, Minister for the Environment**