Carbon Credits (Carbon Farming Initiative—Beef Cattle Herd Management) Methodology Determination 2014

Carbon Credits (Carbon Farming Initiative) Act 2011

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

Dated

Greg Hunt [DRAFT ONLY—NOT FOR SIGNATURE]

Minister for the Environment
Contents

Part 1 Preliminary

1 Name of determination 3
2 Commencement 3
3 Authority 3
4 Duration 3
5 Definitions 3
6 Meaning of emissions intensity reference period 4

Part 2 Herd management projects

7 Herd management projects 6

Part 3 Project requirements

8 Operation of this Part 7
9 Eligible herds 7
10 Project activity 7
11 Feeding non-protein nitrogen to a herd 8

Part 4 Net abatement amount

Division 4.1 The net abatement amount
12 Method for calculating the net abatement amount 9
13 Gases accounted for in abatement calculations 9

Division 4.2 The baseline emissions
14 The baseline emissions 10

Division 4.3 The project emissions
15 Project emissions 11

Division 4.4 Use of Herd Management Calculator to perform calculations
16 Requirement to use Herd Management Calculator 11

Part 5 Reporting, record-keeping and monitoring requirements

Division 5.1 Operation of this Part
17 Application 14

Division 5.2 Offsets report requirements
18 Information in each offsets report 14

Division 5.3 Record-keeping requirements
19 Records that must be kept for monitored parameters 14
20 Records that must be kept for purchased feed 14

Division 5.4 Monitoring requirements
21 Number and average age of cattle in each livestock class 15
22 Liveweight and liveweight gain 16
23 Diet 16
Part 1 Preliminary

1 Name of determination
This determination is the Carbon Credits (Carbon Farming Initiative—Beef Cattle Herd Management) Methodology Determination 2014.

2 Commencement
This determination commences on the day after it is registered.

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

4 Duration
Note See subsection 122(1) of the Act.
This determination 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(b) ends on the day before this determination would otherwise be repealed under subsection 50(1) of the Legislative Instruments Act 2003.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 determination:
Act means the Carbon Credits (Carbon Farming Initiative) Act 2011.
ANZSIC class means the industry classification and code for that number published in the Australian and New Zealand Standard Industrial Classification (ANZSIC) 2006.
baseline emissions has the meaning given in section 14.
cattle means beef cattle.
   Note See section 9 for eligible cattle feeding systems.
crude protein means the total protein equivalent in a feed, based on an assumed nitrogen content of 16 per cent, and includes true protein and non-protein nitrogen.
delegate of the project proponent means someone authorised by the project proponent to undertake a requirement of the determination.
   Note In most cases, a delegate of the project proponent will be a landholder participating in an aggregated project under the determination
diet means the amount (in kilograms of dry matter) and composition of feed consumed by the herd.
dry matter means the total weight of a feed minus the weight of its water content.
dry matter digestibility means the percentage of dry matter in a feed able to be digested by cattle, as determined by an in-vitro testing method.

emissions intensity reference period has the meaning given in section 6.

herd means a discrete group of cattle managed as a unit.

Herd Management Calculator means the Beef Cattle Herd Management Calculator, as published by the Department on its website as at the date of commencement of this determination, together with any updates published on the website which:

(a) update inputs and variables used by the tool consistent with either or both of the following:

(i) the National Inventory Report;

(ii) the carbon dioxide equivalence and applicable methods under section 10(3) of the National Greenhouse and Energy Reporting Act 2007; or

(b) are of a minor nature; or

(c) are necessary or incidental to updates referred to in paragraphs (a) or (b).

herd management project has the meaning given in section 7.

livestock class means a subset of the herd corresponding to the age and gender divisions for beef cattle published in the National Inventory Report.

National Inventory Report means the most recently published document that is:

(a) known as the National Inventory Report; and

(b) prepared by the Department in fulfilment of obligations that Australia has under the Climate Change Convention.

non-protein nitrogen means substances which are not proteins but can be converted into proteins by microbes in the ruminant stomach and includes urea, nitrates, biuret, and ammonia.

project activity, for a particular herd and for a particular year, means an agricultural practice which satisfies subsection 10(1).

region means an area of Australia in which beef cattle farming is undertaken, as published in the National Inventory Report.

season means a 3 month period, grouped by calendar month in the following way: Spring (September, October and November); Summer (December, January and February); Autumn (March, April and May); and Winter (June, July and August).

t CO₂-e means tonnes of carbon dioxide equivalent.

6 Meaning of emissions intensity reference period

(1) If records referred to in subsection (2) are available for at least 5 of the 7 years before the first day of the crediting period, the emissions intensity reference period consists of each of the years for which those records are available.

Note 1 The emissions intensity reference period will not necessarily consist of consecutive years.
Note 2 If suitable records do not exist, there is no emissions intensity reference period for the project, and the net abatement amount of the project in each reporting period will be zero in accordance with Part 4.

(2) For subsection (1), the records are annual records that comply with subsection (3) and contain the following:

(a) the number of animals in each livestock class;
(b) the liveweight of animals that left the herd in each livestock class for live export or slaughter; and
(c) the number of animals that left the herd in each livestock class for a purpose other than live export or slaughter.

(3) For subsection (2), the project proponent must have at least two records of each parameter mentioned in paragraph (2)(a) to (c).

(4) Of the two records mentioned in subsection (3):

(a) one record must have been created by the project proponent or a delegate of the project proponent; and
(b) one record must have been created by a person who is not:
   (i) the project proponent; or
   (ii) a delegate of the project proponent.
Part 2 Herd management projects

7 Herd management projects

(1) For paragraph 106(1)(a) of the Act, this determination applies to an emissions avoidance offsets project which can reasonably be expected to avoid emissions from cattle by any of the following:

(a) reducing the average number of days from birth to slaughter in the herd;
(b) reducing the average age of the herd;
(c) reducing the number of animals in the herd.

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

8  **Operation of this Part**

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

9  **Eligible herds**

A herd must consist of cattle managed in a way consistent with either:

(a) ANZSIC class 0142 (beef cattle farming); or
(b) ANZSIC class 0144 (sheep-beef cattle farming); or
(c) ANZSIC class 0145 (grain-sheep or grain-beef cattle farming).

*Note* Herds managed in a way consistent with ANZSIC class 0143 (beef cattle feedlots) do not meet the requirements of this Part. Members of a herd (that is, individual animals) are expected to leave and join the herd over time.

10  **Project activity**

(1) For each year in the crediting period, at least one agricultural practice must be undertaken which satisfies the following:

(a) the practice can reasonably be expected to avoid emissions from the herd through one of the measures specified in paragraphs 7(1)(a) to (c);
(b) the practice was not undertaken in the emissions intensity reference period;
(c) the practice is not an ineligible project activity.

*Note* Section 11 specifies that feeding non-protein nitrogen is an ineligible project activity.

(2) At the time of the application under section 22 of the Act, the project proponent must provide the Regulator with:

(a) a description of:

(i) the project activity intended to be carried out in each year of the crediting period; and
(ii) how the project activity improves on, differs from, or varies from, a corresponding activity that was carried out in the emissions intensity reference period; and

*Note* To describe the project activity with reference to the corresponding activity in the emissions intensity reference period, project proponents should clearly identify the relevant agricultural practice in the emissions intensity reference period. Such a relevant agricultural practice may be the absence of the project activity in the emissions intensity reference period, or it may be an agricultural practice undertaken in the emissions intensity reference period that as a project activity is undertaken at a different intensity.

(b) an explanation of how each project activity:
(i) is expected to avoid emissions from the herd through one of the measures specified in paragraphs 7(1)(a) to (c); and

(ii) will be consistent with the requirements of this Part.

Note To demonstrate how a project activity is expected to avoid emissions from the herd through one of the measures specified in paragraphs 7(1)(a) to (c) a project proponent may provide supporting evidence to the Regulator illustrating how the project action could result in one of these measures.

11 Feeding non-protein nitrogen to a herd

(1) Feeding non-protein nitrogen to a herd is an ineligible project activity for the purposes of paragraph 10(1)(c).

(2) For the avoidance of doubt, a herd management project can include a herd fed non-protein nitrogen in the crediting period.

Note Part 4 of this determination does not calculate abatement resulting from feeding non-protein nitrogen to cattle. The Carbon Credits (Carbon Farming Initiative) (Reducing Greenhouse Gas Emissions by Feeding Nitrates to Beef Cattle) Methodology Determination 2014 does apply to projects which feed non-protein nitrogen to cattle. Projects feeding non-protein nitrogen to cattle and undertaking a herd management project can apply both determinations to the same herd.
Part 4  Net abatement amount

Division 4.1  The net abatement amount

12  Method for calculating the net abatement amount

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

(2) First, calculate, for each year in the reporting period and for each herd in the project:
   (a) the baseline emissions (see Division 4.2); and
   (b) the project emissions (see Division 4.3); and
   (c) the difference between the baseline emissions and the project emissions.

(3) Then, sum all of the amounts referred to paragraph (2)(c), for all years in the reporting period and for all herds (the *interim amount*).

(4) The *carbon dioxide equivalent net abatement amount* is:
   (a) if the interim amount is greater than zero—the interim amount; and
   (b) otherwise—zero.

13  Gases accounted for in abatement calculations

The following table specifies the greenhouse gases and emissions sources that are relevant to working out the carbon dioxide equivalent net abatement amount for a herd management project.

<table>
<thead>
<tr>
<th>Greenhouse gases and emissions sources</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Item</strong></td>
</tr>
<tr>
<td>----------</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
</tbody>
</table>
Division 4.2 The baseline emissions

14 The baseline emissions

Note The baseline emissions, for each year in the reporting period and for each herd in the project, is the estimated methane and nitrous oxide emissions for each year in the reporting period and for each herd which would have occurred had project activity not been undertaken.

(1) For each year in the reporting period and for each herd in the project, the baseline emissions is the product of:
   (a) the historical annual emissions intensity; and
   (b) the mass of liveweight that left the herd for live export or slaughter for that year and for that herd.

(2) In this section, the historical annual emissions intensity, in t CO₂-e per kilogram of liveweight that leaves the herd for live export or slaughter, of the herd is the amount calculated by:
   (a) for each year in the emissions intensity reference period:
      (i) calculating the total emissions, in t CO₂-e, of the herd; and
      (ii) calculating the emissions from animals that left the herd for a purpose other than live export or slaughter, from the time the animals left the herd to the end of the emissions intensity reference period; and
      (iii) adding together the amounts calculated in accordance with subparagraph (i) and subparagraph (ii); and
      (iv) dividing the amount calculated in accordance with subparagraph (iii) by the mass of liveweight that leaves the herd for live export or slaughter in that year; and
   (b) averaging the values obtained in accordance with subparagraph (a)(iv).

(3) For subsection (2):
   (a) take into account only emissions from the emissions sources specified in the table in section 13; and
   (b) assume that:
      (i) the herd’s diet in the emissions intensity reference period consisted entirely of pasture from the region referred to in the table in subsection 16(2); and
      (ii) all animals that left the herd for a purpose other than live export or slaughter continue to emit methane and nitrous oxide at the adult equivalent rate specified by the Herd Management Calculator from the time the animals left the herd to the end of the emissions intensity reference period.

(4) For paragraph (1)(b), the mass of liveweight that left the herd for live export or slaughter for that year and for that herd must be calculated in accordance with subsection 21(4).
Division 4.3 The project emissions

15 Project emissions

(1) For each year in the reporting period and for each herd in the project, the project emissions is the carbon dioxide equivalent of the methane and nitrous oxide emissions from the sources referred to in the table in section 13:

(a) from the herd in that year; and

(b) from animals that leave the herd in that year for a purpose other than live export or slaughter, from the end of that year to the end of the crediting period.

(2) For the purposes of calculating the methane and nitrous oxide emissions in accordance with subparagraph (1)(b), assume all animals that leave the herd for a purpose other than live export or slaughter emit methane and nitrous oxide at the adult equivalent rate specified by the Herd Management Calculator.

Division 4.4 Use of Herd Management Calculator to perform calculations

16 Requirement to use Herd Management Calculator

(1) When performing calculations for the purposes of this Part:

(a) the calculations must be performed using the Herd Management Calculator for each herd and for each year in the crediting period; and

(b) the calculations must be performed by entering the inputs required by the Herd Management Calculator and specified in subsection (2); and

(c) if a calculation 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 at the end of the reporting period.

Note Paragraph (c) includes the global warming potentials for methane and nitrous oxide prescribed by the National Greenhouse and Energy Reporting (Measurement) Determination 2008.

(2) For the emissions intensity reference period and the crediting period, the information specified in the following table must be inputted into the Herd Management Calculator in the specified units (if any):

<table>
<thead>
<tr>
<th>Inputs required by the Herd Management Calculator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
</tbody>
</table>
Inputs required by the Herd Management Calculator

<table>
<thead>
<tr>
<th>Item</th>
<th>Input</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Number of cattle that leaves the herd for a purpose other than live export or slaughter in that year</td>
<td>Head</td>
</tr>
<tr>
<td>4</td>
<td>Liveweight in each livestock class in that year</td>
<td>Kilograms</td>
</tr>
<tr>
<td>5</td>
<td>Liveweight gain in each livestock class in that year</td>
<td>Kilograms per head per day</td>
</tr>
<tr>
<td>6</td>
<td>Mass of liveweight that leaves the herd for live export or slaughter in that year</td>
<td>Kilograms</td>
</tr>
<tr>
<td>7</td>
<td>Average dry matter digestibility of diet in each season in that year</td>
<td>Percentage of total dry matter</td>
</tr>
<tr>
<td>8</td>
<td>Average crude protein of diet in each season of that year</td>
<td>Percentage of total dry matter</td>
</tr>
</tbody>
</table>

(3) For the crediting period, if the project activity referred to in subsection 10(1) is a change to the herd’s diet:

(a) items 7 and 8 in the table in subsection (2) must be determined by averaging, using the Herd Management Calculator:

(i) the seasonal values for the region published in the National Inventory Report; and

(ii) for each season in which the change to the herd’s diet was a project activity, either:

(A) the seasonal values for the region published in the Herd Management Calculator; or

(B) the values specified in a commodity vendor declaration form, fodder declaration form, or equivalent; and

(b) the information specified in the following table must be entered into the Herd Management Calculator in the specified units:

<table>
<thead>
<tr>
<th>Dietary change contingent inputs required by the Herd Management Calculator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
</tr>
<tr>
<td>Number of days in which diet was different from the emissions intensity reference period</td>
</tr>
</tbody>
</table>

(4) Where relevant, the inputs mentioned in subsection (2) must be determined in accordance with the requirements of Division 5.4.
(5) For the baseline emissions data items 4 and 5 in the table in subsection (2) must be determined on a seasonal basis, either:

(a) from the National Inventory Report data for each livestock class, for each season; or

(b) from direct measurements of animals in the herd, undertaken at least once in each season.
Part 5  Reporting, record-keeping and monitoring requirements

Division 5.1  Operation of this Part

17  Application
For subsection 106(3) of the Act, the project proponent of an eligible offsets project to which this determination applies must comply with the reporting, record-keeping and monitoring requirements in this Part.

Division 5.2  Offsets report requirements

18  Information in each offsets report
For paragraph 106(3)(a) of the Act, the following information must be included in each offsets report:
  (a) the project activity undertaken in each year in the reporting period;
  (b) all inputs and outputs from the Herd Management Calculator for the reporting period.

  Note  Other reporting requirements are prescribed in the legislative rules.

Division 5.3  Record-keeping requirements

19  Records that must be kept for monitored parameters
(1) The project proponent must keep at least two records of each parameter monitored in accordance with Division 5.4. Of these two records:
  (a) one record must have been created by:
      (i) the project proponent; or
      (ii) a delegate of the project proponent; and
  (b) one record must have been created by a person who is not:
      (i) the project proponent; or
      (ii) a delegate of the project proponent.

20  Records that must be kept for purchased feed
(1) This section applies if:
  (a) the project activity referred to in subsection 10(1) is a change to the herd’s diet; and
(b) the change to a herd’s diet was made, wholly or in part, by feeding the herd purchased feed.

(2) If the feed was purchased from a commercial feed supplier—the project proponent must keep a commodity vendor declaration form, fodder declaration form, or equivalent specifying the crude protein and dry matter digestibility of the purchased feed.

(3) If the feed was purchased from a person who is not a commercial feed supplier—the project proponent:
   (a) must use the seasonal values for the purchased feed, for the region published in the Herd Management Calculator; and
   (b) must keep a purchase invoice describing the purchased feed.

**Division 5.4 Monitoring requirements**

**21 Number and average age of cattle in each livestock class**

(1) For the crediting period, the project proponent must determine the following parameters at least once a year:
   (a) the number of animals in each livestock class;
   (b) the number of animals in each livestock class that left the herd for a purpose other than live export or slaughter.

(2) The project proponent must collect data supporting the determination of the parameters in paragraph (1)(a) for the crediting period:
   (a) within one month of the first day of the crediting period; and
   (b) within one month of each anniversary of the first day of the crediting period.

(3) The project proponent must collect data supporting the determination of the parameters in paragraph (1)(b) for the crediting period:
   (a) no earlier than one month prior to the animals leaving the herd for the purpose mentioned in paragraph (1)(b); and
   (b) no later than the day the animals leave the herd for the purpose mentioned in paragraph (1)(b).

(4) For the purposes of determining the number of animals in each livestock class in accordance with the requirements in subsection (1), the date of birth of each animal is deemed to be the first day of the last season in which there is a feed intake adjustment specified for the relevant region in the National Inventory Report.

*Note* For example, at the time of the determination’s commencement, all animals in Tasmania are deemed to have been born on the first day of Summer, that is, 1 December.
22 Liveweight and liveweight gain

(1) For the crediting period, the project proponent must determine:
   (a) the liveweight and liveweight gain for each livestock class in the herd; and
   (b) the liveweight of the animals that leave the herd for live export or slaughter.

(2) Liveweight and liveweight gain must be determined from direct measurements of
    animals in the herd.

(3) The measurements must occur and be recorded at a minimum:
   (a) within one month of the first day of the crediting period; and
   (b) within one month of each anniversary of the first day of the crediting period.

(4) When determining the liveweight of the animals that leave the herd for live export or slaughter, each animal must be weighed no more than one month before it leaves the herd.

23 Diet

If the project activity referred to in subsection 10(1) is a change to the herd’s diet, the project proponent must determine the number of days in each year of the crediting period in which the herd’s diet was different from the diet in the emissions intensity reference period.