

EXPLANATORY STATEMENT

Carbon Credits (Carbon Farming Initiative) Act 2011

Carbon Credits (Carbon Farming Initiative - Land and Sea Transport) 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 Australian Parliament passed 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 the Act empowers the Minister to make, by legislative instrument, a methodology determination. The purpose of a methodology determination is to establish procedures for estimating abatement (emissions reduction and sequestration) from eligible projects and rules for monitoring, record keeping and reporting. These methodologies will help ensure that emissions reductions are genuine—that they are both real and additional to business as usual.

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

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

Project proponents can receive funding from the ERF by 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 on the Department of the Environment website at: www.environment.gov.au/emissions-reduction-fund.

Application of the Determination

The *Carbon Credits (Carbon Farming Initiative—Land and Sea Transport) Methodology Determination 2015* (the Determination) sets out the requirements for implementing and monitoring offsets projects that would avoid emissions by reducing the emissions intensity of land and sea transport.

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 business 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; and
- estimates, assumptions or projections used in the determination should be conservative.

All eligible projects will be able to receive ACCUs for emission reductions achieved over a seven-year crediting period.

The Determination provides for crediting emissions reductions based on changes to emissions intensity rather than changes to absolute emissions. This provides for crediting emissions reductions when the level of service expands (and ensures credits are not provided for emissions reductions achieved when service levels contract) in response to normal market conditions.

The transport sector generates direct (scope 1) emissions from fuel combustion and indirect (scope 2) emissions from electricity consumption by electric vehicles such as trains and cars. The Determination provides for crediting reductions in both scope 1 and scope 2 emissions by comparing the emissions intensity of transport service before and after the implementation of **project activities**. Emissions intensity is a measure of the level of emissions produced per unit of transport services provided. It is measured using different **service units** which reflect the type of transport services offered. For example, the emissions intensity of passenger transport can be measured as emissions per passenger kilometre, whereas the intensity of freight transport can be measured as emissions per tonne kilometre. The Determination provides for crediting emissions reductions from road, rail and sea transport, and mobile equipment such as mining and agricultural vehicles. It excludes air transport, as this is covered under a separate determination.

The Determination is activity neutral to support a broad range of activities to reduce emissions intensity within the transport sector, including:

- replacing existing vehicles;
- modifying existing vehicles;
- changing energy sources (that is, fuel switching) or the mix of energy sources; and
- changing operational practices.

This Determination incorporates two general project types to provide flexible options for different transport businesses and proponents.

A **group of vehicles project** credits emissions reductions from a group of vehicles. The group of vehicles can be made up of sub-groups, where each sub-group is made up of all vehicles in a vehicle category within a business unit or transport operation. Emissions reductions are credited against a historically derived emissions intensity baseline, which for some vehicle categories will decline over time. Emissions reductions from each sub-group are then aggregated. This

type of project is likely to be suitable for proponents who do not have data disaggregated to the level of individual vehicles such as public or hire fleets and logistics companies.

An **aggregated individual vehicles project** credits emissions intensity reductions achieved by individual vehicles. The baseline emissions intensity is tailored to the vehicle and activity being undertaken and is generally based on historically-derived data. Emissions reductions from multiple individual vehicles are then aggregated. This sub-method is likely to be suitable for proponents with disaggregated, vehicle-specific data, such as rail and shipping operations.

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), 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 any of the above additionality requirements. The Determination does not specify any requirements in lieu, and so all three requirements in the Act apply to eligible **land and sea transport projects**.

Public Consultation

The Determination has been developed by the Department of the Environment in collaboration with a technical working group of experts from the transport industry and the Regulator. The technical working group reviewed several draft versions of a broadly applicable transport methodology prior to and during the release of an exposure draft Determination for public consultation.

The exposure draft Transport Determination was published on the Department's website for public consultation from 15 October 2014 to 12 November 2014. Six submissions were received. The draft explanatory statement accompanying the exposure draft sought stakeholder views on a proposal to convert the broadly applicable Transport Determination into separate methodologies for different transport modes. Feedback from public consultation and the technical working group suggested that transport modes were generally well served by the broadly applicable methodology with the exception of aviation. Consequently, two separate methodology determinations have been developed: one covering land and sea transport (this Determination) and one covering aviation.

Details of the non-confidential submissions are provided on the Department of the Environment website: www.environment.gov.au.

Determination details

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

For the purpose of subsections 106(4), (4A) and (4B) of the Act, in making this Determination the Minister has had regard to, and agrees with, the advice of the 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 393A(2) of Schedule 1 of the *Carbon Farming Initiative Amendment Act 2014* operated in relation to this Determination to deem the request to the Interim ERAC to be the relevant request to the statutory ERAC under subsection 106(10) of the Act. Subitem 393A(3) then allowed the ERAC to consider the consultation on the exposure draft which occurred before 13 December 2014 and not re-open consultation under section 123D of the Act.

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

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—Land and Sea Transport) Methodology Determination 2015*.

2 Commencement

Section 2 sets out that the Determination will commence on the day after it is registered.

3 Authority

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

4 Duration

Paragraph 4(a) provides that the Determination begins on commencement (as set out in section 2). The Determination will remain in force for the duration set out in this section unless revoked in accordance with section 123 of the Act.

Paragraph 4(b) provides that the Determination ends on 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 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 will expire.

If the Determination expires or is revoked during a crediting period for a project to which the Determination applies, the Determination continues 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 a number of terms used in the Determination.

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

Duty cycle, for a vehicle, means the kind of work done by the vehicle taking into account the factors that materially affect emissions intensity, such as:

- (a) the purposes for which the vehicle is used;
- (b) types of goods carried; and
- (c) areas or routes of operation.

Duty cycle is a key driver of a vehicle's **emissions intensity**. For example, a truck performing interstate line haul is likely to have a lower emissions intensity than the same type of truck performing regional line haul, because the latter is likely to involve more stops and more urban driving than the former.

Duty cycle thus plays an important role in the Determination to ensure that emissions intensity reductions are achieved through the application of **project activities**, rather than through changes to a vehicle's duty cycle.

Emissions intensity means emissions produced per unit of service output (or work done). In the Determination emissions reductions are calculated based on reductions in emissions intensity, rather than reductions in absolute emissions. This is to allow a business to expand or contract and still be credited with real emissions reductions. Emissions intensity is calculated as the emissions per quantity of services, where the quantity of services is measured in **service units** (see service unit below).

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

There is an adjustment for eligible renewable electricity in the calculation of the net abatement amount. The adjustment is included so that credits may be issued for any renewable energy activities that may be included as part of an eligible offsets project under the legislative rules relating to the government programme requirement.

Service unit means a unit of measure set out in the table in clause 1 of Schedule 1 of the Determination. Service units are units of measure for the services performed by vehicles. Service units are prescribed for each vehicle category, based on the type of work that vehicle category commonly does. For example, the service unit for vehicle categories that provide freight transport is tonne-kilometre (tkm), whereas the service unit for vehicle categories providing passenger transport is passenger-kilometre (pkm).

6 References to factors and parameters from external sources

The calculation of the net abatement amount in the Determination includes factors taken from other sources, such as emissions factors from the *NGER (Measurement) Determination*. The Determination specifies that such factors or parameters should be taken from the version of the external source that is in force at the end of the reporting period unless the Determination specifies otherwise.

The requirement to use versions of referenced documents current at the end of the reporting period does not apply if sections in the Determination specify otherwise, such as for the emissions factor for electricity.

The requirement to use versions of referenced documents current at the end of the reporting period does not apply to the emissions factor for electricity. The Determination states that the relevant grid-based emissions factor for electricity must be derived from the *National Greenhouse Accounts (NGA) Factors document* in force on the day the project is declared an eligible offsets project. The electricity emissions factor is discussed in more detail in section 25.

Part 2 Land and sea transport projects

7 Land and sea transport 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 7 provides that the Determination applies to an offsets project that:

- can reasonably be expected to result in eligible carbon abatement; and
- involves one or more of the following *project activities*:
 - replacing vehicles;
 - modifying existing vehicles;
 - changing the energy sources or the mix of energy sources for vehicles; or
 - changing operational practices.

The vehicles may be land vehicles (such as trains, cars, or trucks), marine vessels or a combination of such.

The Determination defines these kinds of projects as *land and sea transport projects*.

A land and sea transport project may be a group of vehicles project, or an aggregated individual vehicles project. The two types of projects are elaborated further throughout this explanatory statement.

Part 3 Project Requirements

Division 1 General requirements

8 Operation of this Part

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

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

9 Data from domestic activities only

The Act and section 9 of the Determination require that data used for calculating the net abatement amount must be from domestic activities only, that is, does not include activities undertaken outside *Australia*, or from transport activities that use fuel that is not taxable fuel. Taxable fuel excludes fuel used for international voyages as emissions from this fuel are not captured in Australia's National Greenhouse Gas Inventory.

The definition of taxable fuel is based on the definition in the *Fuel Tax Act 2006* but does not include fuel for which fuel tax credits or a refund of excise or customs duty is given because the fuel is used for an international voyage.

This section ensures that emissions reductions achieved under the Determination are eligible carbon abatement, and count towards Australia's climate change targets under the Kyoto Protocol or a successor international agreement.

10 Data from previous years

Section 10 requires that proponents have the data required to calculate the carbon dioxide equivalent net abatement amount. For a group of vehicles project, historic data is required for the three years prior to project *declaration*. This ensures that data from which the baseline is derived reflects recent, actual performance of the group of vehicles.

For an aggregated individual vehicle project, historic data is required for each vehicle for the three years prior to the commencement of the reporting period in which the vehicle is first included in the project. Similarly, this ensures that the baseline data reflects the recent actual performance of the vehicle, while allowing for vehicles to be added to the project over time.

Division 2 Requirements for group of vehicles projects

11 Group of vehicles

A group of vehicles project must be conducted on a group of vehicles. The group must be made up of sub-groups, where each sub-group contains all of the vehicles in a vehicle category in either a *transport operation* or *business unit*. Each sub-group is treated as a single unit, which allows for more streamlined and simple calculations, monitoring and reporting.

As transport operations vary in size and structure, the Determination provides flexibility for proponents to define sub-groups appropriate to their circumstances. For example, a large logistics company might operate Australia wide, offering urban, regional and interstate services. However, the proponent may wish to focus the project on a smaller part of that operation, for example the urban services in a particular region. The requirement that a sub-

group must contain all the vehicles of a vehicle category in that operation or business unit reduces the risk of leakage of emissions to other parts of the operation or business unit.

Proponents are able to move individual vehicles in or out of a sub-group for commercial reasons (for example, as the fleet turns over, to meet seasonal scheduling demands or to replace another vehicle that is out of service for maintenance). However, subsection 11(3) requires that a vehicle cannot be moved to or from a *related* group of vehicles that is outside the project for the dominant purpose of producing eligible abatement for the project. This is to reduce the risk of leakage and the scope for intentionally shifting high emissions intensity vehicles from the project to another part of the operation, or intentionally shifting low emissions intensity vehicles into the project from another part of the operation.

Mobile equipment may not be included in a group of vehicles project. This is because mobile equipment is an extremely diverse vehicle category, and there is limited data upon which to set an appropriate *decline rate* for baseline calculations (see Schedule 1).

12 Information to be included in the application for declaration

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 12 of the Determination requires the following information be included in the application for the declaration of a group of vehicles project:

- description of the sub-groups in the project;
- transport operations or business units concerned;
- duty cycles of the vehicles;
- the project activities involved;
- the service unit to be used for each sub-group in the project; and
- any intended use of the Green Vehicle Guide to set the emissions intensity including a statement about why fuel consumption cannot be measured.

Subsection 12(3) outlines that the information about the duty cycles of the vehicles and the project activities can be provided by class, for example by vehicle category or business unit: this allows for a shorter application that avoids repetition.

For example, an application could include that all the vehicles in a specific business unit that were to undergo the same project activity, rather than having to list each vehicle and the project activity being performed.

13 Service units

Section 13 prescribes that proponents must use the same service unit in all reporting periods. This is to ensure that abatement is calculated in the same way throughout the project.

See Schedule 1 of this explanatory statement for more information on service units.

Division 3 Requirements for aggregated individual vehicles projects

14 Aggregated individual vehicles

Section 14 requires that an aggregated individual vehicles project be performed on one or more individual vehicles.

Light vehicles are excluded from an aggregated individual vehicles project. This is because of a higher risk of crediting non-additional abatement from light vehicles compared to other vehicle categories due to rapid fleet turnover and the fast rate of improvement of the new light vehicle fleet. This is less of a risk in a group of vehicles project due to the decline rate applied to historic emissions intensity, which takes into account business as usual fleet improvement.

15 Information to be included in the application for declaration

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 15 of the Determination requires the following information be included in the application for the declaration of an aggregated individual vehicles project:

- the duty cycles of the vehicles;
- the project activities involved;
- an estimate of the number and categories of vehicles to be included in the project; and
- the service unit to be used for each vehicle in the project.

Subsection 15(3) outlines that the information about the duty cycles of the vehicles and the project activities can be provided by class, for example by vehicle category. This allows for a shorter application that avoids repetition.

For example an application could include that all vehicles of a particular category were of the same duty cycle and undergoing the same project activities, rather than listing each vehicle duty cycle and project activity separately.

16 Service units

Section 16 prescribes that proponents must use the same service unit in all reporting periods. This is to ensure that abatement is calculated in the same way throughout the project.

Section 16 also includes the rules for converting passengers to tonnes where a vehicle category may carry both passengers and freight and the prescribed service unit is in tonne kilometers. This is only applicable to aggregated individual vehicles projects.

See Schedule 1 of this explanatory statement for more information on service units.

Part 4 Net abatement amounts

Division 1 Operation of this Part

17 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.

18 Overview of gases accounted for in abatement calculations

Section 18 provides a summary of the greenhouse gases and emissions sources that are relevant to working out the net abatement amount. The greenhouse gas emissions and emissions sources which need to be taken into account when calculating abatement for the project are carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O) from fuel combustion for transport purposes, and scope 2 emissions from electricity when it is used as a transport fuel.

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

- Emissions from fuel extraction and processing, fuel blending and fuel transport are excluded as they are scope 3 emissions. This is consistent with the National Inventory Report and the *NGER (Measurement) Determination*, and also prevents the potential for double counting of abatement from another project/facility for which these are scope 1 emissions.
- Emissions from fuel storage and dispensing have been excluded. Where fuel storage and dispensing occurs offsite, they are scope 3 emissions, and so are excluded as above. Where fuel storage and dispensing occurs onsite they are likely to be comparable in the baseline and project scenarios.
- Emissions from the transport facility electricity use, vehicle and facility maintenance, vehicle manufacture, new vehicle transportation and vehicle decommissioning are considered comparable in the baseline and project cases. Further, some of the sources are likely to be immaterial, and impractical for project proponents to determine.

Division 2 Group of vehicles projects

19 Operation of this Division

This Division outlines the calculations involved in working out the carbon dioxide equivalent net abatement amount for a reporting period for a land and sea transport project that is a group of vehicles project.

20 Project summary – group of vehicles

Section 20 provides a summary of how the carbon dioxide equivalent net abatement amount is calculated for a group of vehicles project.

21 Net abatement amount – group of vehicles

Subsection 21(1): The carbon dioxide equivalent net abatement amount

The carbon dioxide equivalent net abatement amount for an eligible offsets project for a group of vehicles project is calculated using **equation 1**. It is the sum of the carbon dioxide equivalent net abatement amount for each sub-group in the project.

Subsection 21(2): The carbon dioxide equivalent net abatement amount for a sub-group

The carbon dioxide equivalent net abatement amount for a sub-group is calculated using **equation 2**. It is the higher of either the difference between baseline emissions and project emissions for the sub-group, or zero. This prevents crediting negative abatement if emissions intensity rises, in recognition that there are factors outside a proponent's control that might cause this.

Subsection 21(3): Baseline emissions for a sub-group

Baseline emissions for a sub-group are calculated using **equation 3**. Baseline emissions are the product of the baseline emissions intensity and the project quantity of service for the sub-group. The project quantity of service is determined in accordance with the monitored parameters in section 33.

Subsection 21(4): Baseline emissions intensity for a sub-group

The baseline emissions intensity of each sub-group is calculated using **equation 4**. It is calculated as the historic emissions intensity for the sub-group multiplied by the decline rate specific to the vehicle category raised to the power of the year of the project in which the reporting period ends.

The power term in equation 4 is the year of the project in which the reporting period ends, where year $y = 1$ commences at project declaration. There are two main implications for this:

- The baseline decline starts from project declaration, even if project activities do not begin until after declaration. This is because the basis for using a decline rate in a group of vehicles project is that some types of groups of vehicles have shown improvement over time. That business as usual improvement is not expected to stop at declaration.
- If a reporting period is longer than one year, or straddles two years of the project, the baseline will be set using the later year, as there is no mechanism to apportion abatement between years within a single reporting period.

Subsection 21(5): Historic emissions intensity for a sub-group

The historic emissions intensity for each sub-group is set at the lowest emissions intensity of the three years prior to project declaration in **equation 5**. This minimises the risk of crediting non-additional emissions reductions achieved through normal variations in emissions intensity.

Division 3 Aggregated individual vehicles projects

22 Operation of this Division

This Division outlines the calculations that must be used in working out the carbon dioxide equivalent net abatement amount for a reporting period for a land and sea transport project that is an aggregated individual vehicles project.

23 Project summary – aggregated individual vehicles

This section provides a summary of how the net abatement amount is calculated for an aggregated individual vehicles project.

24 Net abatement amount – aggregated individual vehicles

Subsection 24(1): Carbon dioxide equivalent net abatement

The carbon dioxide equivalent net abatement amount for an eligible offsets project for an individual aggregated vehicles project is calculated using **equation 6**. The net abatement amount is the sum of abatement from each vehicle in the project.

The abatement from an individual vehicle is calculated as follows:

- If the vehicle has retained its original **duty cycle** for more than 80 per cent of the reporting period, then the abatement is set as the higher of baseline emissions minus project emissions, or zero. This prevents penalising proponents if the emissions intensity of the vehicle rises. This provision recognises that normal business operations may require changes to a vehicle's duty cycle, while at the same time minimising the risk of crediting non-additional abatement.
- If the vehicle is a **replacement vehicle** that has the same duty cycle as the vehicle it replaced, and the replaced vehicle is sold or disposed of within 90 days, then the abatement is set as the higher of baseline emissions minus project emissions, or zero. This prevents crediting negative abatement if the emissions intensity of the vehicle rises. This provision ensures that the activity is a valid replacement, rather than an additional vehicle being added to the fleet, while allowing time for the proponent to sell or dispose of the old vehicle.
- If neither of the above are true (i.e., original duty cycle changed by 20 per cent or more) for a vehicle then the abatement for that vehicle is zero. This is to help ensure that the emissions reductions credited are additional to business as usual.

Subsection 24(2): Baseline emissions for an individual vehicle

Baseline emissions for an individual vehicle are worked out using **equation 7**. It is the baseline emissions intensity of the vehicle multiplied by the project quantity of service (determined in accordance with the monitored parameters table in section 33).

Subsection 24(3): Baseline emissions intensity for an individual vehicle

The baseline emissions intensity for an individual vehicle is worked out using equation 8, 9, or 10. There are specific baseline setting rules that must be used depending on the project activity and the vehicle category.

- If the vehicle is a ship that must comply with the required Energy Efficiency Design Index (EEDI) as stipulated in *Navigation Act 2012*, the *Protection of the Sea (Prevention of Pollution from Ships) Act 1983* and Marine Order 97, **equation 8** is used. This regulation sets a target for the energy efficiency for new ships, or those that have undergone major conversions, over 400 gross tonnes, in grams of CO₂ per tonne-nautical mile. The EEDI effectively creates a regulatory baseline, and so is used as the baseline for ships that are

required to comply with it. The EEDI target must be converted to tonnes CO₂-e per tonne kilometre or tonne nautical mile, which is worked out in that section.

- If the vehicle is not replaced and not a vessel covered by the EEDI, **equation 9** is used, where the baseline emissions intensity is set as the historical emissions intensity of the vehicle. This is because the emissions intensity of a single vehicle is not expected to improve over time in the absence of any specific emissions reduction activities.
- If a vehicle is a replacement vehicle and is not a vessel covered by the EEDI, **equation 10** is used, where the baseline for the replacement vehicle must be set at the lower of the historic emissions intensity of the vehicle which is being replaced and the average emissions intensity of the vehicles within a *reference group*. This is because if a vehicle is being replaced, the business as usual replacement would be expected to be either similar to the vehicle that it is replacing, or similar to all the other comparable vehicles in the operation. Choosing the lower emissions intensity of the two as the baseline is a conservative approach.

Subsection 24(4): Historic emissions intensity for vehicles that are not being replaced

For vehicles that are not being replaced, the historic emissions intensity is worked out using **equation 11**. The historic emissions intensity is the lowest emissions intensity of the vehicle in the three years prior to the start of the reporting period in which it is first included in the project. It is selected as the lowest of the three years to reduce the risk of crediting normal variations in the emissions intensity of the vehicle.

Subsection 24(5): Historic emissions intensity for replaced vehicles

For vehicles that have been replaced, the historic emissions intensity is worked out using **equation 12**. The historic emissions intensity is the lowest emissions intensity of the replaced vehicle in the three years prior to the start of the reporting period in which the replacement vehicle is first included in the project. It is selected as the lowest of the three years to reduce the risk of crediting normal variation in the emissions intensity of the vehicle.

Subsection 24(6): Reference group emissions intensity

The reference group emissions intensity is worked out using **equation 13**. It is worked out by calculating the average emissions intensity of all vehicles in a reference group for each of the three years prior to the start of the reporting period in which the replacement vehicle is first included in the project and taking the lowest value.

The reference group is made up of all the vehicles in the same transport operation or business as the replaced vehicle that is of the same vehicle category or *vehicle sub-category* and of comparable duty cycle to the replaced vehicle. A vehicle sub-category can be identified on the basis of type, gross vehicle mass, or freight or passenger capacity, as appropriate.

Division 4 Calculating emissions intensity (I)

The equations in Division 4 are general equations that must be used for the appropriate vehicle or vehicle category and period in which they are called upon.

25 Calculating emissions intensity (I)

Subsection 25(1): Emissions intensity

Equation 14 sets out how to calculate emissions intensity by dividing emissions by the quantity of service. The units of emissions intensity are therefore dependent on the service unit used to measure the quantity of transport services.

For an aggregated individual vehicles project, emissions intensities are calculated on an individual vehicle basis. As such, emissions and quantity of services must correspond to a single vehicle for the period concerned.

For a group of vehicles project, the emissions and quantity of services used are the total emissions and total quantity of services for the sub-group.

Where fuel and electricity consumption **cannot** be measured for a sub-group of light vehicles in a group of vehicles project, **equation 15** may be used. The emissions intensity of the group may be calculated as the average of the 'label rate' emissions intensities from the **Green Vehicle Guide**. This recognises that some proponents (for example hire car companies) may have access to quantity of services data but not quantity of fuel consumed, which would otherwise preclude them from participating in the ERF. Proponents that use label rates will only be credited for emissions reductions from vehicle replacements (as reductions in fuel use due to other activities cannot be measured).

Subsection 25(2): Emissions

Emissions of a vehicle or a sub-group are calculated using **equation 16**. Emissions sources that must be included in the calculation are emissions from transport fuel use and, if applicable, emissions from electricity when it is used as a transport energy source.

Subsection 25(3): Emissions from transport fuel use

Emissions from transport fuel are worked out using **equation 17**, based on the quantity, emissions factors and energy content of each type of fuel used (determined in accordance with the monitored parameters, section 33).

Subsections 25(4 and 5) Emissions from consumed electricity

Emissions from electricity used by a vehicle or sub-group of vehicles are worked out using **equation 18**. The total quantity of electricity used as a transport energy source is reduced by the quantity of **eligible renewable electricity** used and the value obtained is multiplied by the relevant scope 2 grid-based electricity emissions factor.

Total quantity of electricity used (Q_{EC}) includes electricity used from all sources (both eligible and non-eligible renewable electricity). The emissions factor (EF_{EC}) applicable to non-eligible renewable electricity is that of the grid.

The electricity emission factor to be used is to be taken from the *National Greenhouse Accounts (NGA) Factors* document published by the Department from time to time. The factor will apply unchanged from the date of project declaration. If the electricity is from a source other than an electricity grid included in the *NGA Factors* document then the 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. The *NGA Factors* document will clearly identify the table of emissions factors relevant to this definition.

Figure 1 provides an example of how equation 18 is to be applied to a project that involves powering electric truck with eligible renewable electricity. In this example, solar panels are installed to generate eligible renewable electricity.

Figure 1: Example calculation for project involving eligible renewable electricity



Part 5 Reporting, record-keeping and monitoring requirements

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

Under Parts 17 and 21 of the Act, a failure to comply with these requirements may constitute a breach of a civil penalty provision, and a financial penalty may be payable.

The monitoring, record-keeping and reporting requirements specified in Part 5 of the Determination are in addition to any requirements set out in the Act, regulations and rules made under the Act.

Reporting periods

The Act and subordinate legislation provide for flexible reporting periods between six months and two years in duration. Proponents should be aware that the Act and subordinate legislation may also specify other reporting and notification requirements affecting the Determination.

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, frequency and scope of the audit report that must be provided with project reports for different types of projects.

Notification requirements

No notification requirements are specified in the Determination in addition to those set out in the Act, regulations or rules made under the Act.

Division 1 Offsets report requirements

26 Operation of this Part

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.

27 Determination of certain factors and parameters

Further to requirements under the Act or subordinate legislation, section 27 sets out specific additional information that must be included in each offsets report for a land and sea transport project.

Subsection 27(1) sets out that the offsets reporting requirements in this subsection apply where it is not possible to meet the requirements of subsection 6(1), as outlined in paragraph 6(2)(b). The purpose of subsection 27(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 33. 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 27(2) sets out that if a parameter is not monitored in accordance with the monitoring requirements, and is determined in accordance with section 34, the offsets report must include the following information:

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

28 Use of Green Vehicle Guide

Further to requirements under the Act or subordinate legislation, section 28 sets out specific additional information that must be included in each offsets report for a land and sea transport project.

If the Green Vehicle Guide data are used to calculate the net abatement amount, the following information must also be provided:

- the details (make, model and fuel type) of the vehicles;
- if the vehicle is replaced during the reporting period, show that the vehicle was replaced and include the details (make, model and fuel type) of the replacement vehicle; and
- if the vehicle replaced another vehicle during the reporting period, show that the vehicle replaced another vehicle and include the details (make, model and fuel type) of the vehicle that was replaced.

29 Division of project into smaller projects

Sub-section 77A(2) of the Act provides rules under which a proponent can divide an overall project into parts for the purpose of submitting offset reports and applying for certificates of entitlement.

For a group of vehicles project, the Determination provides for dividing a project down to the level of a sub-group. For an aggregated individual vehicles project, the Determination provides for dividing a project down to the level of a single vehicle.

Division 2 Record-keeping requirements

30 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.

31 Record-keeping requirements

Section 31 lists the records that must be kept for a land and sea transport project, in addition to record-keeping requirements applying to all projects as set out in the Act, regulations and rules made under the Act.

Proponents must keep records about the individual vehicles involved in the project including:

- the registration number, vehicle category, fuel type, passenger or freight capacity and duty cycle for the vehicle;
- information about any period for which the vehicle was not operational;
- information about a vehicle's sale or disposal; and
- the project activities performed on the vehicle.

Proponents must also keep records about:

- details of changes to operational practices as a project activity; and
- records of whether vehicles or equipment used to assist in powering or operating the vehicles were operating as part of the project or not.

Proponents with a group of vehicles project must also keep records about:

- the composition of the group in terms of vehicle categories and sub-groups in sufficient detail to support the decline rates used for the project; and
- any vehicle movements into or from the group.

Proponents with an aggregated individual vehicle project where a project activity includes replacing vehicles, must also keep records about:

- vehicles associated with the replacement;
- when and why the replacement occurred;
- the sale or disposal of the vehicle that was replaced; and
- the reference group for the vehicle.

When a vehicle (other than a project vehicle) or piece of equipment is used to power, operate or assist in powering or operating a vehicle in the project, then records must show whether the use of the non-project vehicle or equipment was installed as part of the project.

All records required to be kept for the project must be kept in a form that is easily and quickly accessible for inspection and audit.

Division 3 Monitoring requirements

32 Operation of this Division

Subsection 106(3)(d) of the Act provides that a methodology determination may require the project proponent of an eligible offsets project to comply with specified monitoring requirements.

This Division specifies the parameters that require monitoring, including the manner and frequency of monitoring.

33 Requirements to monitor certain parameters

Section 33 lists parameters used in the calculation of the net abatement amounts in Part 4 of the Determination that must be monitored, including specifications for units, procedure and frequency of monitoring.

Key monitored parameters are:

- the quantity of service provided by the vehicles or sub-groups;
- the quantity of fuel and electricity (including renewable electricity if appropriate) used by the vehicles or sub-groups; and
- the emissions factor and energy content of transport fuel.

Subsection 33(1) allows a proponent to choose whether to use default factors or a higher order estimation method and continuous monitoring for the emissions factor for carbon dioxide and the energy content for fuel. If a higher order estimation is chosen, the proponent must monitor those factors in accordance with Division 2.4.3 or 2.4.4 of the *NGER (Measurement) Determination* and must continue to do so for the entire project. If a project proponent uses the default values, they may change to a higher order method, however cannot change back to the default.

Any equipment or device used to monitor a parameter must be calibrated by an accredited technician at intervals, and using methods, that are in accordance with the manufacturer's specifications.

The Determination requires that measurement procedures meet specifications in 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**.

In subsection 33(1), where the monitoring frequency of a parameter is specified as 'continuous', this means it should be monitored at intervals that will provide sufficient substantiation of its value.

As reiterated by subsection 34(1), 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 in section 33, project proponents should use one of the approaches provided in section 34.

34 Consequences of not meeting requirement to monitor certain parameters

Compliance with requirements for monitoring parameters is important to ensure that abatement is calculated correctly. Monitoring requirements (section 33) 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 in section 33. When this occurs, section 34 requires that adjustments are 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 parameters listed in item 1 of the table in subsection 34(1), the consequence of not monitoring these parameters in accordance with the monitoring requirements is that the proponent must make a conservative estimate of the parameter for the duration of the non-monitored period.

For the parameters listed in item 2 of the table in subsection 34(1), the consequence of not monitoring in accordance with the requirements is that the proponent must 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 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 those three months the adjustment is 50 per cent (i.e. the factor is multiplied by 1.5). The adjusted factors should only apply to the non-monitored period in the reporting period. The baseline must not be amended using the adjusted factors. This is a consistent approach across emissions reduction methodologies that allow a higher order estimation method.

The need for a proponent to apply section 34 arises from failure to meet monitoring requirements. In accordance with the Act, the Regulator may determine an appropriate response (irrespective to the adjustments listed in subsection 34(1)) 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 no eligible net abatement has been achieved by the project for the period of the breach. A note to subsection 34(2) indicates other actions that the Regulator may choose to take in response to a proponent failing to meet monitoring requirements.

When section 34 is used, the proponent will be required to include information relating to the monitoring failure in its offsets report for the relevant reporting period. 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 of the Determination, and to determine what compliance action may be appropriate.

Schedule 1 Service Units

1 Service units

Schedule 1 prescribes the service units that may be used for each vehicle category in a group of vehicles project or in an aggregated individual vehicles project.

The service units used for group of vehicles projects are consistent with the service units on which decline rates are based.

Schedule 2 Decline rates

1 Decline rates for group of vehicles projects

Schedule 2 outlines decline rates by vehicle category and service unit that must be used in the calculation of the net abatement amount in a group of vehicles project in Part 4 of the Determination.

The decline rates are detailed in Schedule 2 of the Determination, and are based on data from *Australian Transport Facts 2014* produced by the Centre for Transport, Energy and the Environment. The decline rates represent the observed changes in emissions intensity in each vehicle category across the Australian economy based on the prescribed service unit.

Relevant decline rates are applied to the historic emissions intensity of each vehicle category in the project in order to define a baseline. Note that some vehicle categories have a decline rate of 1.00: for these categories there has been no observed improvement in emissions intensity.

Light vehicles are the exception to this rule. Very recent data on the Australian new light vehicle fleet suggests that there have been rapid improvements in the emissions intensity of light vehicles. The decline rate for light vehicles is set at 0.992, which represents the label rate improvements (2.4%) in the new fleet whilst taking into account the rate of fleet turnover (three years). A high fleet turnover rate of three years was used in recognition that the sorts of fleets that are likely to participate in the ERF have fast fleet turnover, and that regular fleet renewal is likely to be business as usual. This is a conservative approach that helps to ensure that eligible abatement is additional.

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 – Land and Sea Transport) 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 – Land and Sea Transport) Methodology Determination 2015* (the Determination) sets out the detailed rules for implementing and monitoring offsets projects that avoid greenhouse gas emissions by reducing the emissions intensity of transport services. The Determination applies to land and sea transport projects that involve replacing vehicles, modifying existing vehicles, changing vehicle energy sources or changing operational practices.

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 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.

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