

EXPLANATORY STATEMENT

Issued by the Authority of the Parliamentary Secretary for Climate Change, Innovation and Industry

Carbon Credits (Carbon Farming Initiative) Act 2011

Carbon Credits (Carbon Farming Initiative) (Reducing Greenhouse Gas Emissions by Feeding Dietary Additives to Milking Cows) Methodology Determination 2013

Background

The *Carbon Credits (Carbon Farming Initiative) Act 2011* (the Act) enables the crediting of greenhouse gas abatement in the land sector. Greenhouse gas abatement is achieved by either reducing or avoiding emissions or by removing carbon from the atmosphere and storing it in soil or trees.

Abatement 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, by legislative instrument, to make a methodology determination. The purpose of a methodology determination is to establish procedures for estimating abatement (emissions reductions and sequestration) and project rules for monitoring, record-keeping and reporting on abatement.

A methodology determination must meet the offsets integrity standards set out in section 133 of the Act and the eligibility criteria set out in section 106 of the Act. The Minister cannot make a methodology determination unless the Domestic Offsets Integrity Committee (the DOIC) has endorsed the proposal under section 112 of the Act and advised the Minister of the endorsement under section 113 of the Act. The DOIC is an independent expert panel established to evaluate and endorse methodology proposals.

Application of the Determination

The *Carbon Credits (Carbon Farming Initiative) (Reducing Greenhouse Gas Emissions by Feeding Dietary Additives to Milking Cows) Methodology Determination 2013* (the Determination) sets out the detailed rules for implementing and monitoring a project under the Carbon Farming Initiative (CFI) to reduce the methane generated by cows at dairy farms.

The abatement activity involves feeding eligible additives to milking cows in order to reduce methane (CH₄) emissions caused by enteric fermentation. It may occur only on dairy farms, including organic dairy farms, where milking cows are pasture grazed for at least nine months of the year.

Project proponents wanting to implement the Determination must make an application to the Clean Energy Regulator (the Regulator) and meet the eligibility requirements for an offsets project set out in subsection 27(4) of the Act. These requirements include compliance with the rules set out in the Determination.

Offsets projects that are undertaken in accordance with the Determination and approved by the Regulator can generate Australian carbon credit units (ACCUs) that can be sold to:

- Australian companies that pay the carbon price established under the *Clean Energy Act 2011*; or
- businesses in Australia wanting to offset their own carbon pollution voluntarily.

Public Consultation

The methodology proposal was developed by the Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education (the Department) and Dairy Australia Limited in collaboration with a technical working group made up of representatives from the dairy industry, the Australian Government and state and territory governments.

The methodology proposal was published on the Department's website for public consultation from 1 March to 10 April 2013. Four public submissions were received.

The DOIC considered the public submissions during its assessment of the methodology proposal in accordance with subsection 122(5) of the Act and endorsed the methodology proposal on 23 May 2013.

The Clean Energy Regulator, Dairy Australia Limited, Fonterra Co-operative Group Limited and industry experts were consulted in the development of the Determination.

Determination Details

The Determination is a legislative instrument within the meaning of the *Legislative Instruments Act 2003*.

The Determination commences on the day after it is registered on the Federal Register of Legislative Instruments.

Details of the Determination are at [Attachment A](#).

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

Details of the Determination

Part 1 Preliminary

1.1 Name of Determination

Section 1.1 provides that the name of the Determination is the *Carbon Credits (Carbon Farming Initiative) (Reducing Greenhouse Gas Emissions by Feeding Dietary Additives to Milking Cows) Methodology Determination 2013*.

1.2 Commencement

Section 1.2 provides that the Determination commences on the day after it is registered on the Federal Register of Legislative Instruments, available at www.comlaw.gov.au

1.3 Definitions

Section 1.3 defines a number of terms used in the Determination.

Some terms that are not defined in the Determination have the meaning given by section 5 of the Act. The Act is available at www.comlaw.gov.au

Note 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.

1.4 Kind of project to which this Determination applies

Paragraph 106(1)(a) of the Act provides that a methodology determination must be expressed to apply to a specified kind of offsets project.

Section 1.4 provides that the Determination applies to agricultural emissions avoidance projects that reduce emissions by feeding fats to dairy cattle that are pasture grazed for at least nine months each year.

The section meets the requirement in paragraph 106(1)(a) of the Act by stating that the Determination applies to agricultural emissions avoidance projects. ‘Agricultural emissions avoidance project’ is defined in section 5 of the Act.

Paragraph 27(4)(d) of the Act provides that the Regulator must not declare an offsets project to be an eligible offsets project unless the Regulator is satisfied that the project passes the additionality test, which has the meaning given by section 41 of the Act. The purpose of the additionality test is to ensure that credits are issued only for abatement that would not normally have occurred and, therefore, provides a genuine environmental benefit. It ensures that abatement resulting from the project is additional to any abatement that would have occurred in the baseline.

Subsection 41(1) of the Act provides that an offsets project passes the additionality test if: (a) the project is of a kind specified in the Carbon Credits (Carbon Farming Initiative) Regulations 2011 (the Regulations); and (b) the project is not required to be carried out by or under a law of the Commonwealth, a State or a Territory. Regulation 3.28 specifies the kinds

of projects for the purposes of paragraph 41(1)(a). Paragraph 3.28(1)(i) specifies projects that reduce emissions by feeding fats or oils, or both, to dairy cattle that are pasture grazed for at least nine months each year.

Increasing the fat content of a milking cow's diet reduces methane (CH₄) emissions produced as a result of enteric fermentation. Enteric fermentation is a digestive process in ruminant animals by which carbohydrates are broken down by microorganisms into simple molecules for absorption into the bloodstream.

Improving feed quality for milking cows by incorporating feed additives that are high in fat can enhance feed conversion efficiency and cause faster feed passage through the rumen. This reduces the amount of enteric methane released and therefore avoids methane emissions into the atmosphere. The Dietary Fats Calculator has been designed for use with the Determination to calculate the reduction of enteric methane emissions associated with feeding a milking herd fat in the form of the five eligible additives specified in section 2.3.

Part 2 Requirements for declaration as an eligible offsets project

2.1 Eligible offsets projects

The effect of paragraph 106(1)(b) of the Act is that a methodology determination must set out requirements that must be met before a project can be an eligible offsets project.

To be declared an eligible offsets project, a project to which the Determination applies must meet the requirements specified in Part 2 of the Determination. These requirements are in addition to those set out in the Regulations for applications for a declaration of an eligible offsets project.

2.2 Location

The effect of this section is that a dairy farm on which a project is implemented must be in Australia. Dairy farms in Australia's external territories have been excluded, as there is insufficient data to determine whether the Dietary Fats Calculator could apply in these locations.

2.3 Eligible additives

This section provides the meaning of 'eligible additive'. It provides that the following are eligible additives:

- (a) canola meal;
- (b) cold-pressed canola meal;
- (c) brewers grain;
- (d) hominy meal; and
- (e) dried distillers grain.

2.4 Eligible dairy farms

This section provides that an 'eligible dairy farm' is a dairy farm on which milking cows are pasture grazed for at least nine months each year. The nine months do not have to be consecutive.

2.5 Project mechanism

This section provides that the project must aim to avoid emissions by feeding eligible additives to one or more milking herds on an eligible dairy farm in a project year.

The project mechanism may be implemented in more than one project year and for more than one milking herd.

The Determination does not prevent project proponents feeding eligible additives to a milking herd in a baseline year. However, doing so is likely to reduce the carbon dioxide equivalent net abatement amount resulting from the project.

A project may involve feeding eligible additives to one or more milking herds. Project proponents should note, however, that the carbon dioxide equivalent net abatement amount for each milking herd must be calculated with the Dietary Fats Calculator for each project year.

Part 3 Requirements for operation of eligible offsets projects

3.1 Operation of eligible offsets projects

Section 3.1 provides that all eligible offsets projects to which the Determination applies must meet the requirements set out in Part 3.

3.2 Start of first project year

This section explains when the first project year starts.

The Regulator may declare that an offsets project is an eligible offsets project under subsection 27(2) of the Act. The declaration can take effect on the day that the Regulator makes the declaration, or on an earlier day to which the Regulator and applicant have agreed. Since the project cannot start before the Determination commences, the Regulator cannot agree to the declaration taking effect before the Determination is registered on the Federal Register of Legislative Instruments (see section 1.2). Subsection 3.2(3) provides that ‘declaration date’ means the date on which the declaration of the project as an eligible offsets project under section 27 of the Act takes effect.

Since data is entered into the Dietary Fats Calculator on a seasonal basis, the project year must begin on the first day of a season. Accordingly, subsection 3.2(2) provides that if the declaration date is the first day of a season, the first project year may start on that day. In any other case, subsection 3.2(1) requires that projects start the project on the first day of a season after the declaration date.

For example, if the declaration date is 1 December 2014, the project proponent may nominate the start date to be 1 December 2014 (the declaration date and the first day of summer), or the first day of any season after summer 2014/15. If the declaration date is 3 January 2015, the project proponent may nominate a start date that is the first day of any season after summer 2014/15, such as 1 March 2015, 1 June 2015 and so on.

3.3 Start of second and subsequent project years

The effect of section 3.3 is that the second and subsequent project years may start at one of the following times:

- on the day after the end of the preceding project year (this day will always be the first day of a season); or
- on the first day of any season after the end of the preceding project year.

In the latter case, there will be a ‘gap’ between project years. A ‘gap’ may be advantageous between project years if, for example, the milking herd has a synchronised calving event which makes the record-keeping requirements in Division 5.3 difficult to comply with.

3.4 Feeding eligible additives to the milking herd

Section 3.4 provides that a requirement for the operation of an eligible project is the feeding of eligible additives to the milking herd.

3.5 Dietary fat limit

Section 3.5 requires that the concentration of fat in the diet of milking cows in a season must not exceed 70 grams of fat per kilogram of dry matter intake.

In order to calculate the dietary fat concentration, project proponents must take account of the dry matter fat content of both the diet (excluding the eligible additive) and the eligible additive when determining the quantity of eligible additive to feed to their cows. Given that the fat limit is expressed in terms of dry matter intake, conversion of the fat content into grams of fat per kilogram of wet matter intake may be necessary in order to ensure that the fat limit is not exceeded when weighing out wet feed and additives for feeding to the herd.

Note that the Dietary Fats Calculator calculates the dietary fat content on a seasonal basis so that project proponents can use this data when deciding the optimal mass of eligible additive to feed to their milking herd in an upcoming season.

Part 4

The carbon dioxide equivalent net abatement amount

Division 4.1 The carbon dioxide equivalent net abatement amount

4.1 The carbon dioxide equivalent net abatement amount

This section provides that the carbon dioxide equivalent net abatement amount for the project is the carbon dioxide equivalent of the amount of greenhouse gas emissions avoided as a consequence of the project, calculated in accordance with the provisions in Part 4.

4.2 Carbon dioxide equivalent net abatement amount if dietary fat limit exceeded

This section provides that if the dietary fat limit mentioned in section 3.5 is exceeded in a milking herd in any season of a project year, the carbon dioxide equivalent net abatement amount for that milking herd, in that project year, is zero.

For example, a project could consist of two milking herds, one of which is located in Queensland, while the other is located in South Australia. If the concentration of fat in the Queensland herd's diet was found to be 75 grams of fat per kilogram of dry matter intake in a project year the net abatement amount for the Queensland herd in that project year would be zero. In this case, the carbon dioxide equivalent net abatement amount for the project would be the carbon dioxide equivalent net abatement amount for the milking herd in South Australia.

Division 4.2 Calculations

Subdivision 4.2.1 Preliminary

4.3 Calculation of the carbon dioxide equivalent net abatement amount

Subsection 4.3(1) provides that the carbon dioxide equivalent net abatement amount for each milking herd for each project year must be calculated by entering inputs into the Dietary Fats Calculator. The inputs are for the baseline and each project year and are determined in accordance with Part 4.

The requirement that net abatement must be calculated for each milking herd is directed at the case where different milking herds are aggregated as pertaining to a single eligible dairy farm. For example, an eligible dairy farm could comprise milking herds in New South Wales and Victoria. So that different local conditions are accurately reflected in the carbon dioxide equivalent net abatement amount calculated, milking herds in different locations must be treated separately, and inputs relating to each herd must be entered separately into the Dietary Fats Calculator.

If subsections 4.7(2) and 4.8(2) apply, project proponents must enter liveweight data from the National Inventory Report into the Dietary Fats Calculator. Subsection 4.3(2) provides rules for selecting the appropriate data from the National Inventory Report.

4.4 Greenhouse gases accounted for

This section specifies the greenhouse gases that need to be assessed in order to determine the carbon dioxide equivalent net abatement amount.

Methane (CH₄) emissions from enteric fermentation are the only source of greenhouse gases that must be accounted for (for each year in the baseline and each project year).

4.5 The baseline

This section specifies the process for calculating a project baseline as required under paragraph 106(4)(f) of the Act.

Subsection (1) provides that, for the purposes of paragraph 106(4)(f) of the Act, the baseline for the project must be calculated by entering each input for the baseline years mentioned in subsection (2) into the Dietary Fats Calculator.

Selecting baseline years

Subsection 4.2(2)(a) provides the meaning of ‘baseline years’. The ‘baseline years’ are three consecutive years:

- (a) starting on the first day of a season;
 - The baseline years must start on the first day of a season so that the carbon dioxide equivalent net abatement amount can be calculated using the Dietary Fats Calculator.
- (b) ending before the start of the first project year; and
 - There can be no overlap between the baseline years and the start of the first project year but there may be a ‘gap’. So, for example, if the project year begins in June 2015, the baseline years may be from December 2011 to December 2014 (or some other equivalent period prior to June 2015). There is no requirement for the baseline years to be after the commencement of the Determination or the declaration date. Accordingly, project proponents have some flexibility when identifying a baseline.
- (c) not starting earlier than seven years before the start of the first project year.
 - This requirement limits the size of the ‘gap’ mentioned above and addresses the risk of the baseline years reflecting conditions significantly different from those in the project year(s).

Minimum baseline data

Subsection (3) provides that there must be sufficient data available in relation to each of the baseline years to populate the Dietary Fats Calculator with seasonal data relating to:

- (a) the average number of milking cows in the milking herd (N_j);
- (b) average milk production (MP_j); and
- (c) intake of feed type other than pasture ($DMI_{f,j}$).

These inputs are essential for the calculation of the carbon dioxide equivalent net abatement amount using the Dietary Fats Calculator and cannot be drawn from the National Inventory Report or other default sources. If project proponents cannot supply these inputs for three

consecutive years before the start of the first project year, they will have to collect them before starting the project.

Division 4.3 Using the Dietary Fats Calculator

Subdivision 4.3.1 Calculating milking herd information inputs

4.6 Average number in the milking herd

Equation 1 sets out the formula for calculating the average number of milking cows in the milking herd in season j (N_j). This is the first of four seasonally-based inputs required by the Dietary Fats Calculator that relate to the physical characteristics of the milking herd.

Equation 1 divides the sum of the number of milking cows counted during season j on occasion o ($MC_{j,o}$) by the number of occasions o on which the milking cows were counted in season j (k_j) to derive an average number of milking cows in the milking herd in season j (N_j). The Dietary Fats Calculator requires this calculation to be done for each season in the relevant baseline year or project year. Note that:

- (d) k_j is the frequency of o during a season; and
- (e) the minimum value for k_j is 3 because of the requirement in section 5.3 to count the number of cows in the milking herd at least once per month.

One way of counting the number of milking cows would be to use data from a stock reconciliation. A stock reconciliation usually occurs once per month. In a stock reconciliation, the number of cows is determined from the basis of a previous milking herd inventory, subtracting the number of animals known to be absent from the milking herd and adding the number of animals which have joined the milking herd. Subtractions could be due to, for example, sickness, death or calving, while additions might be due to cows joining or re-joining the milking herd after weaning their calves or being purchased from other dairies.

4.7 Average milking cow liveweight

Average milking cow liveweight is the second of four seasonally-based inputs required by the Dietary Fats Calculator that relate to the physical characteristics of the milking herd. There are two acceptable ways to determine this input. Whichever of the two approaches is used to determine average herd liveweight inputs, the same method must be used for the baseline and each project year.

Average herd liveweight – measurement approach

Equation 2 sets out the formula for calculating the average liveweight of a milking cow during season j (LW_j) where this data has been measured on at least a seasonal basis.

Equation 2 divides the sum of the liveweight of each milking cow i during season j ($MCLW_{i,j}$) by the average number of milking cows in the milking herd in season j (N_j) to derive the average liveweight of a milking cow during season j (LW_j). If using this measurement-based approach to determine the average herd liveweight input, this calculation must be performed and entered into the Dietary Fats Calculator at least once for each season in the relevant baseline year or project year.

Projects using their own data in this way will also need to calculate the average liveweight of a milking cow during the season preceding the first baseline year (LW_{j-1} , where j is the first season in the first baseline year), even though this value will not be entered into the Dietary Fats Calculator. This is because Equation 3 requires the outputs of Equation 2 for the season being calculated (season j) as well as the season preceding the season being calculated (season $j-1$) in order to calculate the average liveweight gain of a milking cow during season j (LWG_j) input. For example, for the first baseline year, the measured liveweight of each milking cow for the preceding season is required in order to calculate the average liveweight gain of a milking cow for the first season in the baseline period (LWG_j where j is the first season in the first baseline year).

Average herd liveweight – National Inventory Report default approach

If the project does not have seasonal data collected from the milking herd, it is acceptable to use the standard value for milking cows' liveweight for the state or territory in which the project is located from the most relevant National Inventory Report. See section 4.3 for how to determine from which National Inventory Report the liveweight data for milking cows should be sourced.

In the *National Inventory Report 2011* (available at www.climatechange.gov.au) this information can be found in Table 6.A.1 on page 274.

4.8 Average daily liveweight gain

Average daily liveweight gain is the third of four seasonally-based inputs required by the Dietary Fats Calculator that relate to the physical characteristics of the milking herd. There are two acceptable ways to determine this input. Whichever of the two approaches is used to determine average daily liveweight gain inputs, the same method must be used for each baseline and project year.

Average daily liveweight gain – measurement approach

Equation 3 sets out the formula for calculating the average liveweight gain of a milking cow during season j (LWG_j). This approach must be used to determine the average daily liveweight gain input for each season if Equation 2 was used to determine average herd liveweight during season j (LW_j).

Equation 3 divides the difference between the average herd liveweight of the season being calculated (LW_j) and the average herd liveweight of the season preceding the season being calculated (LW_{j-1}) by the constant average number of days in a season (91.25) to derive the average liveweight gain of a milking cow during season j (LWG_j).

Average daily liveweight gain – National Inventory Report default approach

If the average herd liveweight was determined using the standard value for milking cows' liveweight in the National Inventory Report, the input for average daily liveweight gain must also be sourced from the relevant National Inventory Report. See section 4.3 for how to determine from which National Inventory Report the liveweight data for milking cows should be sourced.

In the *National Inventory Report 2011* (available at www.climatechange.gov.au) this information can be found in Table 6.A.2 on page 274.

4.9 Average milk production

Equation 4 sets out the formula for calculating the average milk production of a milking cow for each season. This is the last of four seasonally-based inputs required by the Dietary Fats Calculator that relate to the physical characteristics of the milking herd.

For each day during the season being calculated, Equation 4 sums the daily volume of milk produced by the eligible dairy farm on day d during season j ($M_{d,j}$), then divides this sum by the constant average number of days in a season (91.25) and the average number in the herd during season j (N_j) to derive the average number of milking cows in the milking herd in season j (MP_j). This calculation must be done for each season in the relevant baseline year or project year.

Subdivision 4.3.2 Calculating diet information inputs

4.10 Intake of feed types other than pasture and eligible additives

Equation 5 sets out the formula for calculating the average daily dry matter intake of feed type f during season j of a milking cow ($DMI_{f,j}$). This is the first of nine seasonally-based inputs required by the Dietary Fats Calculator that relate to the diet of the milking herd.

Equation 5 applies a constant to account for wastage of 2% of $F_{f,j}$ (0.98), to the mass of feed type f fed to milking cows before wastage during season j ($F_{f,j}$), before dividing this value by the constant average number of days in a season (91.25) and the average number of milking cows on the eligible dairy farm during season j (N_j) to obtain the average daily dry matter intake of feed type f during season j of a milking cow ($DMI_{f,j}$). This calculation must be performed for each feed type, except pasture and eligible additives, in each season in the relevant baseline year or project year.

4.11 Dry matter digestibility, crude protein and fat

Section 4.11 relates to the second, third and fourth of nine seasonally-based inputs required by the Dietary Fats Calculator that relate to the diet of the milking herd.

If the project proponent has purchased a feed type for which the manufacturer uses Australian Fodder Industry Association laboratory methods to determine the feed type's dry matter digestibility, crude protein content and fat content, this data from the manufacturer must be used to complete these fields in the Dietary Fats Calculator. In practice, this data can often be found on the product information sheet accompanying the purchased feed type, or on the feed type's label.

However, if the manufacturer of the feed type does not use Australian Fodder Industry Association laboratory methods to determine the dry matter digestibility, crude protein content and fat content of the feed type, subsection 4.11(3) provides three options to determine these inputs. These options may be particularly useful where the feed type was not purchased, for example, if the feed type is hay or silage made on the eligible dairy farm.

4.12 Mass of eligible additives

Equation 6 sets out the formula for calculating the mass of eligible additive e fed to the milking herd during season j ($ME_{e,j}$). The mass of eligible additives is the fifth of nine seasonally-based inputs required by the Dietary Fats Calculator that relate to the diet of the milking herd.

Equation 6 applies a constant to account for wastage of 2% of $E_{f,j}$ (0.98), to the mass of eligible additive e fed to milking cows before wastage during season j ($E_{f,j}$). This calculation must be performed for each eligible additive in each season in the relevant baseline year or project year.

4.13 Fat, metabolisable energy and crude protein

Fat, metabolisable energy and crude protein are the sixth, seventh and eighth of nine seasonally-based inputs required by the Dietary Fats Calculator that relate to the diet of the milking herd. These inputs relate only to the portion of the diet comprising eligible additives.

Subsection 4.13(2) requires that if an eligible additive has been purchased for which the manufacturer uses Australian Fodder Industry Association laboratory methods to determine the eligible additive's fat content, metabolisable energy and crude protein content, the project must use this data from the manufacturer to complete these fields in the Dietary Fats Calculator. In practice, this can often be found on the product information sheet accompanying the purchased eligible additive, or on the eligible additive's label.

However, if the manufacturer of the feed type does not use Australian Fodder Industry Association Laboratory Methods to determine the eligible additive's fat content, metabolisable energy and crude protein content, subsection 4.13(3) provides two options for these inputs to be determined.

4.14 Intake of pasture

The intake of pasture is the last of nine seasonally-based inputs required by the Dietary Fats Calculator that relate to the diet of the milking herd.

The intake of pasture input must be estimated using the Dietary Fats Calculator by entering into the Dietary Fats Calculator:

- the herd information inputs according to Subdivision 4.3.1;
- the intake of feed types other than pasture according to section 4.10;
- the dry matter digestibility, crude protein and fat of all feed types (including pasture) according to section 4.11; and
- the estimated daily dry matter intake of pasture of a milking cow during season j ($DMI_{\text{pasture},j}$), calculated using Equation 7.

Part 5 Monitoring, measuring, record-keeping and reporting requirements

Division 5.1 General

5.1 General

Section 5.1 provides that for the purposes of subsection 106(3) of the Act, a project proponent of a project to which this Determination applies must comply with the monitoring, measurement, record-keeping and reporting requirements of Part 5.

The effect of paragraph 106(3)(c) of the Act is that a methodology determination may require the project proponent of an eligible offsets project to comply with specified record-keeping requirements relating to a project.

The effect of paragraph 106(3)(d) of the Act is that a methodology determination may require the project proponent of an eligible offsets project to comply with specified requirements to monitor a project.

The effect of sections 193 and 194 of the Act is that a project proponent of an eligible offsets project who fails to meet the record-keeping or monitoring requirements in the Determination will have contravened a civil penalty provision.

Division 5.2 Monitoring and measuring

5.2 General

Section 5.2 provides that the project proponent must monitor the project and record the information as specified in Division 5.2.

5.3 Monitoring number in the milking herd

The Dietary Fats Calculator requires project proponents to enter the average number of milking cows in the milking herd in each season (N_j) of each baseline and project year. N_j is calculated using Equation 1 in section 4.6. To complete Equation 1, project proponents must count the milking herd. Section 5.3 requires each milking cow to be supplied with an animal identification tag or other unique identifier, and that the milking cows are counted at least once per month in the baseline and each project year.

5.4 Quality assurance and quality control

This section provides that each measuring or monitoring instrument used to collect data used in Part 4 must be inspected, maintained and calibrated in accordance either with product literature that accompanies the instrument or with the applicable standard.

For example, if a scale is used to weigh the milking cows to determine the average milking cow liveweight input (LW_j) using Equation 2, then the scale must be inspected, maintained and calibrated in accordance with this section.

‘Product literature’ includes user instructions and operating manuals.

‘Standard’ is defined in subsection 5.4(2). The definition is broad and allows for foreign standards to be applied.

Division 5.3 Record-keeping requirements

5.5 Seasonal records that must be kept

Paragraphs 5.5(1)(a) to (e) list a number of inputs for which seasonal records must be kept. The table below lists each input against the equation into which it must be entered, and the section of the Determination in which the equation appears.

Input	Equation	Section
number of milking cows counted during season j on occasion o ($MC_{j,o}$)	Equation 1	4.6
liveweight of each milking cow i during season j ($MCLW_{i,j}$)	Equation 2	4.7
daily volume of milk produced by the eligible dairy farm on day d during season j ($M_{d,j}$)	Equation 4	4.9
mass of feed type f fed to milking cows before wastage during season j ($F_{f,j}$)	Equation 5	4.10
mass of eligible additive e fed to the milking herd during season j before wastage ($ME_{e,j}$)	Equation 6	4.12

The effect of subsection 5.5(2) is that acceptable records for $F_{f,j}$ and $E_{e,j}$ include invoices from the supplier of the feed type or eligible additive and records of production. Records detailing the production of a feed type or eligible additive that has not been purchased are appropriate where, rather than purchasing the feed type or eligible additive, the project proponent has independently produced the feed type or eligible additive.

Subsection 5.5(2) does not limit the ways in which project proponents may meet the requirements in paragraphs 5.5(1)(d) and (e) relating to $F_{f,j}$ and $E_{e,j}$.

5.6 Additional diet records that must be kept

Subsection 5.6(1) sets out how the inputs for dry matter digestibility, crude protein content and fat content of the diet entered into the Dietary Fats Calculator must be obtained. The effect of section 5.6 is that project proponents must keep records showing how these inputs were obtained if they were obtained from a manufacturer or by laboratory analysis.

The records kept in accordance with this section enable verification of the relevant inputs into the Dietary Fats Calculator.

Paragraph 5.6(2)(a) provides that this requirement may be met using product information relating to the relevant feed type.

Paragraph 5.6(2)(b) applies where an analysis of bulk feed samples of the feed type has been undertaken in accordance with paragraph 4.11(3)(a).

Paragraph 5.6(2)(c) provides that references must be provided where the project proponent has obtained the inputs for dry matter digestibility, crude protein content and fat content from the seasonal feed quality data tables in the Dietary Fats Calculator or the Australian Feed Composition Tables 1987 in accordance with paragraph 4.11(3)(b) or (c).

Subsection 5.6(2) does not limit the kind of records that may satisfy the record-keeping requirement in subsection (1).

5.7 Additional eligible additive records that must be kept

Subsection 4.13(1) sets out how inputs relating to eligible additives entered into the Dietary Fats Calculator must be obtained. The effect of section 5.7 is that project proponents must keep records showing how these inputs were obtained if they were obtained from a manufacturer or by laboratory analysis.

The records kept in accordance with section 5.7 enable verification of the relevant inputs into the Dietary Fats Calculator.

Paragraph 5.7(2)(a) provides that this requirement may be met using product information relating to the relevant feed type.

Paragraph 5.7(2)(b) applies where an analysis of bulk feed samples of the feed type has been undertaken in accordance with paragraph 4.13(3)(a).

Paragraph 5.7(2)(c) provides that where project proponents have obtained the inputs relating to eligible additives from the Australian Feed Composition Tables 1987, they must refer to the tables.

Subsection 5.7(2) does not limit the kind of records that may satisfy the record-keeping requirement in subsection (1).

5.8 Data retention and quality

Section 5.8 provides that all data recorded or otherwise used under Part 5 must be stored in its raw form and stored and managed in accordance with a data contingency plan that is designed to operate if the data is lost.

If data is stored electronically, project proponents can comply with the 'data contingency plan' requirement by appropriately backing up computer files.

Division 5.4 Offsets report requirements

5.9 Report requirements

Section 5.9 provides that an offsets report must be submitted for each reporting period.

Under the Act, project proponents may choose when to report, provided that the period between reports is not shorter than twelve months or longer than five years.

This means that project proponents do not need to submit an offsets report at the end of every project year.

Offsets reports are the primary mechanism used by the Regulator to, among other things:

- determine whether or not to issue ACCUs for an eligible project;
- determine how many ACCUs to issue for an eligible project; and
- take action to vary or revoke a project.

Failure to provide an offsets report or taking action to avoid submitting an offsets report to the Regulator is an offence that may attract a civil penalty under section 76 of the Act.

Under the Act, the first reporting period for an eligible offsets project begins when the declaration that the project is an eligible offsets project takes effect. The project proponent is required to nominate an end date for the reporting period, and must submit an offsets report within three months of the nominated end date. Under the Act, each subsequent reporting period begins immediately after the previous reporting period.

Where the project has started on a day after the declaration date, the minimum reporting period will be more than one year. This is because the Dietary Fats Calculator requires inputs for the entire project year. For example, if the declaration date is 1 February 2014 and the project starts on 1 March 2014 (the first day of the next season after the declaration date), the minimum reporting period will be from 1 February 2014 to 1 March 2015; and, correspondingly, the earliest nominated end date is 1 March 2015.

5.10 Information that must be included in the first offsets report

This section lists the additional information that must be included in the first offsets report. General information that must be included in each offsets report, including the first, is listed in section 5.11.

Subsection 5.10(2) provides that the information can be provided as a printout or soft copy of the completed Dietary Fats Calculator for each milking herd for each of the three baseline years. While this is a convenient way of providing the information, project proponents may provide it in other formats if they wish.

5.11 Information that must be included in each offsets report

This section lists the information that must be included in each offsets report.

Where there is only one milking herd in a project, the carbon dioxide equivalent net abatement amount mentioned in paragraph 5.11(1)(c) will be an output of the Dietary Fats Calculator. However, where two or more milking herds are included in a project, the project proponent will need to report the sum of the abatement calculated for each milking herd as the carbon dioxide equivalent net abatement amount. This is because inputs for each milking herd must be entered into the Dietary Fats Calculator, and the Dietary Fats Calculator does not perform calculations relating to the aggregation of milking herds.

Subsection 5.11(2) provides that the information (other than the carbon dioxide equivalent net abatement amount for multiple eligible dairy farms) can be provided as a printout or soft copy of the completed Dietary Fats Calculator for each milking herd for each project year in

the reporting period. While this is a convenient way of providing the information, project proponents may provide it in other formats if they wish.

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) (Reducing Greenhouse Gas Emissions by Feeding Dietary Additives to Milking Cows) Methodology Determination 2013

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) (Reducing Greenhouse Gas Emissions by Feeding Dietary Additives to Milking Cows) Methodology Determination 2013*

(the Determination) sets out the detailed rules for implementing an agricultural emissions avoidance project under the *Carbon Credits (Carbon Farming Initiative) Act 2011*.

Emissions are avoided by feeding eligible additives to dairy cattle that are pasture grazed for at least 9 months each year in order to reduce methane emissions from enteric fermentation.

The Determination requires project proponents to monitor the diet of milking cows before and after feeding them dietary additives. Project proponents must use the Dietary Fats Calculator to calculate the emissions avoided as a result of feeding dietary additives to the milking cows.

Project proponents wishing to implement an offsets project under the Determination must make an application to the Clean Energy Regulator (the Regulator) and meet the eligibility requirements set out under the *Carbon Credits (Carbon Farming Initiative) Act 2011*. Offsets projects approved by the Regulator can generate Australian carbon credit units that can be sold to:

- Australian companies that pay the carbon price established under the *Clean Energy Act 2011*; or
- businesses in Australia wanting to offset their own carbon pollution voluntarily.

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.