Carbon Credits (Carbon Farming Initiative) Methodology (Transport) Determination 2014

I, Greg Hunt, Minister for the Environment, make the following determination.

Dated 2014

Greg Hunt [DRAFT ONLY—NOT FOR SIGNATURE]
Minister for the Environment
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Part 1—Preliminary

1 Name

This is the Carbon Credits (Carbon Farming Initiative) Methodology (Transport) Determination 2014.

2 Commencement

This instrument commences on the day after it is registered.

3 Authority

This instrument is made under subsection 106(1) of the Carbon Credits (Carbon Farming Initiative) Act 2011.

4 Duration

This instrument remains in force for the period that:
(a) begins when the determination commences; and
(b) ends on the day before this determination would otherwise be repealed under subsection 50(1) of the Legislative Instruments Act 2003.

5 Definitions

In this instrument:

Act means the Carbon Credits (Carbon Farming Initiative) Act 2011.

application, for a project, means the application, made under section 22 of the Act, for declaration of the project as an eligible offsets project.

articulated trucks, as a vehicle category, means vehicles:
(a) built primarily for transporting goods; and
(b) that consist of:
   (a) a prime mover with no significant carrying area; and
   (b) at times, one or more trailers linked to the prime mover and each other by turntable devices.

Australia, when used in a geographical sense, includes:
(a) the external Territories and the exclusive economic zone; and
(b) the airspace above the external Territories and the exclusive economic zone.

buses, as a vehicle category, means passenger vehicles with 10 or more seats, including the driver’s seat.

business unit means a part of a business that is, to some extent, administered separately.

coastal shipping, as a vehicle category, means vessels for transporting goods.
Section 5

declaration, in relation to a project, means the declaration of the project as an eligible offsets project.

decline rate, for a service unit for a vehicle category, means the rate set out in the table in clause 1 of Schedule 3.

default parameters means the parameters set out in the table in clause 1 of Schedule 2.

diesel passenger rail, as a vehicle category:
(a) means rolling stock that uses diesel fuel to transport passengers; but
(b) does not include rolling stock that is light passenger rail.

duty cycle, for a vehicle, means the kind of work done by the vehicle.

electric passenger rail, as a vehicle category:
(a) means rolling stock that uses electricity to transport passengers; but
(b) does not include rolling stock that is light passenger rail.

emissions intensity means emissions produced compared with service output (or work done).

ferries, as a vehicle category, means vessels for transporting passengers within a city or region.


light commercial vehicles, as a vehicle category, means vehicles:
(a) used for business purposes; and
(b) with a gross vehicle mass (GVM) of less than 3.5 tonnes.

light passenger rail, as a vehicle category, means rolling stock for transporting passengers over short distances.

mobile equipment means off-road self-propelled machinery that is not covered by another vehicle category.


non-freight carrying trucks, as a vehicle category, means vehicles:
(a) not built primarily for transporting goods; and
(b) that would be articulated trucks or rigid trucks if they had been so built.

operational practices include, but are not limited to, the following:
(a) driver training;
(b) route scheduling;
(c) vehicle maintenance scheduling.

original duty cycle, for a vehicle, means the duty cycle for the vehicle in the year used to determine historic emissions intensity for the vehicle (see subsection 21(1)).
passenger vehicles, as a vehicle category:
   (a) means passenger vehicles with fewer than 10 seats (including the driver’s seat); and
   (b) includes cars, station wagons, four-wheel drive passenger vehicles, passenger vans or mini buses and campervans.

pkm means passenger kilometres.

pkm (cruising) means passenger kilometres for the part of an aircraft flight that:
   (a) begins when the change in velocity and altitude of the aircraft approaches zero after the initial ascent of the flight; and
   (b) ends when the velocity and altitude of the aircraft begins to change for the final descent of the flight.

rail freight, as a vehicle category, means rolling stock for transporting goods.

reference group, for a vehicle (v) in relation to year, means all other vehicles that:
   (a) were in the same transport operation or business unit as vehicle (v) in the year; and
   (b) were of the same vehicle category or vehicle sub-category as vehicle (v); and
   (c) had duty cycles comparable with the duty cycle of vehicle (v).

regulations means the Carbon Credits (Carbon Farming Initiative) Regulations 2011.

related, in relation to groups of vehicles, has the meaning given by subsection 13(5).

replacement vehicle means a vehicle that:
   (a) replaced a vehicle (the replaced vehicle) in a project during the reporting period concerned; and
   (b) was not, before the replacement, subject to the control of the person who controlled the replaced vehicle.

rigid trucks, as a vehicle category:
   (a) means motor vehicles:
      (i) built primarily for transporting goods; and
      (ii) exceeding 3.5 tonnes gross vehicle mass (GVM); and
   (b) includes trucks covered by paragraph (a) with tow bars, draw bars or other non-turntable coupling device at the rear of the vehicle.

service unit means a unit of measure set out in the table in clause 1 of Schedule 1.

sub-method means:
   (a) sub-method 1 (the group of vehicles sub-method) set out in Division 2 of Part 4; or
   (b) sub-method 2 (the aggregated individual vehicles sub-method) set out in Division 3 of Part 4.
Section 5

**tkm** means tonne kilometres.

**tkm (cruising)** means tonne kilometres for the part of an aircraft flight that:

(a) begins when the change in velocity and altitude of the aircraft approaches zero after the initial ascent of the flight; and

(b) ends when the velocity and altitude of the aircraft begins to change for the final descent of the flight.

**transport operation** means transport services operated by a business, whether or not as the the primary activity of the business.

**transport project** has the meaning given by subsection 6(2).

**vehicle** includes the following:

(a) rolling stock;

(b) aircraft;

(c) vessels;

(d) mobile equipment.

**vehicle category** means a category set out in the table in clause 1 of Schedule 1 in the column headed “Vehicle category”.

**vehicle sub-category** means vehicles within a vehicle category that can be identified as a sub-category of the vehicle category, for the purposes of a transport project, on the basis of one or more of the following:

(a) type of vehicle;

(b) gross vehicle mass;

(c) passenger capacity.

**vkt** means vehicle kilometres travelled.
Part 2—Transport projects

6 Transport projects

(1) For paragraph 106(1)(a) of the Act, this instrument applies to an offsets project that:

(a) aims to reduce the emissions intensity of existing transport activities; and
(b) involves one or more of the following:
   (i) replacing vehicles;
   (ii) modifying existing vehicles;
   (iii) changing energy sources (fuels and electricity) or the mix of energy sources for vehicles;
   (iv) changing operational practices.

(2) A project covered by subsection (1) is a transport project.
Part 3—Project requirements

Division 1—General requirements

7 Operation of this Part

For paragraph 106(1)(b) of the Act, this Division sets out requirements that must be met for a transport project to be an eligible offsets project.

Note: Additional requirements are set out in Division 2.

8 Project must use one sub-method

(1) The application for the project must specify the sub-method to be used for the project.

Note: Sub-methods are set out in Part 4.

(2) The project must use the sub-method for working out carbon dioxide equivalent net abatement amounts.

(3) Sub-method 1 must not be used for mobile equipment.

(4) Sub-method 2 must not be used for:
   (a) passenger vehicles; or
   (b) motorcycles; or
   (c) light commercial vehicles.

9 Service units for vehicle categories

(1) The application for the project must specify the service unit to be used for each vehicle category in the project.

(2) The service unit must be of a kind set out in the table in clause 1 of Schedule 1 for the vehicle under the sub-method to be used.

(3) The project must use the service unit for the vehicle category in working out the carbon dioxide equivalent net abatement amount for each reporting period.

Converting passengers to weight—sub-method 2

(4) For a vehicle category that carries both freight and passengers, passengers may be converted to weight at the rate of 78kg per passenger if the conversion is used consistently in working out each carbon dioxide equivalent net abatement amounts for all reporting periods for the project.

Note: This allows for the use of tkm where passengers are carried.

10 Project must use data from domestic activities only

(1) The project must not use data from activities undertaken:
   (a) outside Australia; or

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(b) as part of, or in preparation for, an international trip or voyage from a place in Australia to a place outside Australia.

Note: This prevents abatement that is not eligible carbon abatement from being included in carbon dioxide equivalent net abatement amounts for projects.

(2) Paragraph (1)(a) does not apply in relation to activities involved in a trip or voyage that:

(a) departs from a place in Australia; and
(b) arrives at another place in Australia without first arriving at a destination outside Australia.

11 Project must have data from previous years

The project proponent must have the data from previous years, for the group of vehicles or individual vehicles concerned, required for the calculation of carbon dioxide equivalent net abatement amounts for the project.

Note: For the data from previous years required for calculating carbon dioxide equivalent net abatement amounts:

(a) for sub-method 1—see subsections 19(3) and (4); and
(b) for sub-method 2—see subsections 21(4) to (6).

Division 2—Requirements for particular sub-methods

12 Operation of this Part

For paragraph 106(1)(b) of the Act, this Division sets out additional requirements that must be met for a transport project to be an eligible offsets project.

13 Using sub-method 1 (group of vehicles)

(1) This section applies if sub-method 1 is used.

(2) The sub-method must be used in relation to a group of vehicles.

Note: The sub-method must not be used for mobile equipment: see subsection 8(3).

(3) The group of vehicles must be made up of all the vehicles in one or more vehicle categories used from time to time by one or more transport operations or business units.

(4) A vehicle must not be moved to or from a related group of vehicles for the dominant purpose of producing carbon abatement for the project.

(5) Vehicles are in related groups if they are subject to common control.

14 Using sub-method 2 (aggregated individual vehicles)

(1) This section applies if sub-method 2 is used.

Note: Sub-method 2 can only be used for certain vehicle categories: see subsection 8(3).

(2) The sub-method must be used in relation to one or more individual vehicles.
Part 3  Project requirements

Division 2  Requirements for particular sub-methods

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(a) passenger vehicles; or
(b) motorcycles; or
(c) light commercial vehicles:
see subsection 8(4).
Part 4—Net abatement amounts

Division 1—Operation of this Part

15 Operation of this Part

For paragraph 106(1)(c) of the Act, this Part specifies methods (the sub-methods) for working out the carbon dioxide equivalent net abatement amount for a reporting period for a transport project that is an eligible offsets project.

Note: Part 3 sets out requirements that must be met to use a sub-method.

16 Overview of gases accounted for in abatement calculations

The following table provides an overview of the greenhouse gas abatement and emissions that are relevant to working out the carbon dioxide equivalent net abatement amount for a transport project.

<table>
<thead>
<tr>
<th>Item</th>
<th>Relevant calculation</th>
<th>Emissions source</th>
<th>Greenhouse gas</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Baseline emissions</td>
<td>Fuel combustion</td>
<td>Carbon dioxide (CO$_2$) Methane (CH$_4$) Nitrous oxide (N$_2$O)</td>
</tr>
<tr>
<td>2</td>
<td>Baseline emissions</td>
<td>Electricity consumption (as transport fuel)</td>
<td>Carbon dioxide (CO$_2$)</td>
</tr>
<tr>
<td>3</td>
<td>Project emissions</td>
<td>Fuel combustion</td>
<td>Carbon dioxide (CO$_2$) Methane (CH$_4$) Nitrous oxide (N$_2$O)</td>
</tr>
<tr>
<td>4</td>
<td>Project emissions</td>
<td>Electricity consumption (as transport fuel)</td>
<td>Carbon dioxide (CO$_2$)</td>
</tr>
</tbody>
</table>

17 References to factors and parameters from external sources

(1) If a calculation in this Part includes a factor or parameter that is defined or calculated by reference to another instrument or writing, the factor or parameter to be used for a reporting period is the factor or parameter referred to in, or calculated by reference to, the instrument or writing as in force on the earlier of the following days:

(a) the day the offsets report for the reporting period is given to the Regulator;
(b) the day that report is required to be given to the Regulator.

(2) Subsection (1) does not apply to a parameter that is required to be worked out in accordance with the monitoring requirements.
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Division 2  Sub-method 1 (group of vehicles)

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Division 2—Sub-method 1 (group of vehicles)

18 Summary of sub-method 1

In this sub-method, the baseline scenario is that emissions intensity will either improve or stay constant within a group of vehicles over time, depending on the vehicle categories to which the vehicles in the group belong. To set the baseline for each vehicle category, a decline rate is applied to the historic emissions intensity of vehicles in the vehicle category, so as to account for business-as-usual improvements.

Baseline emissions are calculated as the sum of the baseline emissions intensity multiplied by project quantity of service for each vehicle category. The net abatement amount is the baseline emissions minus the project emissions.

19 Net abatement amount for sub-method 1

(1) The carbon dioxide equivalent net abatement amount \(A\) for the group of vehicles for the reporting period is worked out using the formula (equation 1):

\[
A = E_B - E_P
\]

where:

\(A\) means the carbon dioxide equivalent net abatement amount for the group of vehicles for the reporting period in tonnes CO\(_2\)-e.

\(E_B\) means baseline emissions for the group of vehicles in tonnes CO\(_2\)-e worked out using equation 2.

\(E_P\) means project emissions for the group of vehicles for the reporting period in tonnes CO\(_2\)-e worked out using equation 12.

(2) The baseline emissions in tonnes CO\(_2\)-e \((E_B)\) for the group of vehicles for the reporting period is worked out using the formula (equation 2):

\[
E_B = \sum_c \left( I_{B,c} \times Q_{serv,c} \right)
\]

\(E_B\) means the baseline emissions in tonnes CO\(_2\)-e for the group of vehicles for the reporting period.

\(I_{B,c}\) means the baseline emissions intensity in tonnes CO\(_2\)-e per service unit for the vehicles in the group in vehicle category \((c)\) for the reporting period worked out using equation 3.

\(Q_{serv,c}\) means the quantity of service in service units for the vehicles in the group in vehicle category \((c)\) for the reporting period determined in accordance with the table in section 29.

(3) The baseline emissions intensity in tonnes CO\(_2\)-e per service unit \((I_{B,c})\) for vehicles in a vehicle category for the reporting period is worked out using the formula (equation 3):

\[
I_{B,c} = \frac{E_B}{\sum_c Q_{serv,c}}
\]
Section 19

\[ I_{B,c} = I_{H,c} \times D_c \]

where:

- \( I_{B,c} \) means the baseline emissions intensity in tonnes CO\(_2\)-e per service unit for vehicles in the vehicle category (\( c \)) for the reporting period.
- \( I_{H,c} \) means the historic emissions intensity in tonnes of CO\(_2\)-e per service unit for vehicles in the vehicle category (\( c \)) worked out using equation 4.
- \( D_c \) means the decline rate for the service unit for vehicle category (\( c \)) determined in accordance with the table in clause 1 of Schedule 3.
- \( y \) means the year of the project in which the reporting period ends (where the first year after the declaration of the project is 1, the second year after the declaration of the project is 2, and so on).

(4) The historic emissions intensity in tonnes of CO\(_2\)-e per service unit \( (I_{H,c}) \) for vehicles in a vehicle category is worked out using the formula \( (equation\ 4)\):

\[ I_{H,c} = \min \left( I_{c,y} \right) \]

\[ y \in \{0, -1, -2\} \]

where:

- \( I_{H,c} \) means the historic emissions intensity in tonnes of CO\(_2\)-e per service unit for vehicles in the vehicle category.
- \( I_{c,y} \) means emissions intensity in tonnes of CO\(_2\)-e per service unit for vehicles in vehicle category (\( c \)) in year (\( y \)) where:
  - (a) \( \theta \) is the year immediately before the declaration of the project; and
  - (b) \( I \) is worked out for the vehicles in the vehicle category using equation 11A or 11B, as required.
20 Summary of sub-method 2

In this sub-method, monitoring and treatment is at the individual vehicle level.

The baseline scenario for an individual vehicle is dependent on the activity and type of vehicle.

If the vehicle is replaced, then the baseline scenario is that the vehicle would be replaced with one that is similar to it or similar to a reference group within the transport operation or business unit that is similar in type and duty cycle. The baseline is therefore set at the lower of the following:

(a) the reference group emissions intensity for that vehicle category;
(b) the historic emissions intensity of the vehicle being replaced.

If the replacement vehicle is a ship that must comply with Annex VI of the International Convention for the Prevention of Pollution From Ships, then the baseline emissions intensity is set as the required Energy Efficiency Design Index as this effectively acts as a regulatory baseline.

If a vehicle is not being replaced, the baseline scenario is that its emissions intensity will remain the same. The baseline is therefore set as the historic emissions intensity of the vehicle prior to the abatement activity being undertaken.

The baseline emissions intensity is multiplied by the quantity of services to get the baseline emissions. Emissions are then aggregated across all vehicles in which an activity is undertaken.

21 Net abatement amount for sub-method 2

The carbon dioxide equivalent net abatement amount \( A \) for the vehicles in the project for the reporting period is worked out using the formula (equation 5):

\[
A = \sum A_v
\]

where:

\( A \) means the carbon dioxide equivalent net abatement amount for the vehicles in the project for the reporting period in tonnes CO\(_2\)-e.

\( A_v \) means the abatement for vehicle \((v)\) for the reporting period in tonnes CO\(_2\)-e worked out as follows:

(a) if either:
   (i) vehicle \((v)\) retained its original duty cycle for 80% or more of the reporting period; or

(b)
(ii) vehicle \((v)\) 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 before or after the replacement vehicle is first used in the project;

using the formula:

\[ A_v = E_{B,v} - E_{P,v} \]

(b) if either:

(i) vehicle \((v)\) has changed its original duty cycle for more than 20% of the reporting period; or

(ii) vehicle \((v)\) is a replacement vehicle but subparagraph (a)(ii) does not apply;

using the formula:

\[ A_v = 0 \]

where:

\( E_{B,v} \) means the baseline emissions for vehicle \((v)\) in tonnes CO\(_2\)-e worked out using equation 6.

\( E_{P,v} \) means project emissions for vehicle \((v)\) for the reporting period in tonnes CO\(_2\)-e worked out using equation 12.

(2) The baseline emissions \((E_{B,v})\) for vehicle \((v)\) in tonnes CO\(_2\)-e is worked out using the formula (equation 6):

\[ E_{B,v} = I_{B,v} \times Q_{serv,v} \]

where:

\( E_{B,v} \) means the baseline emissions for vehicle \((v)\) in tonnes CO\(_2\)-e.

\( I_{B,v} \) means the baseline emissions intensity, in tonnes CO\(_2\)-e per service unit, for vehicle \((v)\) worked out using equation 7A, 7B or 7C, as required.

\( Q_{serv,v} \) means quantity of service provided by vehicle \((v)\) during the reporting period determined in accordance with the table in section 29.

(3) The baseline emissions intensity \((I_{B})\) for vehicle \((v)\) for the reporting period in tonnes CO\(_2\)-e per service unit is worked out as follows:

(a) if vehicle \((v)\) is not a replacement vehicle—using the formula (equation 7A);

\[ I_{B,v} = I_{H,v} \]

(b) if vehicle \((v)\) is a replacement vehicle not covered by paragraph (c)—using the formula (equation 7B);

\[ I_{B,v} = \min \left( I_{B,v}, I_{H,rep} \right) \]

(c) if vehicle \((v)\) is a replacement vehicle (a ship) that must comply with the Energy Efficiency Design Index (EEDI) under the Navigation Act 2012,
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Division 3  Sub-method 2 (aggregated individual vehicles)

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the Protection of the Sea (Prevention of Pollution from Ships) Act 1983 and
Marine Order 97—using the formula (equation 7C);

\[ I_{b,v} = \min \left( I_{reg,v}, I_{H,v} \right) \]

where:

- \( I_{b,v} \) means the baseline emissions intensity for vehicle \( v \) for the reporting period in tonnes CO\(_2\)-e per service unit.
- \( I_{H,v} \) means the historic emissions intensity for vehicle \( v \) in tonnes of CO\(_2\)-e per service unit worked out using equation 8.
- \( I_{H,rep} \) means the historic emissions intensity in tonnes of CO\(_2\)-e per service unit of the vehicle replaced by vehicle \( v \) worked out using equation 9.
- \( I_{R,v} \) means the emissions intensity for the reference group for vehicle \( v \) in tonnes of CO\(_2\)-e per service unit worked out using equation 11A.

\( I_{reg,v} \) is worked out using the formula:

\[ I_{reg,v} = \frac{I_{EEDI} \times 10^6}{E_{f,CO2} \times 1.852} \times \sum_j E_{f,j} \]

where:

- \( I_{EEDI} \) means the emissions intensity in grams CO\(_2\) per tonne-nautical mile of the EEDI target for vehicle \( v \) when it becomes a replacement ship determined in accordance with the table in clause 1 of Schedule 2 (default parameters).
- \( E_{f,CO2} \) means the emissions factor in kilograms of CO\(_2\)-e per gigajoule for fuel type \( i \) for CO\(_2\) determined in accordance with the table in clause 1 of Schedule 2 (default parameters).
- \( E_{f,j} \) means the emissions factor in kilograms of CO\(_2\)-e per gigajoule for fuel type \( i \) for each gas type \( j \) determined in accordance with the table in clause 1 of Schedule 2 (default parameters).

(4) The historic emissions intensity \( (I_{H,v}) \) for vehicle \( (v) \) in tonnes CO\(_2\)-e per service unit is worked out using the formula (equation 8):

\[ I_{H,v} = \min \left( I_{y,v} \right) \]

\[ y \in \{0, -1, -2\} \]

where:

- \( I_{H,v} \) means the historic emissions intensity for vehicle \( v \) in tonnes of CO\(_2\)-e per service unit.
- \( I_{y,v} \) means the emissions intensity for vehicle \( v \) in tonnes CO\(_2\)-e per service unit in year \( y \) where:
  - \( y \) is the year immediately before the commencement of the reporting period in which the vehicle is first included in the project; and
(b) $I$ is worked out for vehicle $(v)$ using equation 11A.

(5) The historic emissions intensity ($I_{H,rep}$) in tonnes of CO$_2$-e per service unit of the vehicle replaced by vehicle $(v)$ is worked out using the formula (equation 9):

\[
I_{H,rep} = \min \left( I_{y,rep} \right)
\]

\[
y \in \{0, -1, -2\}
\]

where:

$I_{H,rep}$ means the historic emissions intensity in tonnes of CO$_2$-e per service unit for the vehicle replaced by vehicle $(v)$.

$I_{y,rep}$ means the emissions intensity for the vehicle replaced by vehicle $(v)$ in tonnes of CO$_2$-e per service unit in year $(y)$ where:

(a) $\theta$ is the year immediately before the commencement of the reporting period in which the vehicle is first included in the project; and

(b) $I$ is worked out for vehicle $(v)$ using equation 11A.

(6) The emissions intensity ($I_{R,v}$) for the reference group for vehicle $(v)$ in tonnes of CO$_2$-e per service unit is worked out using the formula (equation 10).

\[
I_{R,v} = \min \left( \text{average} \left( I_{y,r} \right) \right)
\]

\[
y \in \{0, -1, -2\}
\]

where:

$I_{R,v}$ means the emissions intensity for the reference group for vehicle $(v)$ in tonnes CO$_2$-e per service unit.

$I_{y,r}$ means the emissions intensity for vehicle $(r)$ in the reference group in tonnes CO$_2$-e per service unit in year $(y)$ where:

(a) $\theta$ is the year immediately before the commencement of the reporting period in which the vehicle is first included in the project; and

(b) $I$ is worked out for vehicle $(r)$ using equation 11A.
Division 4—Calculating emissions intensity (I)

22 Calculating emissions intensity (I)

(1) The emissions intensity ($I$) in tonnes CO$_2$-e per service unit for a vehicle or vehicles in a vehicle category for a particular period is worked out as follows:

(a) unless paragraph (b) applies—using the formula (equation 11A):

$$ I = \frac{E}{Q_{serv}} $$

(b) for group of passenger vehicles where fuel consumption cannot be measured—using the formula (equation 11B):

$$ I = \frac{\sum_{v} I_{GVG,v}}{n} $$

where:

$I$ means the emissions intensity in tonnes CO$_2$-e per service unit for the vehicle or vehicles in the vehicle category for the period.

$E$ means the total emissions for the vehicle or vehicles in the vehicle category for the period in tonnes of CO$_2$-e worked out using equation 12.

$Q_{serv}$ means quantity of service provided by the vehicle or vehicles in the vehicle category during the period determined in accordance with the table in section 29.

$I_{GVG,v}$ means the emissions intensity for each vehicle ($v$) in the group of passenger vehicles for the period in grams CO$_2$ per kilometre worked out using the Green Vehicle Guide determined in accordance with the table in clause 1 of Schedule 2 (default parameters).

$n$ means the number of vehicles in the group of passenger vehicles.

(2) The total emissions ($E$) for a vehicle or vehicles for a particular period in tonnes of CO$_2$-e is worked out using the formula (equation 12):

$$ E = E_F + E_{elec} $$

where:

$E$ means the emissions for the vehicle or vehicles for the period in tonnes CO$_2$-e.

$E_F$ means the emissions for the vehicle or vehicles for the period from transport fuel use in tonnes CO$_2$-e worked out using equation 13.

$E_{elec}$ means the emissions for the vehicle or vehicles for the period from consumed electricity used to operate vehicle in tonnes of CO$_2$-e worked out using equation 14.
The emissions ($E_F$) for a vehicle or vehicles in a vehicle category for a particular period from transport fuel used to operate the vehicles in tonnes CO$_2$-e is worked out using the formula (equation 13):

$$E_F = \sum_i \sum_j E_{F,ij}$$

where:

- $E_F$ means the emissions for the vehicle or vehicles for the period from transport fuel used to operate the vehicles in tonnes CO$_2$-e.
- $E_{F,ij}$ means emissions for the vehicle or vehicles from fuel type ($i$) of greenhouse gas ($j$) in tonnes of CO$_2$-e worked out as using the formula:

$$E_{F,ij} = \frac{Q_{F,i} \times EC_i \times EF_{ij}}{1000}$$

where:

- $Q_{F,i}$ means the quantity of fuel type ($i$) used by the vehicle or vehicles during the period in cubic metres, kilolitres or gigajoules determined in accordance with the table in section 29.
- $EC_i$ means the energy content factor in gigajoules per kilolitre or other appropriate units for fuel type ($i$) determined in accordance with the table in clause 1 of Schedule 2 (default parameters).

Note: If $Q_{F,i}$ is measured in gigajoules then $EC_i = 1$.

- $EF_{ij}$ means the emissions factor in kilograms of CO$_2$-e per gigajoule for each gas type ($j$) for fuel type ($i$) determined in accordance with the table in clause 1 of Schedule 2 (default parameters).

The emissions ($E_{elec}$) for a vehicle or vehicles in a vehicle category for a particular period from consumed electricity used to operate the vehicles in tonnes of CO$_2$-e worked out using the formula (equation 14):

$$E_{elec} = Q_{elec} \times \frac{EF_{elec}}{1000}$$

where:

- $E_{elec}$ means the emissions for the vehicle or vehicles for the period from consumed electricity used to operate the vehicles in tonnes CO$_2$-e.
- $Q_{elec}$ means the quantity of consumed electricity used to operate the vehicles during the period in kilowatt hours determined in accordance with the table in section 29.
- $EF_{elec}$ means the scope 2 emissions factor for the electricity grid from which the electricity comes in kilograms CO$_2$-e per kilowatt hour determined in accordance with the table in clause 1 of Schedule 2 (default parameters).
Part 5—Reporting, record keeping and monitoring requirements

Division 1—Offsets report requirements

23 Operation of this Part

For paragraph 106(3)(a) of the Act, this Division sets out information that must be included in an offsets project report about a transport project that is an eligible offsets project.

Note: Other reporting requirements are set out in regulations and rules made under the Act.

24 Offsets report requirements

An offsets report about a transport project for a reporting period must include any changes, since the declaration of the project, in the scope of the emissions reductions activities undertaken as part of the project.

25 Division of project into smaller projects

For subsection 77A(2) of the Act, the smallest part into which a transport project may be divided for the purposes of giving the Regulator an offsets report in relation to the part is:

(a) if the project uses sub-method 1—a part made up of all vehicles in a particular vehicle category within a transport operation or business unit; or

(b) if the project uses sub-method 2—a part made up of a single vehicle.
Division 2—Record keeping requirements

26 Operation of this Division

For paragraph 106(3)(c) of the Act, this Division sets out record keeping requirements for a transport project that is an eligible offsets project.

Note: Other record keeping requirements are set out in regulations and rules made under the Act.

27 Record keeping requirements

(1) The project proponent must keep the following records for each reporting period for each vehicle in the project during the reporting period:
   (a) the registration number and duty cycle of the vehicle;
   (b) any period for which the vehicle was not operational (including because the vehicle was sold or otherwise disposed of);
   (c) if the vehicle was sold or otherwise disposed of:
      (i) the date of the sale or disposal; and
      (ii) the reasons for the sale or disposal;
   (d) the emissions reductions activities (if any) performed on the vehicle.

(2) If the project uses sub-method 1, the project proponent must keep records:
   (a) about the composition of the group in terms of vehicle categories in sufficient detail to support the decline rates used for the sub-method; and
   (b) if a vehicle moved into or from the project during the period—about:
      (i) when the movement occurred; and
      (ii) whether the movement was to or from a related group; and
      (iii) the reasons for the movement.

(3) If the project uses sub-method 2 and a vehicle in the project is replaced, the project proponent must keep records about the replacement, including records about:
   (a) vehicles associated with the replacement; and
   (b) when the replacement occurred; and
   (c) the reasons for the replacement; and
   (d) the sale or disposal of the vehicle that was replaced; and
   (e) the reference group for the vehicle.
Part 5 Reporting, record keeping and monitoring requirements
Division 3 Monitoring requirements

Section 28

Division 3—Monitoring requirements

28 Operation of this Part

For paragraph 106(3)(d) of the Act, this Division sets out requirements to monitor a transport project that is an eligible offsets project.

Note: Other monitoring requirements are set out in regulations and rules made under the Act.

29 Monitoring service \( \mathbf{Q}_{\text{serv}} \) and fuel use \( \mathbf{Q}_{\text{fuel}} \) and \( \mathbf{Q}_{\text{elec}} \)

The project proponent must monitor \( \mathbf{Q}_{\text{serv}} \), \( \mathbf{Q}_{\text{fuel}} \) and \( \mathbf{Q}_{\text{elec}} \) in accordance with the following table.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
<th>Unit</th>
<th>Measurement procedure</th>
<th>Measurement frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 ( \mathbf{Q}_{\text{serv}} )</td>
<td>Quantity of service</td>
<td>vkt, pkm, tkm, pkm (cruising) or tkm (cruising) in accordance with Schedule 1</td>
<td>Monitored in accordance with industry practice</td>
<td>Continuously</td>
</tr>
<tr>
<td>2 ( \mathbf{Q}_{\text{fuel}} )</td>
<td>The quantity of fuel</td>
<td>Kilolitres, cubic metres or gigajoules</td>
<td>Monitored under Division 2.4.6 of the NGER (Measurement) Determination Metered or purchase records</td>
<td>Continuously</td>
</tr>
<tr>
<td>3 ( \mathbf{Q}_{\text{elec}} )</td>
<td>The quantity of electricity consumed for transport energy purposes</td>
<td>Kilowatt hours</td>
<td>Monitored using a commercial grade meter</td>
<td>Monitored using a commercial grade meter</td>
</tr>
</tbody>
</table>

30 General monitoring requirements

(1) 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.

(2) Monitoring must be done in accordance with the following:
Section 30

(a) requirements that apply in relation to similar measurements or estimates under the NGER (Measurement) Determination;
(b) industry standards;
(c) relevant standards and other requirements under the National Measurement Act 1960.
Schedule 1—Service units

Note: See definition of service unit in section 5.

1 Service units

The following table sets out service units (pkm, tkm or vkt) for vehicle categories under sub-methods.

<table>
<thead>
<tr>
<th>Item</th>
<th>Vehicle category</th>
<th>Sub-method 1</th>
<th>Sub-method 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Passenger vehicles</td>
<td>vkt</td>
<td>n/a</td>
</tr>
<tr>
<td>2</td>
<td>Motorcycles</td>
<td>vkt</td>
<td>n/a</td>
</tr>
<tr>
<td>3</td>
<td>Light commercial vehicles</td>
<td>vkt or tkm</td>
<td>n/a</td>
</tr>
<tr>
<td>4</td>
<td>Rigid trucks</td>
<td>vkt or tkm</td>
<td>vkt or tkm</td>
</tr>
<tr>
<td>5</td>
<td>Articulated trucks</td>
<td>vkt or tkm</td>
<td>vkt or tkm</td>
</tr>
<tr>
<td>6</td>
<td>Buses</td>
<td>vkt or pkm</td>
<td>vkt or pkm</td>
</tr>
<tr>
<td>7</td>
<td>Non-freight-carrying trucks</td>
<td>vkt</td>
<td>vkt</td>
</tr>
<tr>
<td>8</td>
<td>Rail freight</td>
<td>tkm</td>
<td>tkm</td>
</tr>
<tr>
<td>9</td>
<td>Electric passenger rail</td>
<td>pkm</td>
<td>pkm</td>
</tr>
<tr>
<td>10</td>
<td>Light passenger rail</td>
<td>pkm</td>
<td>pkm</td>
</tr>
<tr>
<td>11</td>
<td>Diesel passenger rail</td>
<td>pkm</td>
<td>pkm</td>
</tr>
<tr>
<td>12</td>
<td>Aviation</td>
<td>pkm</td>
<td>tkm (cruising) or pkm (cruising)</td>
</tr>
<tr>
<td>13</td>
<td>Coastal shipping</td>
<td>tkm</td>
<td>tkm</td>
</tr>
<tr>
<td>14</td>
<td>Ferries</td>
<td>pkm</td>
<td>pkm</td>
</tr>
<tr>
<td>15</td>
<td>Mobile equipment (all)</td>
<td>n/a</td>
<td>tkm</td>
</tr>
</tbody>
</table>
## Schedule 2—Default parameters

Note: See definition of *default parameters* in section 5.

### 1 Default parameters

The following table sets out default parameters for Part 4:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
<th>Unit</th>
<th>Value or source</th>
</tr>
</thead>
<tbody>
<tr>
<td>$EF_{ij}$</td>
<td>Emissions factor for fuel $(i)$ and greenhouse gas $(j)$</td>
<td>kilogram CO$_2$-e per gigajoule</td>
<td>For light and heavy on-road vehicles, rail, air and sea, use part 4 of Schedule 1 of the NGER (Measurement) Determination 2008. For off-road vehicles that would under NGERs normally be counted as stationary energy, use Part 2 or 3 of Schedule 1 of the NGER (Measurement) Determination 2008.</td>
</tr>
<tr>
<td>$EF_{i,CO2}$</td>
<td>Emissions factor for fuel $(i)$ for CO$_2$</td>
<td>kilogram CO$_2$-e per gigajoule</td>
<td>For light and heavy on-road vehicles, rail, air and sea, use part 4 of Schedule 1 of the NGER (Measurement) Determination 2008. For off-road vehicles that would, under NGERs normally be counted as stationary energy, use Part 3 of the NGER (Measurement) Determination 2008.</td>
</tr>
<tr>
<td>$EC_i$</td>
<td>Energy content for fuel $(i)$</td>
<td>gigajoule per kilolitre</td>
<td>Part 4 of Schedule 1 of the NGER (Measurement) Determination. For blended fuels, the energy content is taken to be the majority make-up of the fuel.</td>
</tr>
<tr>
<td>$EF_{elec}$</td>
<td>Emissions factor for electricity consumed</td>
<td>kilogram CO$_2$-e per kilowatt hour</td>
<td>When converting electricity obtained from an electricity grid for which an emissions factor is included in the National Greenhouse Accounts Factors published by the Department from time to time, the factor for that electricity grid in that document as in force on the day the project is declared an eligible offsets project; or When converting electricity obtained from another grid (i.e. a grid not covered by the above) or source, either: (a) the factor provided by the</td>
</tr>
</tbody>
</table>
## Schedule 2

### Default parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
<th>Unit</th>
<th>Value or source</th>
</tr>
</thead>
<tbody>
<tr>
<td>$D_e$</td>
<td>Decline rate applied to emissions intensity to take account of BAU improvements.</td>
<td>Nil</td>
<td>As set out for the appropriate vehicle category in Schedule 3</td>
</tr>
<tr>
<td>$I_{GVG}$</td>
<td>Label emissions intensity from the Green Vehicle Guide.</td>
<td>grams CO$_2$e per kilometre</td>
<td>As set out in the Green Vehicle Guide in the column headed “CO$_2$ g/km Comb” for the vehicle or vehicles concerned</td>
</tr>
<tr>
<td>$I_{EEDI}$</td>
<td>The required Energy Efficiency Design Index for the replacement ship</td>
<td>grams CO$_2$e per tonne per nautical mile</td>
<td>As set out in Regulation 21 of Annex VI of the International Convention for the Prevention of Pollution from Ships</td>
</tr>
</tbody>
</table>
Schedule 3—Decline rates

Note: See definition of decline rate in section 5.

1 Decline rates for sub-method 1 (group of vehicles)

The following table sets out decline rates for sub-method 1 (group of vehicles).

<table>
<thead>
<tr>
<th>Item</th>
<th>Vehicle category</th>
<th>Service unit</th>
<th>Decline rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Passenger vehicles</td>
<td>vkt</td>
<td>0.996</td>
</tr>
<tr>
<td>2</td>
<td>Motorcycles</td>
<td>vkt</td>
<td>0.984</td>
</tr>
<tr>
<td>3</td>
<td>Light commercial vehicles</td>
<td>vkt or tkm</td>
<td>1.000</td>
</tr>
<tr>
<td>4</td>
<td>Rigid trucks</td>
<td>vkt</td>
<td>0.996</td>
</tr>
<tr>
<td>5</td>
<td>Rigid trucks</td>
<td>tkm</td>
<td>0.984</td>
</tr>
<tr>
<td>6</td>
<td>Articulated trucks</td>
<td>vkt or tkm</td>
<td>1.000</td>
</tr>
<tr>
<td>7</td>
<td>Buses</td>
<td>vkt or pkm</td>
<td>1.000</td>
</tr>
<tr>
<td>8</td>
<td>Non-freight-carrying trucks</td>
<td>vkt</td>
<td>0.985</td>
</tr>
<tr>
<td>9</td>
<td>Rail freight</td>
<td>tkm</td>
<td>0.990</td>
</tr>
<tr>
<td>10</td>
<td>Electric passenger rail</td>
<td>pkm</td>
<td>0.980</td>
</tr>
<tr>
<td>11</td>
<td>Light passenger rail</td>
<td>pkm</td>
<td>0.990</td>
</tr>
<tr>
<td>12</td>
<td>Diesel passenger rail</td>
<td>pkm</td>
<td>0.980</td>
</tr>
<tr>
<td>13</td>
<td>Aviation</td>
<td>pkm or tkm</td>
<td>1.000</td>
</tr>
<tr>
<td>14</td>
<td>Coastal shipping</td>
<td>tkm</td>
<td>1.000</td>
</tr>
<tr>
<td>15</td>
<td>Ferries</td>
<td>pkm</td>
<td>0.979</td>
</tr>
</tbody>
</table>