Carbon Credits (Carbon Farming Initiative) (Destruction of Methane from Piggeries using Engineered Biodigesters) Methodology Determination Variation 2017

I, Josh Frydenberg, Minister for the Environment and Energy, make the following legislative instrument.

Dated   5 July 2017

Josh Frydenberg
Minister for the Environment and Energy

1

Carbon Credits (Carbon Farming Initiative) (Destruction of Methane from Piggeries using Engineered Biodigesters) Methodology Determination Variation 2017

Authorised Version F2017L00924 registered 14/07/2017

Contents

1 Name

This is the *Carbon Credits (Carbon Farming Initiative) (Destruction of Methane from Piggeries using Engineered Biodigesters) Methodology Determination Variation 2017*.

2 Commencement

This instrument commences on the day after it is registered.

3 Authority

This instrument is made under subsection 114(1) of the *Carbon Credits (Carbon Farming Initiative) Act 2011*.

4 Amendment of methodology determination

The *Carbon Credits (Carbon Farming Initiative) (Destruction of Methane from Piggeries using Engineered Biodigesters) Methodology Determination 2013* is amended as set out in Schedule 1.

Schedule 1—Amendments of the *Carbon Credits (Carbon Farming Initiative) (Destruction of Methane from Piggeries using Engineered Biodigesters) Methodology Determination 2013*

[1]   Paragraph 1.2A(b)

Omit "*Legislative Instruments*", substitute "*Legislation*".

[2]   Section 1.3

Insert:

CFI eligible additional waste—see subsection 2.4(4).

CFI ineligible additional waste—see subsection 2.4(5).

National Inventory Report means the report of that name produced by Australia in fulfilment of its obligations under the Climate Change Convention and the Kyoto Protocol, as in force from time to time.

Note: In 2017, the National Inventory Report could be accessed from http://www.environment.gov.au.

[3]   Subsection 4.7(2) (definition of MCF_l)

Repeal the definition, substitute:

MCF_l =   the methane conversion factor in the National Inventory Report for pigs and an uncovered anaerobic lagoon applicable to the project.

Note: In 2017, the values in the most recent National Inventory Report are found on page 336 of Volume 1 of the *National Inventory Report 2015* in "Table 5.E.6 Pigs – Methane conversion factors (MCFs)" in the row labelled "Effluent pond (Uncovered anaerobic lagoon)".

[4]   Subsection 4.7(6) (definition of Q_{com})

After "volume of methane", insert "from piggery manure and CFI eligible additional waste".

[5]   Subsection 4.7(6) (definition of MCF_l)

Repeal the definition, substitute:

MCF_l =   the methane conversion factor in the National Inventory Report for pigs and an uncovered anaerobic lagoon applicable to the project.

Carbon Credits (Carbon Farming Initiative) (Destruction of Methane from Piggeries using Engineered Biodigesters) Methodology Determination Variation 2017

[6]   Section 4.8 (definition of E_P)

Before "emissions", insert "additional".

[7]   Subsections 4.9(1) and (2) (definition of Q_{com})

After "volume of methane", insert "from piggery manure and CFI eligible additional waste".

[8]   Subsection 4.9(2) (definition of $Q_{CH4,h}$)

After "volume of methane", insert "from piggery manure and CFI eligible additional waste".

[9]   Subsection 4.9(3)

After "volume of methane", insert "from piggery manure and CFI eligible additional waste".

[10]   Section 4.10 (definition of W_{CH4})

Omit ", measured in accordance with section 5.7", substitute:

either:
   (a) the default percentage specified in subsection 5.48(2) of the NGER (Measurement) determination; or
   (b) measured in accordance with section 5.7.

[11]   Subsection 4.11(3) (Equation 2.7)

After "Bo_p" and "Bo_e", add "$\times (1 - MCF_d)$"

[12]   Subsection 4.11(3) (definition of Q_{CFI})

Omit "volume of methane sent to combustion device h that is from", substitute "total volume of methane generated from piggery manure and".

[13]   Subsection 4.11(3)

After the definition of "Bo_p", insert:

MCF_d =   the methane conversion factor in the National Inventory Report for pigs and an anaerobic digester applicable to the project.

> Note: In 2017, the values in the most recent National Inventory Report are found on page 336 of Volume 1 of the *National Inventory Report 2015* in "Table 5.E.6 Pigs – Methane conversion factors (MCFs)" in the row labelled "Anaerobic digester / Covered lagoon".

5

Carbon Credits (Carbon Farming Initiative) (Destruction of Methane from Piggeries using Engineered Biodigesters) Methodology Determination Variation 2017

Authorised Version F2017L00924 registered 14/07/2017

[14]   Subsection 4.11(5) (Equation 2.8)

After "Bo_{in}", add "$\times (1 - MCF_d)$"

[15]   Subsection 4.11(5)

After the definition of "Bo_{in}", insert:

$MCF_d =$ the methane conversion factor in the National Inventory Report for pigs and an anaerobic digester applicable to the project.

[16]   Subsection 4.13(4) (definition of QE)

Omit "energy content of methane sent to", substitute "quantity of energy produced as a result of methane combustion in".

[17]   Section 4.14

Before "emissions from", insert "additional".

[18]   Section 4.14 (definition of E_P)

Before "emissions", insert "additional".

[19]   Section 4.14 (definition of E_{TRAN})

Repeal the definition, substitute:

$E_{TRAN} =$ total emissions from the transport of waste to the project site, calculated using Equation 3.6

[20]   Section 4.14 (definition of E_{BCS})

Repeal the definition, substitute:

$E_{BCS} =$ total CFI ineligible additional waste related emissions from the engineered biodigester and biogas capture system, including any fugitive emissions, calculated using Equation 3.8

[21]   Section 4.14 (definition of E_{MMS})

Omit "eligible additional waste, calculated using Equation 3.17", substitute "ineligible additional waste, calculated using Equation 3.13".

[22]   Section 4.14 (definition of E_{POST})

Carbon Credits (Carbon Farming Initiative) (Destruction of
Methane from Piggeries using Engineered Biodigesters)
Methodology Determination Variation 2017

Authorised Version F2017L00924 registered 14/07/2017

Repeal the definition, substitute:

E_{POST} = total CFI ineligible additional waste related emissions from the treatment of digestate from the engineered biodigester before it is applied to land, calculated using Equation 3.14

[23] Section 4.14 (note)

Repeal the note.

[24] Paragraphs 4.15(2)(a) and (b)

Repeal the paragraphs, substitute:

(a) where the project uses grid derived electricity between 1 July 2012 and 30 June 2014—E_{elec} must be taken to be zero; and

(b) otherwise—in accordance with Equation 3.5.

[25] Subsection 4.15(4) (Equation 3.3)

Omit "× R".

[26] Subsection 4.15(4) (definition of R)

Repeal the definition.

[27] Subsection 4.16 (heading)

Omit "for additional waste projects".

[28] Subsection 4.16(1)

Repeal the subsection and the note, substitute:

(1) This section applies where waste transport operations have changed as a result of carrying out the project.

[29] Subsection 4.16(2)

Omit "additional".

[30] Subsection 4.16(2) (definition of E_{TRAN})

Omit "additional".

[31]   Subsection 4.17(1)

Omit "Emissions", substitute "CFI ineligible additional waste related emissions".

[32]   Subsection 4.17(1) (Equation 3.8)

Omit "× R".

[33]   Subsection 4.17(1) (definition of E_BCS)

Before "emissions from", insert "CFI ineligible additional waste related".

[34]   Subsection 4.17(1) (definition of E_COM)

Omit "methane and".

[35]   Subsection 4.17(1) (definition of R)

Repeal the definition.

[36]   Subsection 4.17(2) (Equation 3.9)

Omit "$Q_{CH4,h}$", substitute "$(Q_{CFI} + Q_{in})$".

[37]   Subsection 4.17(2) (Equation 3.9)

At the end of the equation, add "× (1 - R)".

[38]   Subsection 4.17(2) (definition of $Q_{CH4,h}$)

Repeal the definition, substitute:

Q_{CFI} =   the total volume of methane generated from piggery manure and CFI eligible additional waste, in cubic metres (m^3), calculated using Equation 2.7.

Q_{in} =   the volume of methane sent to the combustion device h that is from CFI ineligible additional waste, in cubic metres (m^3), calculated using Equation 2.8.

[39]   Subsection 4.17(2)

After the definition of $Q_{CH4\ Vent,\ q}$, add:

R =   the proportion of the volume of methane that is from CFI eligible additional waste, determined in accordance with Equation 2.6.

[40]   Subsection 4.17(5) (definition of W_{CH4})

Omit ", measured in accordance with section 5.7", substitute:

either:
    (a) the default percentage specified in subsection 5.48(2) of the NGER (Measurement) determination; or
    (b) measured in accordance with section 5.7.

[41]   Subsection 4.18(1) (definition of E_{COM})

Omit "methane and".

[42]   Subsection 4.18(1) (definition of j)

Omit "either nitrous oxide or methane (N_2O, CH_4)", substitute "nitrous oxide (N_2O)".

[43]   Subsection 4.18(2) (Equation 3.12)

Omit "Q_{COM}", substitute "($Q_{CFI} + Q_{in}$)".

[44]   Subsection 4.18(2) (definition of Q_{COM})

Repeal the definition, substitute:

Q_{CFI} =   the total volume of methane generated from piggery manure and CFI eligible additional waste, in cubic metres (m^3), calculated using Equation 2.7.

Q_{in} =   the volume of methane sent to the combustion device h that is from CFI ineligible additional waste, in cubic metres (m^3), calculated using Equation 2.8.

[45]   Subsection 4.19(1)

Repeal the subsection and the note, substitute:

  (1) This section applies where:
      (a) the project is classified as an additional waste project and the additional waste contains CFI ineligible additional waste; and
      (b) there has been uncontrolled anaerobic treatment of the waste at the site of livestock operations that contributes waste to the engineered biodigester.

[46]   Subsection 4.19(3)

Omit "eligible", substitute "ineligible".

Carbon Credits (Carbon Farming Initiative) (Destruction of Methane from Piggeries using Engineered Biodigesters) Methodology Determination Variation 2017

Authorised Version F2017L00924 registered 14/07/2017

[47]   Subsection 4.19(4) (Equation 3.13)

Omit "$(VS_{p,un} \times Bo_p \times MCF_l) + (VS_{e,un} \times Bo_e \times MCF_l)$", substitute "$VS_{in} \times Bo_{in} \times MCF_l$".

[48]   Subsection 4.19(4) (definition of E_{MMS})

Before "waste", insert "CFI ineligible additional".

[49]   Subsection 4.19(4) (definition of MCF_l)

Repeal the definition, substitute:

$MCF_l =$ the methane conversion factor in the National Inventory Report for pigs and an uncovered anaerobic lagoon applicable to the project.

[50]   Subsection 4.19(4) (definitions of $V_{Sp,un}$ and Bo_p)

Repeal the definitions.

[51]   Subsection 4.19(4) (definitions of $VS_{e,un}$ and Bo_e)

Repeal the definitions, substitute:

$VS_{in} =$ the quantity of volatile solids from each ineligible waste stream, in kilograms.

$Bo_{in,} =$ the maximum methane-producing capacity from the volatile solids from each ineligible waste stream, in units of cubic metres of methane per kilogram of volatile solids ($m^3 CH_4$/kg VS), determined in accordance with subsection (5).

[52]   Subsection 4.19(5)

Repeal the subsection, substitute:

(5) Bo_{in} must be determined:

     (a) by using the relevant factor prescribed in Schedule 2; or

     (b) by carrying out sampling and analysis in accordance with section 5.5.

[53]   Subsection 4.20(2) (definition of E$_{EFF}$)

Omit "piggery manure", substitute "CFI ineligible additional waste".

[54]   Subsection 4.20(3) (Equation 3.15)

Omit "R", substitute "(1 - R)".

[55]   Subsection 4.20(5) (Equation 3.16)

Omit "R $\times$ GWP$_{CH_4}$", substitute "(1 - R)".

[56]   Subsection 4.20(5) (definitions of E$_{EFF}$ and Bo$_{EFF}$)

Omit "piggery manure" (wherever occurring), substitute "CFI ineligible additional waste".

[57]   Subsection 4.20(5) (definition of VS$_{EFF}$)

Omit "piggery manure", substitute "waste".

[58]   Subsection 4.20(5) (definition of MCF$_{EFF}$)

Repeal the definition, substitute:

MCF$_{EFF}$ = the methane conversion factor in the National Inventory Report for pigs and an uncovered anaerobic lagoon applicable to the project.

[59]   Subsection 4.20(8) (Equation 3.17)

Omit "R", substitute "(1 - R)".

[60]   Section 5.2 (Table row stating VS$_{EFF}$)

In the second column omit "piggery manure", substitute "waste".

[61]   Section 5.2 (Table row stating Bo$_{EFF}$)

In the second column omit "effluent", substitute "CFI ineligible additional waste".

[62]   Subsection 5.4(1)

Omit "additional".

[63]   Paragraph 5.5(1)(b)

Omit "effluent", substitute "CFI ineligible additional waste".

[64]   Paragraph 5.7(1)

Omit "The", substitute "Unless the default percentage is used, the".

[65]   Paragraph 5.7(1)(a)

Omit "online", substitute "inline".