Version
as at 1 January 2025

Climate Change (Unique Emissions Factors) Regulations 2009

(SR 2009/286)

Rt Hon Sir Peter Blanchard, Administrator of the Government

Order in Council

At Wellington this 28th day of September 2009

Present:
His Excellency the Administrator of the Government in Council

Pursuant to sections 163 and 164 of the Climate Change Response Act 2002, His Excellency the Administrator of the Government, acting on the advice and with the consent of the Executive Council and on the recommendation of the Minister for Climate Change Issues, makes the following regulations.

Contents

Note

The Parliamentary Counsel Office has made editorial and format changes to this version using the powers under subpart 2 of Part 3 of the Legislation Act 2019.

Note 4 at the end of this version provides a list of the amendments included in it.

These regulations are administered by the Ministry for the Environment.

Regulations

1 Title

These regulations are the Climate Change (Unique Emissions Factors) Regulations 2009.

2 Commencement

These regulations come into force on 1 January 2010.

Part 1
Preliminary matters

3 Interpretation

(1) In these regulations, unless the context otherwise requires,—

Act means the Climate Change Response Act 2002

calorific value means the energy content of a fuel on a gross or high heating value basis expressed in terajoules per tonne of fuel

coal importing participant means a person who is a participant under section 54(1)(a) of the Act in respect of the activity listed in Part 3 of Schedule 3 of the Act of importing coal

coal mining participant means a person who is a participant under section 54(1)(a) of the Act in respect of the activity listed in Part 3 of Schedule 3 of the Act of mining coal, where the coal mined exceeds 2 000 tonnes in a year

coal participant means—

(a) a coal importing participant; or

(b) a coal mining participant; or

(c) a coal purchasing participant

coal purchasing participant means a person who is a participant under section 54(1)(b) of the Act in respect of the activity listed in Part 4 of Schedule 4 of the Act of purchasing coal from 1 or more participants who mine coal, where the total coal purchased exceeds 250 000 tonnes per year

default emissions factor means an emissions factor that is specified in—

(a) the Schedule of the Climate Change (Liquid Fossil Fuels) Regulations 2008; or

(b) Schedule 2 of the Climate Change (Stationary Energy and Industrial Processes) Regulations 2009

estimated uncertainty, in relation to a unique emissions factor, means the uncertainty associated with the sampling and testing used to establish the unique emissions factor, estimated at a 90% confidence level

fuel means obligation fuel, coal, natural gas, geothermal fluid, used oil, waste oil, used tyres, or waste if the waste is combusted for the purpose of generating electricity or industrial heat

geothermal participant means a person who is a participant under section 54(1)(a) of the Act in respect of the activity listed in Part 3 of Schedule 3 of the Act of using geothermal fluid for the purpose of generating electricity or industrial heat

IPCC waste model means the waste model described in chapter 3, volume 5 (Waste) of the *2006 IPCC Guidelines for National Greenhouse Gas Inventories*, published by the Intergovernmental Panel on Climate Change

LFG means landfill gas

mass fraction means the ratio of the mass of a component in a mixture to the total mass of the mixture

mix point means the final point at which steam from 2 or more geothermal steam transmission lines is mixed before used in a geothermal plant

natural gas purchasing participant means a person who is a participant under section 54(1)(b) of the Act in respect of the activity listed in Part 4 of Schedule 4 of the Act of purchasing natural gas from 1 or more participants who mine natural gas, where the total natural gas purchased exceeds 2 petajoules per year

obligation fuel has the same meaning as in regulation 3 of the Climate Change (Liquid Fossil Fuels) Regulations 2008

obligation fuel participant means—

(a) a person who is a participant under section 54(1)(a) of the Act in respect of an activity listed in Part 2 of Schedule 3 of the Act:

(b) a person who is a participant under section 54(1)(b) of the Act in respect of an activity listed in Part 3 of Schedule 4 of the Act

periodic source testing option means the option for calculating a unique emissions factor set out in regulations 21 to 23

recognised verifier means—

(a) a person recognised under Part 3 to verify unique emissions factors for 1 or more activities specified in regulation 27; and

(b) in relation to an activity specified in regulation 27, a person recognised under Part 3 to verify unique emissions factors for the activity

representative, in relation to samples of a fuel or LFG or to measurements or calculations, means taken or made at a sufficient frequency and duration to produce data that may be reliably extrapolated to provide estimates of, as relevant,—

(a) the properties of a class of fuel or LFG:

(b) emissions across the full range of operating conditions:

(c) for waste disposed of at a disposal facility, the composition of the waste

standard testing option means the option for calculating a unique emissions factor set out in regulation 10 or 20

SWAP means the *Solid Waste Analysis Protocol* published by the Ministry for the Environment in March 2002

waste combustion participant means a person who is a participant under section 54(1)(a) of the Act in respect of the activity listed in Part 3 of Schedule 3 of the Act of combusting used oil, waste oil, used tyres, or waste for the purpose of generating electricity or industrial heat

waste participant means a person who is a participant under section 54(1)(a) of the Act in respect of the activity listed in Part 6 of Schedule 3 of the Act of operating a disposal facility.

(2) A reference to a test method containing an acronym listed in the left-hand column in the following table means a standard, or test method related to an organisation, that is listed in the right-hand column of the table:

Test method	Standard or organisation
AS	Australian Standard
ASTM	ASTM International
BS	British Standard
CEN/TS	Comité Européen de Normalisation (European Committee for Standardization) Technical Specification
EN	European Standard
IEC	International Electrotechnical Commission
IP	Energy Institute, which replaced the Institute of Petroleum, London
ISO	International Organization for Standardization
NZS	New Zealand Standard
USEPA	United States Environmental Protection Agency
VDI	The Association of German Engineers

(3) Unless the context otherwise requires, if a test method prescribed in these regulations provides for alternative methods, each method has equal standing, and any of the methods may be used.

Regulation 3(1) **chief executive**: revoked, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

Regulation 3(1) **fuel**: amended, on 12 December 2013, by regulation 4(1) of the Climate Change (Unique Emissions Factors) Amendment Regulations 2013 (SR 2013/383).

Regulation 3(1) **fuel**: amended, on 1 January 2011, by regulation 4(2) of the Climate Change (Unique Emissions Factors) Amendment Regulations 2010 (SR 2010/337).

Regulation 3(1) **IPCC waste model**: inserted, on 1 January 2011, by regulation 4(1) of the Climate Change (Unique Emissions Factors) Amendment Regulations 2010 (SR 2010/337).

Regulation 3(1) **LFG**: inserted, on 1 January 2011, by regulation 4(1) of the Climate Change (Unique Emissions Factors) Amendment Regulations 2010 (SR 2010/337).

Regulation 3(1) **obligation jet fuel**: revoked, on 12 December 2013, by regulation 4(2) of the Climate Change (Unique Emissions Factors) Amendment Regulations 2013 (SR 2013/383).

Regulation 3(1) **representative**: substituted, on 1 January 2011, by regulation 4(3) of the Climate Change (Unique Emissions Factors) Amendment Regulations 2010 (SR 2010/337).

Regulation 3(1) **SWAP**: inserted, on 1 January 2011, by regulation 4(1) of the Climate Change (Unique Emissions Factors) Amendment Regulations 2010 (SR 2010/337).

Regulation 3(1) **waste participant**: added, on 1 January 2011, by regulation 4(1) of the Climate Change (Unique Emissions Factors) Amendment Regulations 2010 (SR 2010/337).

4 Application for approval to use unique emissions factor

(1) A participant applying for approval to use a unique emissions factor must make the application using the form prescribed by the EPA.

(2) The application must—

- (a) state the activity to which the application relates; and
- (b) describe—
  - (i) the class of fuel in respect of which the person applies for approval to use a unique emissions factor; or
  - (ii) if the unique emissions factor relates to fugitive coal seam gas, the category of coal in respect of which the person applies for approval to use a unique emissions factor; or
  - (iii) if the unique emissions factor relates to waste disposed of at a waste disposal facility, the class of waste in respect of which the person applies for approval to use a unique emissions factor; and
- (c) specify the unique emissions factor for which approval is sought; and
- (d) be accompanied by—
  - (i) a verification statement that complies with subclause (3):
  - (ii) a plan for ongoing sampling and testing of the fuel, gas, or waste to which the application relates:
  - (iii) any other information the EPA may require.

(3) The verification statement must—

- (a) certify that the verifier meets the requirements of regulation 24(1)(a) in relation to verifying unique emissions factors for the activity; and
- (b) state the regulation or regulations under which the unique emissions factor was calculated; and
- (c) state that the verifier is satisfied as to all the matters in regulation 24(1)(b) to (d) in relation to the establishment and calculation of the unique emissions factor under these regulations; and
- (d) be signed by the verifier.

(4) An application for approval to use a unique emissions factor to calculate emissions in relation to a year must be submitted to the EPA by 31 January in the following year.

Regulation 4(1): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

Regulation 4(2)(b)(ii): amended, on 1 January 2011, by regulation 5(1) of the Climate Change (Unique Emissions Factors) Amendment Regulations 2010 (SR 2010/337).

Regulation 4(2)(b)(iii): added, on 1 January 2011, by regulation 5(2) of the Climate Change (Unique Emissions Factors) Amendment Regulations 2010 (SR 2010/337).

Regulation 4(2)(d)(ii): amended, on 1 January 2011, by regulation 5(3) of the Climate Change (Unique Emissions Factors) Amendment Regulations 2010 (SR 2010/337).

Regulation 4(2)(d)(iii): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

Regulation 4(4): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

5 EPA may approve use of unique emissions factor

(1) The EPA may approve the use by a participant of a unique emissions factor when calculating emissions from an activity if satisfied that—

(a) the person's application complies with regulation 4; and

(b) the criteria in—

(i) regulation 6 are met, if the application relates to a class or category of fuel:

(ii) regulation 6A are met, if the application relates to a class of waste disposed of at a disposal facility; and

(c) the verifier who has provided the verification statement required by regulation 4(2)(d) has been recognised by the EPA as a person who can verify a unique emissions factor for the activity and that the recognition has not expired, or been surrendered, suspended, or revoked.

(2) A unique emissions factor approved for use by a participant—

(a) may be used by the participant to calculate emissions only in relation to—

(i) fuel within the class (or in the case of fugitive coal seam gas, coal within the category), if the approval relates to a class or category of fuel:

(ii) waste within the class, if the approval relates to a class of waste disposed of at a disposal facility; and

(b) is subject to any conditions notified by the EPA at the time of approval.

Regulation 5 heading: amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

Regulation 5(1): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

Regulation 5(1)(b): substituted, on 1 January 2011, by regulation 6(1) of the Climate Change (Unique Emissions Factors) Amendment Regulations 2010 (SR 2010/337).

Regulation 5(1)(c): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

Regulation 5(2)(a): substituted, on 1 January 2011, by regulation 6(2) of the Climate Change (Unique Emissions Factors) Amendment Regulations 2010 (SR 2010/337).

Regulation 5(2)(b): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

6 Criteria for class or category of fuel for which unique emissions factor may be used

(1) A class of fuel for which the EPA may approve the use of a unique emissions factor must comply with the following criteria:

(a) if the activity for which the approval is sought—

(i) relates to owning or purchasing obligation fuel, the class must be a subset of a type of obligation fuel described in regulation 4(1) of the Climate Change (Liquid Fossil Fuels) Regulations 2008:

(ii) relates to mining coal, the class must relate to coal from a particular coalfield, or a subset of coal from a particular coalfield:

(iii) relates to importing or purchasing coal, the class must relate to—

(A) coal from a particular coalfield or a subset of coal from a particular coalfield; or

(B) coal that is combusted in particular equipment:

(iv) relates to purchasing natural gas, the class must be a class or subset of a class of natural gas listed in regulation 4(d) of the Climate Change (Stationary Energy and Industrial Processes) Regulations 2009 or a subset of natural gas mined at a field listed in Table 10 of Schedule 2 of those regulations, that is combusted in particular equipment:

(v) relates to using geothermal fluid, the class must relate to a particular plant or process that uses geothermal fluid (or geothermal steam from geothermal fluid):

(vi) relates to combusting used oil, waste oil, used tyres, or waste, the class must,—

(A) if the unique emissions factor is calculated in accordance with regulation 20, be a class or subset of a class in Table 7 of Schedule 2 of the Climate Change (Stationary Energy and Industrial Processes) Regulations 2009; or

(B) if the unique emissions factor is calculated in accordance with the periodic source testing option, be a class or subset of a class in Table 7 of Schedule 2 of the Climate Change (Stationary Energy and Industrial Processes) Regulations 2009 that is combusted in particular equipment; and

(b) the class must have well-defined parameters so that fuel within the class may be easily identified and accounted for separately from fuel that is not within the class.

(2) A category of coal for which the EPA may approve the use of a unique emissions factor for fugitive coal seam gas must—

(a) relate to underground mining at a particular coal mine or a subset of underground mining at a particular coal mine; and

(b) have well-defined parameters so that coal within the category may be easily identified and accounted for separately from coal that is not within the category.

Regulation 6(1): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

Regulation 6(2): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

6A Criteria for class of waste disposed of at disposal facility for which unique emissions factor may be used

A class of waste disposed of at a disposal facility for which the EPA may approve the use of a unique emissions factor—

(a) may relate to all waste disposed of at the facility; or

(b) if it is calculated in accordance with regulation 23B or 23D, may relate to—

(i) waste from a particular source or sources that is disposed of at the facility; or

(ii) all other waste disposed of at the facility that is not covered by a class referred to in subparagraph (i).

Regulation 6A: inserted, on 1 January 2011, by regulation 7 of the Climate Change (Unique Emissions Factors) Amendment Regulations 2010 (SR 2010/337).

Part 2
Activities for which unique emissions factor may be sought

Owning and purchasing obligation fuel

7 Obligation fuel participant may apply for approval to use unique emissions factor

(1) An obligation fuel participant may apply to the EPA for approval to use a unique emissions factor when calculating emissions in relation to a class of obligation fuel in accordance with the Climate Change (Liquid Fossil Fuels) Regulations 2008.

(2) However, an obligation fuel participant may apply for approval to use a unique emissions factor only if the difference between the unique emissions factor and the default emissions factor that would otherwise apply to the obligation fuel is more than 2%.

Regulation 7(1): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

8 Requirements relating to application for unique emissions factor approval by obligation fuel participant

An obligation fuel participant who wishes to apply for approval to use a unique emissions factor in relation to a class of obligation fuel must—

(a) obtain representative samples of the class of obligation fuel for which the unique emissions factor is sought at intervals and in accordance with a procedure that complies with ISO/IEC 4259:2006; and

(b) have the following tests carried out on each of the fuel samples by a person or laboratory that is accredited as complying with ISO/IEC 17025:2005 by International Accreditation New Zealand, an overseas accreditation agency with whom International Accreditation New Zealand has a mutual recognition agreement, or an overseas accreditation agency recognised under New Zealand's mutual recognition arrangements to carry out the tests:

(i) ASTM D5291–02 (carbon content) or an equivalent standard or test method for testing carbon content related to an organisation that is listed in the table in regulation 3(2):

(ii) ASTM D1298–99 or ISO 3675:1998 (density at 15°C); and

(c) calculate the emissions factor for carbon dioxide for the class of obligation fuel in accordance with the following formula:

$$EF_{CO2} = m_C \times D \times EF_C$$

where—

D is the mean density of the obligation fuel samples determined by reference to the results of the test chosen in paragraph (b)(ii) and expressed in kilograms per litre (kg/l)

EF_C is the emissions factor for pure carbon specified in Table 3 of the Schedule

EF_{CO2} is the emissions factor for CO_2 for the class of obligation fuel in tonnes of carbon dioxide per kilolitre (tCO_2/kl)

m_C is the mean mass fraction of carbon in the obligation fuel samples determined by reference to the results of the tests in paragraph (b)(i); and

(d) calculate the unique emissions factor for the class of obligation fuel in accordance with the following formula:

$$UEF = (EF_{CO2} \times OF) + EF_{CH4} + EF_{N2O}$$

where—

EF_{CH4} is the emissions factor for CH_4 from Table 1 of the Schedule that applies to the obligation fuel whose specifications are closest to the fuel for which a unique emissions factor is sought

EF_{CO2} is the emissions factor for CO_2 determined under paragraph (c) expressed in tonnes of carbon dioxide per kilolitre (tCO_2/kl)

EF_{N2O} is the emissions factor for N_2O from Table 1 of the Schedule that applies to the obligation fuel whose specifications are closest to the fuel for which a unique emissions factor is sought; and

OF is an oxidation factor of 0.99

UEF is the unique emissions factor for the class of obligation fuel expressed in tonnes of carbon dioxide equivalent gases per kilolitre (tCO_2e/kl); and

(e) submit the following material to a recognised verifier:

(i) a record of the sampling regime that complies with the standard referred to in paragraph (a); and

(ii) confirmation that the person or laboratory that carried out the tests referred to in paragraph (b) holds the certification or accreditation required by that paragraph; and

(iii) the test results for the tests referred to in paragraph (b); and

(iv) the calculations done under paragraphs (c) and (d); and

(v) any other information required by the recognised verifier as necessary to provide verification of the unique emissions factor under regulation 24.

Importing, mining, and purchasing coal

9 Coal participant may apply for approval to use unique emissions factor

(1) A coal participant may apply to the EPA for approval to use a unique emissions factor when calculating emissions in relation to—

(a) a class of coal in accordance with the Climate Change (Stationary Energy and Industrial Processes) Regulations 2009; and

(b) if the coal participant is a coal mining participant, fugitive coal seam gas from a category of coal mined from underground mining in accordance with the Climate Change (Stationary Energy and Industrial Processes) Regulations 2009.

(2) A coal mining participant must calculate a unique emissions factor for a class of coal in accordance with regulation 10.

(3) A coal mining participant must calculate a unique emissions factor for fugitive coal seam gas from a category of coal in accordance with regulation 12.

(4) A coal importing participant or a coal purchasing participant may—

(a) calculate a unique emissions factor for a class of coal in accordance with regulation 10; or

(b) if the class relates to coal that is combusted in particular equipment, calculate a unique emissions factor for the class of coal in accordance with regulation 11.

(5) Despite subclauses (2) and (4)(a), a coal participant may apply for approval to use a unique emissions factor calculated in accordance with regulation 10 in relation to a class of coal only if the unique emissions factor is lower than the threshold emissions factor for the relevant type of coal specified in Table 2 of the Schedule.

Regulation 9(1): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

10 Requirements relating to application for unique emissions factor approval for class of coal calculated using standard testing option

A coal participant using the standard testing option to calculate a unique emissions factor for a class of coal must—

(a) obtain at least 3 representative samples, taken at intervals of not less than a month, of the coal for which the unique emissions factor is sought in accordance with the procedures in ISO 18283:2006 (hard coal and coke); and

(b) have the following tests carried out on each of the coal samples by a person or laboratory that is accredited as complying with ISO 17025:2005 by International Accreditation New Zealand, an overseas accreditation agency with whom International Accreditation New Zealand has a mutual recognition agreement, or an overseas accreditation agency recognised under New Zealand's mutual recognition arrangements to carry out the tests:

(i) AS 1038.6.4–2005 or ISO 12902:2001 (carbon content):

(ii) ISO 5068–1:2007, or ASTM D3302 (total moisture content):

(iii) ISO 1171:1997 or ASTM D3174–04 (ash content):

(iv) ISO 1928:1995 (gross calorific value); and

(c) calculate the emissions factor for carbon dioxide for the class of coal in accordance with the following formula:

$$EF_{CO2} = m_C \times EF_C \div CV$$

where—

CV is the mean gross calorific value of the coal determined by reference to the results of the tests in paragraph (b)(iv)

EF_C is the emissions factor for pure carbon specified in Table 3 of the Schedule

EF_{CO2} is the emissions factor for CO_2 for the class of coal in tonnes of carbon dioxide per terajoule (tCO_2/TJ)

m_C is the mean mass fraction of carbon in the coal samples determined by reference to the results of the tests in paragraph (b)(i) to (iii); and

(d) calculate the unique emissions factor for the class of coal in accordance with the following formula:

$$UEF = (EF_{CO2} \times OF) + EF_{M+N}$$

where—

EF_{CO2} is the emissions factor for CO_2 determined under paragraph (c) expressed in tonnes of carbon dioxide per terajoule (tCO_2/TJ)

EF_{M+N} is the aggregate emissions factor for N_2O and CH_4 for coal specified in Table 4 of the Schedule

OF is an oxidation factor of 0.98

UEF is the unique emissions factor for the class of coal expressed in tonnes of carbon dioxide equivalent gases per terajoule (tCO_2e/TJ); and

(e) submit the following material to a recognised verifier:

(i) a record of the sampling regime that complies with the standard referred to in paragraph (a); and

(ii) confirmation that the person or laboratory that carried out the tests referred to in paragraph (b) holds the certification or accreditation required by that paragraph; and

(iii) the test results for the tests referred to in paragraph (b); and

(iv) the calculations done under paragraphs (c) and (d); and

(v) any other information required by the recognised verifier as necessary to provide verification of the unique emissions factor under regulation 24.

11 Requirements relating to application for unique emissions factor approval for class of coal combusted in particular equipment

(1) A coal importing participant or a coal purchasing participant who wishes to calculate a unique emissions factor for a class of coal in accordance with this regulation must—

(a) first calculate a unique emissions factor for CH_4 and N_2O for the class of coal in accordance with the periodic source testing option; and

(b) then calculate the unique emissions factor for the class of coal in accordance with either subclause (2) or (3).

(2) If the person wishes to include a unique emissions factor for carbon dioxide for the class of coal in the unique emissions factor, the person must—

(a) comply with the sampling and testing requirements in regulation 10(a) and (b) in relation to the class of coal; and

(b) calculate an emissions factor for carbon dioxide for the class of coal in accordance with regulation 10(c); and

(c) calculate the unique emissions factor for the class of coal in accordance with the following formula:

$$UEF = (EF_{CO2} \times OF) + UEF_{M+N}$$

where—

EF_{CO2} is the emissions factor for CO_2 for the class of coal determined under regulation 10(c), expressed in tonnes of carbon dioxide per terajoule (tCO_2/TJ)

OF is an oxidation factor of 0.98

UEF is the unique emissions factor for the class of coal expressed in tonnes of carbon dioxide equivalent gases per terajoule (tCO_2e/TJ)

UEF_{M+N} is the unique emissions factor for N_2O and CH_4 for the class of coal calculated under the periodic source testing option.

(3) If the person does not wish to include a unique emissions factor for carbon dioxide for the class of coal in the unique emissions factor, the person must calculate the unique emissions factor for the class of coal in accordance with the following formula:

$$UEF = DEF - EF_{M+N} + UEF_{M+N}$$

where—

DEF is the default emissions factor that would otherwise apply to the class of coal under the Climate Change (Stationary Energy and Industrial Processes) Regulations 2009

EF_{M+N} is the aggregate emissions factor for N_2O and CH_4 for coal specified in Table 4 of the Schedule

UEF is the unique emissions factor for the class of coal expressed in tonnes of carbon dioxide equivalent gases per terajoule (tCO_2e/TJ)

UEF_{M+N} is the unique emissions factor for N_2O and CH_4 for the class of coal calculated under the periodic source testing option.

(4) A participant calculating a unique emissions factor under this regulation must submit such of the following material as is relevant to a recognised verifier:

(a) a record of the sampling regime that complies with the standard referred to in regulation 10(a); and

(b) a record of the measurement and testing regime that complies with regulation 22(3) and (4); and

(c) confirmation that the person or laboratory that carried out the tests in regulation 10(b) or 22(3) holds the certification or accreditation required by those regulations; and

(d) the test results for the tests referred to in regulation 10(b) or 22(3); and

(e) the calculations done under subclause (2) or (3) and regulations 10(c) and 23(1); and

(f) any other information required by the recognised verifier as necessary to provide verification of the unique emissions factor under regulation 24.

(5) To avoid doubt, a coal purchasing participant who has approval to use a unique emissions factor calculated under subclause (3) may apply to use a unique emissions factor calculated under subclause (2) relying on the same unique emissions factor for N_2O and CH_4, but only if there has been no material change in the information on which the unique emissions factor for N_2O and CH_4 was based.

12 Requirements relating to application for unique emissions factor approval for fugitive coal seam gas

(1) A coal participant who wishes to apply for approval to use a unique emissions factor in relation to fugitive coal seam gas from a category of coal must—

(a) collect information about the total tonnes of coal mined from underground mining at the relevant coal mine in a year; and

(b) obtain at least 10 representative samples of the exhaust air from underground mining at the relevant coal mine during the year, taken from the ventilation shaft or shafts of the mine at intervals of not less than a month; and

(c) regularly measure the volumetric flow rate of the exhaust air in the ventilation shaft or shafts in cubic metres per hour; and

(d) at the time each sample is taken, measure and record—

(i) the pressure of the exhaust air in the ventilation shaft in kilopascals; and

(ii) the temperature of the exhaust air in the ventilation shaft in Kelvin; and

(iii) the concentration of CH_4 in the sampled exhaust air by volume; and

(e) using the data collected under paragraphs (b) to (d), calculate the representative rate of emissions of CH_4 in the ventilation shaft or shafts in accordance with the following formula:

$$mr_{CH4} = (0.016 \times P \times F \times C) \div R \times T$$

where—

0.016 is the molecular mass of CH_4 in tonnes per kilomole

C is the mean concentration of CH_4 in the samples by volume

F is the mean volumetric flow rate of the exhaust air in cubic metres per hour at the time the samples were taken

mr_{CH4} is the representative rate of CH_4 emitted in tonnes of methane released per hour

P is the mean pressure of the exhaust air at the time the samples were taken in kilopascals

R is 8.314, the universal gas constant when expressed in J/K.mol

T is the mean temperature of the exhaust air at the time of measurement, in Kelvin; and

(f) calculate the unique emissions factor for the category of coal in accordance with the following formula:

$$UEF = EF_P + (28 \times mr_{CH4} \times t \div A)$$

where—

A is the total tonnes of coal mined from the relevant coal mine, as recorded under paragraph (a)

EF_P is 0.0400, the emissions factor for post-mining in tonnes of carbon dioxide equivalent gases per tonne of coal mined (tCO_2e/t)

mr_{CH4} is the rate of CH_4 emitted in tonnes released per hour as calculated under paragraph (e)

t is 8 760, the number of hours in a year

UEF is the unique emissions factor for the category of coal expressed in tonnes of carbon dioxide equivalent gases per tonne of coal (tCO_2e/t); and

(g) submit the following material to a recognised verifier:

(i) a record of the sampling and measurement regime that complies with paragraphs (b) to (d) and subclause (2); and

(ii) the calculations done under paragraphs (e) and (f); and

(iii) any other information required by the recognised verifier as necessary to provide verification of the unique emissions factor for the purposes of regulation 24.

(2) For the purposes of subclause (1), sampling and measuring must be undertaken using devices that are regularly maintained and calibrated.

Regulation 12(1)(f) formula: amended, on 1 February 2023, by regulation 19 of the Climate Change (Emissions Trading Scheme and Synthetic Greenhouse Gas Levies) Amendment Regulations 2022 (SL 2022/267).

Regulation 12(1)(f) formula item EF_P: amended, on 1 January 2014, by regulation 5(b) of the Climate Change (Unique Emissions Factors) Amendment Regulations 2013 (SR 2013/383).

Purchasing natural gas

13 Natural gas purchasing participant may apply for approval to use unique emissions factor

(1) A natural gas purchasing participant may apply to the EPA for approval to use a unique emissions factor for N_2O and CH_4 or for all emissions when calculating emissions in relation to a class of natural gas in accordance with the Climate Change (Stationary Energy and Industrial Processes) Regulations 2009.

(2) A natural gas purchasing participant who wishes to apply for approval to use—

(a) a unique emissions factor for N_2O and CH_4 in relation to a class of natural gas when calculating emissions in accordance with the standard formula in regulation 50(3) of the Climate Change (Stationary Energy and Industrial Processes) Regulations 2009, must calculate the unique emissions factor in accordance with the periodic source testing option:

(b) a unique emissions factor for all emissions in relation to a class of natural gas when calculating emissions in accordance with the field specific formula in regulation 50(4) of the Climate Change (Stationary Energy and Industrial Processes) Regulations 2009, must—

(i) first calculate a unique emissions factor for N_2O and CH_4 in accordance with the periodic source testing option; and

(ii) then calculate the unique emissions factor for the class of natural gas in accordance with subclause (3).

(3) The formula for calculating a unique emissions factor under this subclause is—

$$UEF = DEF_{fieldn} - EF_{M+N} + UEF_{M+N}$$

where—

DEF_{fieldn} is the default emissions factor that would otherwise apply to the class of natural gas specified in Table 10 of Schedule 2 of the Climate Change (Stationary Energy and Industrial Processes) Regulations 2009

EF_{M+N} is the aggregate emissions factor for N_2O and CH_4 for natural gas from Table 4 of the Schedule

UEF is the unique emissions factor for the class of natural gas expressed in tonnes of carbon dioxide equivalent gases per terajoule (tCO_2e/TJ)

UEF_{M+N} is the unique emissions factor for N_2O and CH_4 for the class of natural gas calculated under the periodic source testing option.

(4) A natural gas purchasing participant must submit the following material to a recognised verifier:

(a) a record of the measurement and testing regime that complies with regulation 22(3) and (4); and

(b) confirmation that the person or laboratory that carried out the tests referred to in regulation 22(3) holds the certification or accreditation required by that paragraph; and

(c) the calculations done under subclause (3), if relevant, and regulation 23; and

(d) any other information required by the recognised verifier as necessary to provide verification of the unique emissions factor for the purposes of regulation 24.

Regulation 13(1): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

Using geothermal fluid

14 Geothermal participant may apply for approval to use unique emissions factor

(1) A geothermal participant may apply to the EPA for approval to use a unique emissions factor when calculating emissions in relation to a class of geothermal fluid in accordance with the Climate Change (Stationary Energy and Industrial Processes) Regulations 2009.

(2) However, a geothermal participant may apply for approval to use a unique emissions factor only if the difference between the unique emissions factor and the default emissions factor that would otherwise apply to the geothermal fluid is more than the estimated uncertainty.

Regulation 14(1): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

15 Requirements relating to application for unique emissions factor approval by geothermal participant

A geothermal participant who wishes to apply for approval to use a unique emissions factor in relation to a class of geothermal fluid defined by reference to—

(a) a plant that uses, or a particular use of, geothermal steam, must comply with regulation 16:

(b) a plant that uses, or a particular use of, geothermal fluid that does not relate to steam production must comply with regulation 17.

16 Requirements for applications for unique emissions factor approval for geothermal fluid use calculated by reference to steam production

(1) A geothermal participant who wishes to apply for approval to use a unique emissions factor in relation to a class of geothermal fluid defined by reference to a matter in regulation 15(a) must, unless relying on subclause 2A, 2B, or 2C,—

(a) obtain representative samples of the geothermal steam to which the application relates in accordance with either—

(i) the procedures and standards in—

(A) ASTM E947–83 (Reapproved 2007)— (equipment to be used for the collection of uncontaminated and representative samples from single-phase steam pipelines); and

(B) ASTM E1675–04 for Sampling 2-Phase Geothermal Fluid for Purposes of Chemical Analysis (as applicable to sampling single-phase steam only); or

(ii) the procedures and standards in a published geothermal fluid sampling methodology with accuracy and reliability equivalent to the standards in subparagraph (i); and

(b) have the following tests carried out on each of the samples of the steam by a person or laboratory that is accredited as complying with ISO 17025:2005 by International Accreditation New Zealand, an overseas accreditation agency with whom International Accreditation New Zealand has a mutual recognition agreement, or an overseas accreditation agency recognised under New Zealand's mutual recognition arrangements to carry out the tests:

(i) gas chromatography (to determine CH_4 content); and

(ii) standard chemistry titration analysis methods (to determine CO_2 content); and

(c) measure the tonnes of steam produced per hour at, or downstream of, each separation point, or if the system has multiple steam transmission lines, then at each mix point; and

(d) calculate the emissions factor for each steam separation point or mix point in accordance with the following formula:

$$EF_S = m_{CO2} + (m_{CH4} \times 28)$$

where—

EF_S is the emissions factor for the steam at the separation or mix point expressed as tonnes of carbon dioxide equivalent gases per tonne of steam (tCO_2e/t steam)

m_{CH4} is the mean mass fraction of CH_4 in the steam samples at the separation or mix point as determined by reference to the results of the tests referred to in paragraph (b)(i) and expressed in tonnes of methane per tonne of steam (tCH_4/t steam)

m_{CO2} is the mean mass fraction of CO_2 in the steam samples at the separation or mix point as determined by reference to the results of the tests referred to in paragraph (b)(ii) and expressed in tonnes of carbon dioxide per tonne of steam (tCO_2/t steam); and

(e) calculate the unique emissions factor for the class of geothermal fluid in accordance with the following formula:

$$UEF = [\sum(EF_S \times A_S) \div \sum A_S] - EF_R$$

where—

A_S is the tonnes of steam produced by each separation or mix point per hour as measured in accordance with paragraph (c)

EF_R is,—

(a) if an adjustment for reinjection of steam condensate is claimed, the emissions factor for steam condensate being reinjected as calculated under subclause (2); or

(b) if no adjustment for reinjection of steam condensate is claimed, zero

EF_S is the emissions factor for the relevant steam separation or mix point determined under paragraph (d)

UEF is the unique emissions factor for the class of geothermal fluid expressed in tonnes of carbon dioxide equivalent gases per tonne of steam (tCO_2e/t steam); and

(f) submit the following material to a recognised verifier:

(i) a record of the sampling regime that complies with the procedures and standards referred to in paragraph (a) and, if relevant, a record of the sampling regime that complies with subclause (2)(a); and

(ii) confirmation that the person or laboratory that carried out the tests referred to in paragraph (b) and, if relevant, subclause (2)(b), holds the certification or accreditation required by that paragraph; and

(iii) the test results for the tests referred to in paragraph (b) and, if relevant, the test results for the tests in subclause (2)(b); and

(iv) the estimated uncertainty associated with the unique emissions factor; and

(v) the calculations done under paragraphs (d) and (e) and, if relevant, subclause (2)(c); and

(vi) any other information required by the recognised verifier as necessary to provide verification of the unique emissions factor under regulation 24.

(2) A geothermal participant who wishes to claim an adjustment to a unique emissions factor calculated under subclause (1) to account for the reinjection of condensate from the class of geothermal fluid into a geothermal field must—

(a) obtain representative samples of the steam condensate being reinjected in accordance with the procedures and standards referred to in subclause (1)(a); and

(b) have the tests referred to in subclause (1)(b) carried out on each of the samples of the steam condensate by a person or laboratory that is accredited as complying with that subclause; and

(c) calculate an emissions factor for the reinjected condensate in accordance with the following formula:

$$EF_R = m_{CO2} + (m_{CH4} \times 28)$$

where—

EF_R is the emissions factor for the condensate being reinjected expressed in tCO_2e/t condensate

m_{CH4} is the mean mass fraction of CH_4 in the condensate being reinjected as determined by reference to the results of the tests referred to in paragraph (b) and expressed in tCH_4/t condensate

m_{CO2} is the mean mass fraction of CO_2 in the condensate being reinjected as determined by reference to the results of the tests referred to in paragraph (b) and expressed in tCO_2/t condensate.

(2A) A geothermal participant who wishes to claim an alternative to the unique emissions factor calculated under subclause (1) to account for the vapour being discharged from the class of geothermal fluid into a geothermal field must—

(a) obtain representative samples of the vapour being discharged in accordance with the procedures and standards referred to in subclause (1)(a); and

(b) have the tests referred to in subclause (1)(b) carried out on each of the samples of the vapour being discharged by a person or laboratory that is accredited as complying with that subclause; and

(c) measure the vapour discharge flow rates and the pressure and temperature of the vapour flow at the discharge point or, if the system has multiple discharge points, at each discharge point; and

(d) calculate an emissions factor for the vapour being discharged in accordance with the following formula:

$$UEF = m_{CO2} + (m_{CH4} \times 28)$$

where—

UEF is the unique emissions factor for the class of geothermal fluid expressed in tonnes of carbon dioxide equivalent gases per tonne of steam (tCO_2e/t steam)

m_{CH4} is the mean mass fraction of CH_4 in the vapour being discharged as determined by reference to the results of the tests referred to in paragraph (b) and expressed in tCH_4/t vapour

m_{CO2} is the mean mass fraction of CO_2 in the vapour being discharged as determined by reference to the results of the tests referred to in paragraph (b) and expressed in tCO_2/t vapour.

(2B) A geothermal participant who wishes to claim an alternative to the unique emissions factor calculated under subclause (1) to account for the brine input from the class of geothermal fluid into a geothermal field must—

(a) obtain representative samples of the brine input in accordance with the procedures and standards referred to in subclause (1)(a); and

(b) have the tests referred to in subclause (1)(b) carried out on each of the samples of the brine input by a person or laboratory that is accredited as complying with that subclause; and

(c) measure the tonnes of steam, brine, or vapour per hour at, or downstream of, each point at which representative samples are obtained; and

(d) calculate an emissions factor for the brine input in accordance with the following formula:

$$EF_B = m_{CO2} + (m_{CH4} \times 28)$$

where—

EF_B is the emissions factor for the brine input expressed in tCO2e/t brine (tCO_2e/t steam)

m_{CH4} is the mean mass fraction of CH_4 in the brine input as determined by reference to the results of the tests referred to in paragraph (b) and expressed in tCH_4/t brine

m_{CO2} is the mean mass fraction of CO_2 in the brine input as determined by reference to the results of the tests referred to in paragraph (b) and expressed in tCO_2/t brine; and

(e) calculate the unique emissions factor for brine input from the class of geothermal fluid into a geothermal field in accordance with the following formula:

$$UEF = [\sum(EF_S \times A_S) \div \sum A_S] + [\sum(EF_B \times A_B) \div \sum A_B] - [\sum(EF_R \times A_R) \div \sum A_R]$$

where—

A_B is the tonnes of brine measured at the brine input per hour in accordance with paragraph (c)

EF_B is the emissions factor for the brine input calculated in accordance with paragraph (d)

A_R is the tonnes of reinjection fluid per hour measured in accordance with paragraph (c)

EF_R is,—

(a) if an adjustment for reinjection is claimed, the emissions factor for the reinjection fluid as calculated under subclause (2)(c); or

(b) if no adjustment for reinjection is claimed, zero

A_S is the tonnes of steam at each separation or mix point per hour measured in accordance with paragraph (c)

EF_S is the emissions factor for the relevant steam separation or mix point calculated under subclause (1)(d)

UEF is the unique emissions factor for the class of geothermal fluid expressed in tonnes of carbon dioxide equivalent gases per tonne of steam (tCO_2e/t steam).

(2C) A geothermal participant who wishes to claim an alternative to the unique emissions factor calculated under subclause (1) to account for 100% reinjection of non-condensable gases into a geothermal field must—

(a) undergo inspection by a recognised verifier to verify that 100% reinjection of non-condensable gases is occurring; and

(b) submit the following material to the recognised verifier:

(i) evidence of a permanent connection of the non-condensable gas offtake to a reinjection pipeline:

(ii) a recorded indicator of non-condensable gas emissions, obtained with a non-condensable gas flowmeter, a temperature gauge on the emission line, or another indicator that positively records when emissions are occurring:

(iii) evidence that any small discharges to the atmosphere, which may occur on start-up, station trips, or another similar occurrence, are less than 4,000 tonnes per year; and

(c) if small discharges to the atmosphere exceed 4,000 tonnes per year but a permanent connection of the non-condensable gas offtake to a reinjection pipeline remains in use, the geothermal participant may continue to use the emissions factor of zero obtained under that subclause, but they must—

(i) collect and record a standard flow rate for each non-condensable gas emission; and

(ii) calculate their non-condensable gas emissions in relation to each class of geothermal fluid in the year in accordance with the method set out in regulation 20 of the Climate Change (Stationary Energy and Industrial Processes) Regulations 2009; and

(iii) use in that calculation the emissions factor for the class of geothermal fluid listed in Part A of table 6 in Schedule 2 of those regulations, instead of the participant's unique emissions factor of zero.

(3) The following rules apply to measurement of steam for the purposes of this regulation:

(a) measurement of the steam quantity produced must be undertaken with a venturi flow meter, vortex flow meter, or orifice plate (or other equipment with at least the same accuracy as one of those pieces of equipment):

(b) the sample port where the samples are collected for the purposes of subclauses (1)(a) and (2)(a) must be located—

(i) immediately after the separation points; or

(ii) if the system has multiple steam transmission lines, at a point where a good mixed sample of the steam can be obtained:

(iii) if relating to vapour discharge, at the point at which the discharge occurs; or

(iv) at the point of brine input:

(c) the calculation of steam quantities must be conducted on a continuous basis and in accordance with ISO 5167–1:2003.

Regulation 16(1): amended, on 1 January 2025, by regulation 4(1) of the Climate Change (Unique Emissions Factors) Amendment Regulations 2024 (SL 2024/202).

Regulation 16(1)(d) formula: amended, on 1 February 2023, by regulation 20(1) of the Climate Change (Emissions Trading Scheme and Synthetic Greenhouse Gas Levies) Amendment Regulations 2022 (SL 2022/267).

Regulation 16(1)(e) formula: amended, on 1 January 2025, by regulation 4(2) of the Climate Change (Unique Emissions Factors) Amendment Regulations 2024 (SL 2024/202).

Regulation 16(2)(c) formula: amended, on 1 February 2023, by regulation 20(2) of the Climate Change (Emissions Trading Scheme and Synthetic Greenhouse Gas Levies) Amendment Regulations 2022 (SL 2022/267).

Regulation 16(2A): inserted, on 1 January 2025, by regulation 4(3) of the Climate Change (Unique Emissions Factors) Amendment Regulations 2024 (SL 2024/202).

Regulation 16(2B): inserted, on 1 January 2025, by regulation 4(3) of the Climate Change (Unique Emissions Factors) Amendment Regulations 2024 (SL 2024/202).

Regulation 16(2C): inserted, on 1 January 2025, by regulation 4(3) of the Climate Change (Unique Emissions Factors) Amendment Regulations 2024 (SL 2024/202).

Regulation 16(3)(a): amended, on 1 January 2018, by regulation 4 of the Climate Change (Unique Emissions Factors) Amendment Regulations 2017 (LI 2017/249).

Regulation 16(3)(b)(iii): inserted, on 1 January 2025, by regulation 4(4) of the Climate Change (Unique Emissions Factors) Amendment Regulations 2024 (SL 2024/202).

Regulation 16(3)(b)(iv): inserted, on 1 January 2025, by regulation 4(4) of the Climate Change (Unique Emissions Factors) Amendment Regulations 2024 (SL 2024/202).

17 Requirements for applications for unique emissions factor approval for geothermal fluid use calculated by reference to non-condensable gas concentrations

(1) A geothermal participant who wishes to apply for approval to use a unique emissions factor in relation to a class of geothermal fluid defined by reference to a matter in regulation 15(b) must—

(a) obtain representative samples of the 2-phase geothermal fluid for which the unique emissions factor is sought in accordance with the procedures and standards in—

(i) ASTM E1675–04 (for Sampling 2-Phase Geothermal Fluid for Purposes of Chemical Analysis); or

(ii) a published geothermal fluid sampling methodology with equivalent accuracy and reliability to the standard referred to in subparagraph (i); and

(b) have the following tests carried out on each of the samples of the 2-phase geothermal fluid by a person or laboratory that is accredited as complying with ISO 17025:2005 by International Accreditation New Zealand, an overseas accreditation agency with whom International Accreditation New Zealand has a mutual recognition agreement, or an overseas accreditation agency recognised under New Zealand's mutual recognition arrangements to carry out the tests:

(i) gas chromatography (to determine CH_4 content); and

(ii) standard chemistry titration analysis methods (to determine CO_2 content); and

(c) calculate the emissions factor for the 2-phase fluid in accordance with the following formula:

$$EF_B = m_{CO2} + (m_{CH4} \times 28)$$

where—

EF_B is the emissions factor for the class of 2-phase fluid expressed in tonnes of carbon dioxide equivalent gases per tonne of 2-phase fluid (tCO_2e/t fluid)

m_{CH4} is the mean mass fraction of CH_4 in the samples of the 2-phase geothermal fluid as determined by reference to the results of the tests referred to in paragraph (b)(i) and expressed in tonnes of methane per tonne of 2-phase fluid (tCH_4/t fluid)

m_{CO2} is the mean mass fraction of CO_2 in the samples of the 2-phase geothermal fluid as determined by reference to the results of the tests referred to in paragraph (b)(ii) and expressed in tonnes of carbon dioxide per tonne of 2-phase fluid (tCO_2/t fluid); and

(d) calculate the unique emissions factor for the class of geothermal fluid in accordance with the following formula:

$$UEF = EF_B - EF_T$$

where—

EF_B is the emissions factor for the class of 2-phase fluid as calculated in accordance with paragraph (c) expressed in tonnes of carbon

dioxide equivalent gases per tonne of geothermal fluid (tCO_2e/t fluid)

EF_T is,—

(a) if an adjustment for reinjection of single-phase fluid is claimed, the emissions factor for reinjected single-phase fluid relating to the class, calculated under subclause (2); or

(b) zero, if no adjustment is claimed

UEF is the unique emissions factor for the class of geothermal fluid expressed in tonnes of carbon dioxide equivalent gases per tonne of 2-phase fluid (tCO_2e/t fluid); and

(e) submit the following material to a recognised verifier:

(i) a record of the sampling regime that complies with the procedures and standards referred to in paragraph (a) and, if relevant, a record of the sampling regime that complies with subclause (2)(a); and

(ii) confirmation that the person or laboratory that carried out the tests referred to in paragraph (b) and, if relevant, subclause (2)(b), holds the certification or accreditation required by those provisions; and

(iii) the test results for the tests referred to in paragraph (b) and, if relevant, the test results for the tests in subclause (2)(b); and

(iv) the estimated uncertainty associated with the unique emissions factor; and

(v) the calculations done under paragraph (c) and (d) and, if relevant, subclause (2)(c); and

(vi) any other information required by the recognised verifier as necessary to provide verification of the unique emissions factor under regulation 24.

(2) A geothermal participant who wishes to claim an adjustment to a unique emissions factor calculated under subclause (1) to account for the reinjection of single-phase geothermal fluid from the class of geothermal fluid into a geothermal field must—

(a) obtain representative samples of the single-phase geothermal fluid reinjected which results from use of the 2-phase geothermal fluid in accordance with the procedures and standards referred to in subclause (1)(a); and

(b) have the tests referred to in subclause (1)(b) carried out on each of the samples of the single-phase geothermal fluid by a person or laboratory that is accredited as complying with that subclause; and

(c) calculate an emissions factor for the reinjected single-phase geothermal fluid in accordance with the following formula:

$$EF_T = m_{CO2} + (m_{CH4} \times 28)$$

where—

EF_T is the emissions factor for the reinjected single-phase fluid expressed in tCO_2e/t fluid

m_{CH4} is the mean mass fraction of CH_4 in the samples of the single-phase geothermal fluid as determined by reference to the results of the tests referred to in paragraph (b) and expressed in tCH_4/t fluid

m_{CO2} is the mean mass fraction of CO_2 in the samples of the single-phase geothermal fluid as determined by reference to the results of the tests referred to in paragraph (b) and expressed in tCO_2/t fluid.

Regulation 17(1)(c) formula: amended, on 1 January 2025, by regulation 5(1) of the Climate Change (Unique Emissions Factors) Amendment Regulations 2024 (SL 2024/202).

Regulation 17(1)(c) formula: amended, on 1 February 2023, by regulation 21(1) of the Climate Change (Emissions Trading Scheme and Synthetic Greenhouse Gas Levies) Amendment Regulations 2022 (SL 2022/267).

Regulation 17(1)(d) formula: amended, on 1 January 2025, by regulation 5(2) of the Climate Change (Unique Emissions Factors) Amendment Regulations 2024 (SL 2024/202).

Regulation 17(2)(c) formula: amended, on 1 February 2023, by regulation 21(2) of the Climate Change (Emissions Trading Scheme and Synthetic Greenhouse Gas Levies) Amendment Regulations 2022 (SL 2022/267).

Combusting used oil, waste oil, used tyres, or waste

18 Waste combustion participant may apply for approval to use unique emissions factor

(1) A waste combustion participant may apply to the EPA for approval to use a unique emissions factor when calculating emissions in relation to a class of used or waste oil, used tyres, or waste in accordance with the Climate Change (Stationary Energy and Industrial Processes) Regulations 2009.

(2) However, a waste combustion participant may apply for approval to use a unique emissions factor only if the difference between the unique emissions factor and the default emissions factor that would otherwise apply to the used or waste oil, used tyres, or waste is more than the estimated uncertainty.

Regulation 18(1): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

19 Requirements relating to application for unique emissions factor approval by waste combustion participant

A waste combustion participant who wishes to apply for approval to use a unique emissions factor in relation to a class of used or waste oil, used tyres, or waste that—

(a) consists of or contains non-biomass, may calculate a unique emissions factor for the class in accordance with regulation 20 or the periodic source testing option:

(b) consists of or contains only biomass, must calculate a unique emissions factor for that class in accordance with the periodic source testing option.

20 Requirements for applications for unique emissions factor approval for waste calculated using standard testing option

(1) A waste combustion participant using the standard testing option to calculate a unique emissions factor for a class of used or waste oil, used tyres, or waste must—

(a) obtain representative samples of the used or waste oil, used tyres, or waste for which the unique emissions factor is sought in accordance with the procedures in,—

(i) for solid fuels, CEN/TS 14778–1:2005 or CEN/TS 15442:2006:

(ii) for used or waste oil, ASTM D4057–06, ASTM D4177–95 (2005), or ISO 3170:2004; and

(b) have the following tests carried out on each of the samples of the fuel by a person or laboratory that is accredited as complying with ISO 17025:2005 by International Accreditation New Zealand, an overseas accreditation agency with whom International Accreditation New Zealand has a mutual recognition agreement, or an overseas accreditation agency recognised under New Zealand's mutual recognition arrangements to carry out the tests:

(i) for solid fuels—

(A) CEN/TS 15407:2006 (carbon content); and

(B) CEN/TS 15400:2006 (gross calorific value); and

(C) CEN/TS 15440:2006 or ASTM D6866–08 (determination of biomass content as a percentage) subject to subclause (2):

(ii) for used or waste oil—

(A) ASTM D5291–02 2007 (carbon content); and

(B) ASTM D240–02 2007 (gross calorific value); and

(c) calculate the emissions factor for carbon dioxide for the fuel in accordance with the following formula:

$$EF_{CO2} = m_C \times EF_C \times m_{NB} \div CV$$

where—

CV is the mean gross calorific value of the fuel samples determined by reference to the results of the tests referred to in paragraph (b)(i)(B) or (b)(ii)(B)

EF_C is the emissions factor for pure carbon specified in Table 3 of the Schedule

EF_{CO2} is the emissions factor for CO_2 for the class of used or waste oil, used tyres, or waste in tonnes of CO_2 per terajoule (tCO_2/TJ)

m_C is the mean mass fraction of carbon in the fuel samples determined by reference to the results of the tests referred to in paragraph (b)(i)(A) or (b)(ii)(A)

m_{NB} is the mean non-biomass fraction of the fuel determined by reference to the results of the tests referred to in paragraph (b)(i)(C); and

(d) calculate the unique emissions factor for the class of waste or used oil, used tyres, or waste, in accordance with the following formula:

$$UEF = EF_{CO2} + EF_{M+N}$$

where—

EF_{CO2} is the emissions factor for CO_2 determined under paragraph (c)

EF_{M+N} is the aggregate emissions factor for N_2O and CH_4 for waste specified in Table 4 of the Schedule

UEF is the unique emissions factor for the class of used or waste oil, used tyres, or waste expressed in tonnes of carbon dioxide equivalent gases per terajoule (tCO_2e/TJ); and

(e) submit the following material to a recognised verifier:

(i) a record of the sampling regime that complies with a standard referred to in paragraph (a); and

(ii) confirmation that the person or laboratory that carried out the tests referred to in paragraph (b) holds the certification or accreditation required by that paragraph; and

(iii) the test results for the tests referred to in paragraph (b); and

(iv) the estimated uncertainty associated with the unique emissions factor; and

(v) the calculations done under paragraphs (c) and (d); and

(vi) any other information required by the recognised verifier as necessary to provide verification of the unique emissions factor under regulation 24.

(2) In subclause (1)(b)(i)(C), selective dissolution under CEN/TS 15440:2006 is not to be used if—

(a) the sampled fuel contains more than 10% of rubber residues (whether natural, synthetic, or a combination of both); or

(b) the sampled fuel contains a combination of more than 5% by weight of nylon, polyurethane or other polymers containing molecular amino groups, or biodegradable plastics of fossil fuel origin; or

(c) the sampled fuel contains a combination of more than 5% by weight of wool or viscose, or non-biodegradable plastic of biogenic origin, or oil or fat present as a constituent of biomass.

Periodic source testing option

21 Requirements for applications for unique emissions factor approval for coal, natural gas, used or waste oil, used tyres, or waste calculated using periodic source testing option

(1) A participant who wishes to calculate a unique emissions factor in accordance with the periodic source testing option must comply with regulations 22 and 23, and,—

(a) if a coal purchasing participant or coal importing participant, comply with regulation 11; or

(b) if a natural gas purchasing participant, comply with regulation 13; or

(c) if a waste combustion participant, submit such of the following material as is relevant to a recognised verifier:

(i) a record of the sampling regime that complies with regulation 22; and

(ii) a record of the measurement and testing regime that complies with regulation 22(3) and (4); and

(iii) confirmation that the person or laboratory that carried out the tests referred to in regulation 22(2) and (3) holds the certification or accreditation required by those subclauses; and

(iv) the estimated uncertainty associated with the unique emissions factor; and

(v) the calculations done under regulation 23; and

(vi) any other information required by the recognised verifier as necessary to provide verification of the unique emissions factor for the purposes of regulation 24.

(2) The participant must conduct sampling and testing, and calculate the rate of emissions under regulations 22 and 23 for a measurement period that is sufficient to ensure that the sampling, testing and calculated emissions accurately represent emissions for the class of fuel combusted in the particular equipment over the full range of operating conditions.

22 Sampling and testing requirements for the periodic source testing option

(1) A coal purchasing participant, coal importing participant, or a natural gas purchasing participant using the periodic source testing option to calculate a unique emissions factor for N_2O and CH_4 in relation to a class of coal or natural gas must collect information about,—

(a) the total tonnes of the class of fuel combusted in the particular equipment during the measurement period; and

(b) the mean gross calorific value of the class of fuel combusted in the particular equipment during the measurement period.

(2) A waste combustion participant using the periodic source testing option to calculate a unique emissions factor in relation to a class of used or waste oil, used tyres, or waste must,—

(a) if the person wishes to use the method specified in regulation 23(2)(a) to calculate total energy input to the particular equipment from the class of fuel during the measurement period,—

(i) collect information about the total tonnes of the class of fuel combusted in the particular equipment during the measurement period; and

(ii) collect representative samples of the class of fuel for which the unique emissions factor is sought during the measurement period in accordance with the procedures in,—

(A) for solid fuels, CEN/TS 14778–1:2005 or CEN/TS 15442:2006:

(B) for used or waste oil, ASTM D4057–06, ASTM D4177–95 (2005), or ISO 3170:2004; and

(iii) have the following tests carried out on each of the samples of the fuel by a person or laboratory that is accredited as complying with ISO 17025:2005 by International Accreditation New Zealand, an overseas accreditation agency with whom International Accreditation New Zealand has a mutual recognition agreement, or an overseas accreditation agency recognised under New Zealand's mutual recognition arrangements to carry out the tests:

(A) for solid fuels, CEN/TS 15400:2006 (gross calorific value); or

(B) for used or waste oil, ASTM D240–02 (2007) (gross calorific value):

(b) if the person wishes to use the method specified in regulation 23(2)(b) to calculate total energy input to the particular equipment from the class of fuel during the measurement period,—

(i) record the total quantity of energy generated from the particular equipment through its combustion of the class of fuel during the measurement period in terajoules; and

(ii) estimate the efficiency, on a gross energy basis, of the particular equipment during the measurement period; and

(iii) if the class of fuel is a class of used or waste oil, calculate—

(A) the total number of tonnes of obligation fuel component of the used or waste oil combusted by the particular equipment during the measurement period; and

(B) the calorific value of the used or waste oil by obtaining samples and carrying out tests in accordance with paragraph (a)(ii) and (iii).

(3) A participant using the periodic source testing option must, at sufficient intervals during the measurement period to ensure that the data is repesentative,—

(a) measure in accordance with the procedures in ISO 10780:1994 or ISO 14164:1999 the volumetric flow rate for the stacks from which gases resulting from combustion of the class of fuel are emitted ; and

(b) have tests to measure CH_4 and N_2O concentrations (and if relevant for waste combustion participants, CO_2 concentrations) by volume in the gas stream from the stacks carried out in accordance with one of the following standards by a person or laboratory that is accredited as complying with ISO 17025:2005 by International Accreditation New Zealand, an overseas accreditation agency with whom International Accreditation New Zealand has a mutual recognition agreement, or an overseas accreditation agency recognised under New Zealand's mutual recognition arrangements to carry out the tests:

(i) ISO 12039:2001:

(ii) USEPA—Method 3A—2006:

(iii) USEPA—Method 3C—1996:

(iv) VDI 2469–1 (measurement of nitrous oxide):

(v) ASTM D6348–03 (determination of gaseous compounds); and

(c) at the time of each of the measurements referred to in paragraph (b),—

(i) measure and record the pressure of the gas stream in the stacks in kilopascals; and

(ii) measure and record the temperature of the gas stream in the stacks in Kelvin; and

(iii) if the participant is a waste combustion participant and the class of fuel contains non-biomass, have tests to measure the non-biomass fraction of the CO_2 concentrations in the gas stream in the stacks carried out in accordance with ASTM D6866–08 by a person or laboratory that is accredited as complying with ISO 17025:2005 by International Accreditation New Zealand, an overseas accreditation agency with whom International Accreditation New Zealand has a mutual recognition agreement, or an overseas accreditation agency recognised under New Zealand's mutual recognition arrangements to carry out the tests.

(4) For the purposes of the tests referred to in subclause (3), sampling and measuring must be undertaken using devices that are regularly maintained and calibrated.

23 Calculation of unique emissions factor in accordance with periodic source testing option

(1) A participant using the periodic source testing option to calculate a unique emissions factor must,—

(a) using each set of data collected under regulation 22(3), calculate the rate of emissions of CH_4 and N_2O (and if relevant for a waste combustion participant, of CO_2) from the stacks in accordance with the following formula:

$$mr_{gas\ type} = (mw_{gas\ type} \times P \times F \times C) \div (R \times T)$$

where—

C is the concentration of CH_4, N_2O, or CO_2, as the case may be, by volume in the gas stream at the time of measurement of the gas concentrations

F is the flow rate of the gas stream in cubic metres per second at the time of measurement of the gas concentrations

$mr_{gas\ type}$ is the rate of each of CH_4 and N_2O (and if relevant CO_2) emitted in tonnes of gas type released per second

$mw_{gas\ type}$ is the molecular mass of CH_4, N_2O, or CO_2, as the case may be, in tonnes per kilomole, where—

(a) CO_2 and N_2O values are 0.044; and

(b) CH_4 value is 0.016

P is the pressure of the gas stream in kilopascals at the time of measurement of the gas concentrations

R is 8.314, the universal gas constant when expressed in J/K.mol; and

T is the temperature, in Kelvin, of the gas stream at the time of measurement of the gas concentrations; and

(b) using the results of the calculations referred to in paragraph (a), estimate representative values of mr_{N2O} and mr_{CH4} (and if relevant, mr_{CO2}) for the measurement period; and

(c) calculate the unique emissions factor for the class of fuel, in accordance with the following formula:

$$UEF = [(mr_{CO2} \times m_{NB} \times t) + (mr_{CH4} \times 28 \times t) + (mr_{N2O} \times 265 \times t)] \div H$$

where—

H is the total energy input to the particular equipment over the measurement period expressed in terajoules and calculated in accordance with subclause (2)

m_{NB} is, if relevant, the mean non-biomass fraction of mr_{CO2} as calculated by reference to the results of the tests under regulation 22(3)(c)(iii)

mr_{CH4} is the representative rate of CH_4 emitted for the measurement period in tonnes released per second, as estimated under paragraph (b)

mr_{CO2} is—

(a) the representative rate of CO_2 emitted for the measurement period in tonnes released per second, as estimated under paragraph (b); or

(b) zero,—

(i) for a coal purchasing participant, coal importing participant, or natural gas participant; or

(ii) if the fuel consists of or contains only biomass

mr_{N2O} is the representative rate of N_2O emitted for the measurement period in tonnes released per second, as estimated under paragraph (b)

t is the time interval of the measurement period in seconds

UEF is,—

(a) for a coal purchasing participant, coal importing participant, or natural gas purchasing participant, the unique emissions factor for N_2O and CH_4 for the class of fuel expressed in tonnes of carbon dioxide equivalent gases per terajoule (tCO_2e/TJ); and

(b) for a waste combustion participant, the unique emissions factor for the class of fuel expressed in tonnes of carbon dioxide equivalent gases per terajoule (tCO_2e/TJ).

(2) For the purposes of subclause (1)(c), H must be calculated in accordance with either of the following formulae, as relevant:

(a) $$H = A \times CV$$

where—

A is the total tonnes of the class of fuel combusted by the particular equipment during the measurement period as recorded under regulation 22(1)(a) or 22(2)(a)(i)

CV is the mean gross calorific value of the fuel samples as recorded under regulation 22(1)(b) or as determined by reference to the

results of the tests referred to in regulation 22(2)(a)(iii)(A) or (B); or

(b) $$H = (D \div U) - (B \times CV)$$

where—

B is,—

(a) if the class relates to used or waste oil, the total number of tonnes of obligation fuel component of the used or waste oil combusted in the particular equipment during the measurement period, as recorded under regulation 22(2)(b)(iii)(A); and

(b) in any other case, zero

CV is,—

(a) if the class relates to used or waste oil, the weighted average calorific value of the used or waste oil as calculated by reference to the information recorded under regulation 22(2)(b)(iii)(B); and

(b) in any other case, zero

D is the energy output in terajoules produced by the particular equipment through its combustion of the class of fuel during the measurement period as recorded in regulation 22(2)(b)(i)

U is the gross efficiency of the particular equipment during the measurement period as estimated under regulation 22(2)(b)(ii).

Regulation 23(1)(c) formula: amended, on 1 February 2023, by regulation 22(a) of the Climate Change (Emissions Trading Scheme and Synthetic Greenhouse Gas Levies) Amendment Regulations 2022 (SL 2022/267).

Regulation 23(1)(c) formula: amended, on 1 February 2023, by regulation 22(b) of the Climate Change (Emissions Trading Scheme and Synthetic Greenhouse Gas Levies) Amendment Regulations 2022 (SL 2022/267).

Operating disposal facility

Heading: inserted, on 1 January 2011, by regulation 8 of the Climate Change (Unique Emissions Factors) Amendment Regulations 2010 (SR 2010/337).

23A Waste participant may apply for approval to use unique emissions factor

(1) A waste participant may apply to the EPA for approval to use a unique emissions factor when calculating emissions in relation to a class of waste disposed of at a disposal facility in accordance with the Climate Change (Waste) Regulations 2010.

(2) A waste participant may calculate a unique emissions factor for a class of waste disposed of at a disposal facility—

(a) in accordance with regulation 23B (which relates to waste composition); or

(b) if the disposal facility has an LFG collection and destruction system, in accordance with—

(i) regulation 23C (which relates to the use of an LFG collection and destruction system); or

(ii) regulation 23D (which relates to waste composition and the use of an LFG collection and destruction system).

(3) However, the EPA may not approve the use of a unique emissions factor calculated in accordance with regulation 23B or 23D in relation to a class of waste unless—

(a) all waste disposed of at the facility is waste of that class; or

(b) the participant either—

(i) already has approval to use 1 or more unique emissions factors that—

(A) were calculated under the same regulation; and

(B) relate to classes of waste that, together with the class of waste for which approval is sought to use an emissions factor, cover all waste disposed of at the facility; or

(ii) at the same time as applying for approval to use the unique emissions factor in relation to the class of waste, applies for approval to use 1 or more other unique emissions factors that—

(A) are calculated under the same regulation; and

(B) relate to classes of waste that, together with the class of waste for which approval is sought to use an emissions factor, cover all waste disposed of at the facility.

Regulation 23A: inserted, on 1 January 2011, by regulation 8 of the Climate Change (Unique Emissions Factors) Amendment Regulations 2010 (SR 2010/337).

23B Requirements relating to application for unique emissions factor relating to waste composition

A waste participant who wishes to calculate a unique emissions factor that relates to the composition of a class of waste disposed of at a disposal facility must—

(a) obtain representative data in relation to the composition of the class of waste disposed of at the facility in a year by carrying out at least 2 surveys of 1 or more weeks' duration of the class of waste—

(i) as it enters the facility; and

(ii) over a period of 12 months; and

(iii) at intervals of at least 3 months; and

(iv) in accordance with Procedure 2 in section 5 of the SWAP; and

(b) record the fractions by weight of each of the following components of the samples of the class of waste taken during each survey period:

(i) garden waste:

(ii) nappy and sanitary waste:

(iii) all putrescible waste other than garden waste:

(iv) paper waste:

(v) sewage sludge:

(vi) timber waste:

(vii) textile waste:

(viii) other waste (including plastics, ferrous metals, non-ferrous metals, glass, rubber, rubble, concrete, and potentially hazardous waste); and

(c) calculate a unique emissions factor for the class of waste in accordance with the following formula:

$$UEF = (1.68 \times GW) + (2.016 \times NSW) + (1.26 \times OPW) + (3.36 \times PW) + (0.42 \times SSW) + (3.612 \times TMW) + (2.016 \times TXW)$$

where—

GW is the weighted average fraction of garden waste in the class of waste determined by reference to the results of the surveys

NSW is the weighted average fraction of nappy and sanitary waste in the class of waste determined by reference to the results of the surveys

OPW is the weighted average fraction of putrescible waste other than garden waste in the class of waste determined by reference to the results of the surveys

PW is the weighted average fraction of paper waste in the class of waste determined by reference to the results of the surveys

SSW is the weighted average fraction of sewage sludge in the class of waste determined by reference to the results of the surveys

TMW is the weighted average fraction of timber waste in the class of waste determined by reference to the results of the surveys

TXW is the weighted average fraction of textile waste in the class of waste determined by reference to the results of the surveys

UEF is the unique emissions factor for the class of waste; and

(d) submit the following material to a recognised verifier:

(i) a record of the surveys undertaken to comply with paragraph (a), including the survey plan for each survey; and

(ii) the results of the surveys referred to in paragraph (b); and

(iii) the calculation done under paragraph (c); and

(iv) any other information required by the recognised verifier as necessary to provide verification of the unique emissions factor under regulation 24.

Regulation 23B: inserted, on 1 January 2011, by regulation 8 of the Climate Change (Unique Emissions Factors) Amendment Regulations 2010 (SR 2010/337).

Regulation 23B(c) formula: amended, on 1 February 2023, by regulation 23 of the Climate Change (Emissions Trading Scheme and Synthetic Greenhouse Gas Levies) Amendment Regulations 2022 (SL 2022/267).

23C Requirements relating to application for unique emissions factor approval in relation to LFG collection and destruction system

(1) A waste participant who wishes to calculate a unique emissions factor that relates to the use of an LFG collection and destruction system at a disposal facility must,—

(a) using monitoring equipment over the period of 1 year, carry out representative measurements of the volumetric flow rate (in cubic metres per hour) of the LFG collected and conveyed to the destruction equipment; and

(b) obtain representative samples of the LFG collected and conveyed to the destruction equipment over the period of 1 year; and

(c) have tests carried out to measure the CH_4 concentration by volume in each of the samples taken under paragraph (b); and

(d) using the data collected under paragraphs (a) and (b) and the results of the tests done under paragraph (c), calculate the tonnes of CH_4 conveyed to the destruction equipment in the year; and

(e) estimate the gross amount of CH_4 in tonnes that the disposal facility (and any other area from which LFG is conveyed to the destruction equipment) is expected to generate in the year in accordance with subclause (2); and

(f) calculate the estimated efficiency of the LFG collection and destruction system over the year in accordance with the following formula:

$$C = D \times Q \div G$$

where—

C is the estimated efficiency of the LFG collection and destruction system

D is the destruction factor for the type of destruction equipment in use at the facility as documented in the manufacturer's specifications for the equipment or, if such information is not available, the destruction factor in Schedule 2

G is the estimated gross generation of CH_4 for the year in tonnes calculated in accordance with subclause (2)

Q is the tonnes of CH_4 conveyed to the destruction equipment in the year as determined in accordance with paragraph (d); and

(g) calculate a unique emissions factor for the facility in accordance with the following formula:

$$UEF = 0.91 \times (1 - C)$$

where—

C is the lesser of—

(i) 0.9; and

(ii) the figure for the estimated efficiency of the LFG collection and destruction system determined under paragraph (f)

UEF is the unique emissions factor for the facility; and

(h) submit the following material to a recognised verifier:

(i) a record of the measurement, sampling, and testing regime that complies with paragraphs (a) to (c); and

(ii) the calculations done under paragraphs (d), (f), and (g) and subclause (2); and

(iii) any other information required by the recognised verifier as necessary to provide verification of the unique emissions factor under regulation 24.

(2) The estimated gross methane generation for the disposal facility for a year must be calculated in accordance with either the IPCC waste model or another equivalent first-order decay model and in accordance with the following rules:

(a) modelling must—

(i) start from the date the facility started accepting waste for disposal; and

(ii) include, in addition to the facility, any other area that generates LFG that is conveyed to the destruction equipment; and

(b) if actual data in relation to waste composition and tonnage is not available in relation to any year and the participant—

(i) has historical data available for waste composition and tonnage, the participant must interpolate data for the year from the historical data if—

(A) the historical data covers all waste disposed of at the facility or other area during the year in which the data was collected; and

(B) there has been no material change in the composition of the waste since the year the data was collected; and

(C) the data was collected in accordance with, or substantially in accordance with, the same method as data is collected for the year in respect of which the estimated gross methane generation is being calculated:

(ii) does not have historical data available that meets the criteria in subparagraph (i), the participant must—

(A) use the default figures for waste composition from the second column in Schedule 3 for the year; and

(B) base tonnage for the year either on the average filling rate over the life of the disposal facility or other area up to the first year in which the weighbridge data is available or on other data for the year that the EPA is satisfied enables a reasonably reliable estimate of tonnage; and

(c) a split of 50:50 by weight between garden and other putrescible waste must be assumed when inputting historical or interpolated data; and

(d) the estimated time for anaerobic generation to commence at the disposal facility or other area is 6 months; and

(e) the following inputs must be used to the extent relevant when applying the model:

Parameter	Input
Methane correction factor	1
Fraction of degradable organic carbon (DOC) that degrades to methane	0.5
Fraction of LFG by volume that is methane	0.5
Oxidation factor	10%
Density of methane at normal temperature and pressure	0.668 kg per cubic metre
Equivalent methane generation potential	As per the third or fourth column of Schedule 3
Decay rate constant	As per the fifth column of Schedule 3

(3) For the purposes of the measurement in subclause (1)(a), measurements must be undertaken using devices that are regularly maintained and calibrated in accordance with the manufacturer's specifications.

Regulation 23C: inserted, on 1 January 2011, by regulation 8 of the Climate Change (Unique Emissions Factors) Amendment Regulations 2010 (SR 2010/337).

Regulation 23C(1)(e): amended, on 1 January 2018, by regulation 5(1) of the Climate Change (Unique Emissions Factors) Amendment Regulations 2017 (LI 2017/249).

Regulation 23C(1)(g) formula: replaced, on 1 January 2016 (applying for the year commencing on that date and for each subsequent year), by regulation 5(1) of the Climate Change (Unique Emissions Factors) Amendment Regulations 2015 (LI 2015/219).

Regulation 23(1)(g) formula: amended, on 1 February 2022, by regulation 4 of the Climate Change (Unique Emissions Factors) Amendment Regulations 2021 (LI 2021/284).

Regulation 23C(2)(a): replaced, on 1 January 2018, by regulation 5(2) of the Climate Change (Unique Emissions Factors) Amendment Regulations 2017 (LI 2017/249).

Regulation 23C(2)(b)(i)(A): amended, on 1 January 2018, by regulation 5(3) of the Climate Change (Unique Emissions Factors) Amendment Regulations 2017 (LI 2017/249).

Regulation 23C(2)(b)(ii)(B): replaced, on 1 January 2016 (applying for the year commencing on that date and for each subsequent year), by regulation 5(2) of the Climate Change (Unique Emissions Factors) Amendment Regulations 2015 (LI 2015/219).

Regulation 23C(2)(b)(ii)(B): amended, on 1 January 2018, by regulation 5(3) of the Climate Change (Unique Emissions Factors) Amendment Regulations 2017 (LI 2017/249).

Regulation 23C(2)(d): amended, on 1 January 2018, by regulation 5(3) of the Climate Change (Unique Emissions Factors) Amendment Regulations 2017 (LI 2017/249).

23D Requirements relating to application for unique emissions factor approval in relation to waste composition and LFG collection and destruction system

A waste participant who wishes to calculate a unique emissions factor for a class of waste disposed of at a disposal facility that relates to waste composition and the use of an LFG collection and destruction system must—

(a) follow the procedure in regulation 23B and calculate a unique emissions factor for waste composition in relation to the class of waste; and

(b) determine the estimated efficiency of the LFG collection and destruction system for the facility by following the procedure in regulation 23C(1)(a) to (f); and

(c) calculate a unique emissions factor for the class of waste in accordance with the following formula:

$$UEF = UEF_{WC} \times (1 - C)$$

where—

C is the lesser of—

(i) 0.9; and

(ii) the figure for the efficiency of the LFG collection and destruction system for the facility determined in accordance with paragraph (b)

UEF is the unique emissions factor for the class of waste

UEF_{WC} is the unique emissions factor relating to waste composition for the class of waste determined in accordance with paragraph (a); and

(d) submit the following material to a recognised verifier:

(i) the information referred to in regulation 23B(d)(i) to (iii) in relation to the waste composition factor for the unique emissions factor; and

(ii) a record of the measurement, sampling, and testing regime that complies with regulation 23C(1)(a) to (c) in relation to the LFG collection and destruction system component of the unique emissions factor; and

(iii) the calculations done under—

(A) regulation 23C(1)(d) and (f) and (2); and

(B) paragraph (c); and

(iv) any other information required by the recognised verifier as necessary to provide verification of the unique emissions factor under regulation 24.

Regulation 23D: inserted, on 1 January 2011, by regulation 8 of the Climate Change (Unique Emissions Factors) Amendment Regulations 2010 (SR 2010/337).

Verification

24 Verification

(1) A recognised verifier may verify a unique emissions factor for an activity if the verifier—

(a) has been recognised under these regulations as able to verify unique emissions factors for the activity and the recognition has not expired, or been surrendered, suspended, or revoked; and

(b) is satisfied that any samples collected by the participant and tested for the purposes of the relevant regulation—

(i) meet any standard for sampling required by the regulation; and

(ii) have been tested by a person with any prescribed certification or accreditation to carry out the prescribed tests; and

(c) is satisfied that any measurements or other tests required to be carried out by the participant for the purposes of a regulation have been carried out in accordance with the requirements of the regulation; and

(d) is satisfied that the unique emissions factor—

(i) has been calculated correctly in accordance with the prescribed methodology, having conducted his or her own calculations using the test or measurement results provided by the participant; and

(ii) meets any prescribed threshold for applications for approval for use of a unique emissions factor for the activity.

(2) Despite anything in these regulations, a recognised verifier may not verify a unique emissions factor for the purposes of an application for approval of a unique emissions factor by a participant if the verifier—

(a) was involved in any way with the taking or testing of any samples, or the taking of any measurements, that support the application; or

(b) is an employee of the applicant or any person involved in the taking or testing of any samples, or the taking of any measurements, that support the application; or

(c) has any other conflict of interest or relationship with the applicant or any associated person of the applicant that could reasonably be regarded as likely to affect his or her impartiality in carrying out his or her verification function.

Part 3
Recognition of verifiers

25 Applications for recognition

(1) An application for recognition as a verifier in relation to any activity must—

(a) be made to the EPA on the form prescribed for the purpose by the EPA; and

(b) be accompanied by any supporting information that the EPA may require.

(2) For the purpose of assessing the application, the EPA may require an applicant to supply information additional to that contained in the application.

(3) If the applicant fails to supply the information within 3 months after the request, or within such further time as the EPA may allow, the application lapses.

Regulation 25(1)(a): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

Regulation 25(1)(b): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

Regulation 25(2): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

Regulation 25(3): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

26 EPA may recognise individuals as verifiers

(1) The EPA may, on the application of an individual who meets the requirements in subclause (2), recognise the individual as a person who can verify unique emissions factors for 1 or more of the activities referred to in regulation 27.

(2) An applicant must—

(a) be—

(i) a chartered accountant (within the meaning of section 19 of the New Zealand Institute of Chartered Accountants Act 1996); or

(ii) a chartered professional engineer (within the meaning of section 6 of the Chartered Professional Engineers of New Zealand Act 2002); and

(b) have—

(i) at least 100 working days' verification experience, obtained within the 3 years immediately before the date of application; or

(ii) at least 5 years' full-time work experience as an accountant or engineer, obtained since becoming a chartered accountant or chartered professional engineer.

(3) In carrying out the verification functions for which he or she is recognised, a recognised verifier must—

(a) perform verification functions only in relation to the activities in respect of which he or she is recognised:

(b) comply with the relevant requirements of these regulations:

(c) maintain an appropriate degree of impartiality and independence in carrying out his or her verification functions.

Regulation 26 heading: amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

Regulation 26(1): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

Regulation 26(2)(a)(i): amended, on 7 July 2010, by section 11 of the New Zealand Institute of Chartered Accountants Amendment Act 2010 (2010 No 74).

27 Activities in respect of which recognition can be given

The activities for which the EPA may recognise an individual to verify unique emissions factors are 1 or more of the following:

(a) the activities relating to owning obligation fuel (Part 2 of Schedule 3 of the Act) and purchasing obligation fuel (Part 3 of Schedule 4 of the Act):

(b) the activities relating to importing coal (Part 3 of Schedule 3 of the Act), mining coal (Part 3 of Schedule 3 of the Act), and purchasing coal (Part 4 of Schedule 4 of the Act):

(c) the activity relating to purchasing natural gas (Part 4 of Schedule 4 of the Act):

(d) the activity relating to using geothermal fluid (Part 3 of Schedule 3 of the Act):

(e) the activity relating to combusting used oil, waste oil, used tyres, or waste (Part 3 of Schedule 3 of the Act):

(f) the activity relating to operating a disposal facility (Part 6 of Schedule 3 of the Act).

Regulation 27: amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

Regulation 27(a): amended, on 12 December 2013, by regulation 11 of the Climate Change (Unique Emissions Factors) Amendment Regulations 2013 (SR 2013/383).

Regulation 27(f): added, on 1 January 2011, by regulation 9 of the Climate Change (Unique Emissions Factors) Amendment Regulations 2010 (SR 2010/337).

28 Grant of recognition

(1) Where the EPA grants an application by an individual for recognition to verify unique emissions factors, the EPA must supply to the applicant a notice of recognition that specifies—

(a) the activities for which the applicant may verify unique emissions factors; and

(b) any conditions applying to the recognition; and

(c) whether the duration of the recognition is indefinite or for a stated period.

(2) A grant of recognition—

(a) comes into force on the date specified in the notice of recognition; and

(b) continues in force until—

(i) it is surrendered under regulation 32; or

(ii) it is suspended under regulation 30 or revoked under regulation 31; or

(iii) in the case of recognition granted for a stated period, the expiry of the period.

(3) If the EPA proposes to refuse to grant recognition for the activities applied for, the EPA must first give the applicant—

(a) a notice containing the particulars that will clearly inform the applicant of the substance of the grounds on which the EPA proposes to refuse to recognise the applicant; and

(b) a copy (or adequate summary) of any information on which the EPA relies in proposing to refuse to grant recognition; and

(c) a reasonable opportunity to make written submissions or be heard in respect of the matter.

(4) If the EPA subsequently decides to refuse to grant recognition, the EPA must, as soon as practicable, give the applicant written notice of his or her decision and the reasons for the decision.

Regulation 28(1): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

Regulation 28(3): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

Regulation 28(3)(a): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

Regulation 28(3)(b): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

Regulation 28(4): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

29 Conditions of recognition

(1) A grant of recognition under regulation 26 may be subject to any conditions that the EPA thinks fit to specify in the notice of recognition.

(2) A recognised verifier must notify the EPA if for any reason the verifier breaches the conditions of recognition.

(3) The EPA may at any time, by written notice to a recognised verifier, revoke, amend, or add to any conditions imposed under subclause (1).

(4) The EPA may not vary any condition of recognition imposed under this regulation without (to the extent practicable) first giving the recognised verifier concerned a reasonable opportunity to make written submissions to, or be heard by, the EPA in relation to the matter.

(5) However, subclause (4) does not apply where any variation to the conditions of recognition is made on the application of the recognised verifier concerned and in accordance with the terms of the application.

Regulation 29(1): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

Regulation 29(2): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

Regulation 29(3): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

Regulation 29(4): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

30 Suspension of recognition

(1) The EPA may, by notice in writing to a recognised verifier, suspend the verifier's recognition for a period not exceeding 3 months if the EPA has reasonable grounds to believe that the performance of the verifier is unsatisfactory having regard to the requirements of these regulations.

(2) The EPA may impose conditions or requirements that must be satisfied if the suspension is to be lifted.

(3) If the EPA considers that conditions or requirements have not been satisfied within the suspension period, the EPA may, by notice in writing, extend the suspension for a further period not exceeding 3 months.

(4) If the EPA suspends recognition or extends a period of suspension, the notice of suspension or extension must specify—

(a) the reason for the suspension or extension; and

(b) the period of the suspension or extension; and

(c) the date and time when the suspension or extension commences; and

(d) the functions and activities that the suspension or extension relates to; and

(e) any conditions or requirements to be met before or during the suspension.

Regulation 30(1): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

Regulation 30(2): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

Regulation 30(3): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

Regulation 30(4): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

31 Revocation of recognition

(1) The EPA may at any time, by notice in writing to a recognised verifier, revoke the verifier's recognition if satisfied that—

(a) the verifier is not, or is no longer, competent or able to undertake the functions or activities for which the recognition was granted; or

(b) the verifier has failed to comply with any conditions of the recognition; or

(c) the verifier has contravened, or failed to comply with, any requirement of these regulations in any particular that in the opinion of the EPA casts doubt on the verifier's competency to undertake the functions or activities for which the recognition was granted.

(2) The EPA may not revoke recognition unless he or she has first given the verifier a reasonable opportunity to make written submissions to, or to be heard by, the EPA in relation to the matter.

(3) If recognition is revoked by the EPA, the verifier whose recognition is revoked must, as soon as practicable,—

(a) surrender to the EPA his or her notice of recognition; and

(b) take all reasonable steps to notify the fact of the revocation of recognition to each person who was a client of the verifier (in the verifier's capacity as a recognised verifier) immediately before the revocation.

Regulation 31(1): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

Regulation 31(1)(c): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

Regulation 31(2): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

Regulation 31(3): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

Regulation 31(3)(a): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

32 Surrender of recognition

(1) A recognised verifier may at any time surrender his or her recognition by notice in writing to the EPA.

(2) A surrender takes effect on—

(a) the expiry of 3 months after the date of receipt of the notice by the EPA; or

(b) any earlier date that the EPA may approve.

(3) On or before the surrender takes effect, the recognised verifier must return his or her notice of recognition to the EPA.

Regulation 32(1): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

Regulation 32(2)(a): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

Regulation 32(2)(b): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

Regulation 32(3): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

33 Substituted notice of recognition

The EPA may, if he or she thinks fit, cancel a notice of recognition, and issue a new notice in substitution for it,—

(a) if the terms or conditions of the recognition are to be or have been varied under regulation 29; or

(b) if the existing notice has become disfigured or dilapidated or contains a mistake; or

(c) if the EPA is satisfied that the notice has been lost or destroyed.

Regulation 33: amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

Regulation 33(c): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

34 List of recognised individuals

(1) The EPA must keep a list of individuals who have been recognised as verifiers.

(2) The list must—

(a) contain—

(i) the names of recognised verifiers; and

(ii) the activities for which each recognised verifier is authorised to undertake verification functions under these regulations; and

(b) be available on—

(i) the Internet site of the EPA; and

(ii) on request from the office of the EPA at no cost.

(3) The EPA must note next to a verifier's name if his or her recognition has been suspended, and must remove the name immediately if the recognition expires or is revoked.

Regulation 34(1): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

Regulation 34(2)(b)(i): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

Regulation 34(2)(b)(ii): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

Regulation 34(3): amended, on 5 December 2011, by section 53(2) of the Environmental Protection Authority Act 2011 (2011 No 14).

Schedule 1
Emissions factors and thresholds

rr 8(c), (d), 9(5), 10(c), (d), 11(3), 13(3), 20(1)(c), (d)

Table 1
Emissions factors for CH_4 and N_2O for obligation fuel participants

Types of obligation fuel	Emissions factor for CH_4 in tCO_2e/kl	Emissions factor for N_2O in tCO_2e/kl
Regular petrol, as defined in regulation 4(1)(a) of the Climate Change (Liquid Fossil Fuels) Regulations 2008	0.018	0.013
Premium petrol, as defined in regulation 4(1)(b) of the Climate Change (Liquid Fossil Fuels) Regulations 2008	0.018	0.013
Automotive diesel and marine diesel, as defined in regulation 4(1)(c) and (d) of the Climate Change (Liquid Fossil Fuels) Regulations 2008	0.004	0.037
Aviation spirit, as defined in regulation 4(1)(e) of the Climate Change (Liquid Fossil Fuels) Regulations 2008	0.002	0.017
Jet fuel, as defined in regulation 4(1)(f) of the Climate Change (Liquid Fossil Fuels) Regulations 2008	0.002	0.019
Light fuel oil, as defined in regulation 4(1)(g) of the Climate Change (Liquid Fossil Fuels) Regulations 2008	0.008	0.020
Heavy fuel oil, as defined in regulation 4(1)(h) of the Climate Change (Liquid Fossil Fuels) Regulations 2008	0.008	0.021

Table 2
Unique emissions factor thresholds for coal

Class	Emissions factor tCO_2e/TJ
Lignite—all other coalfields, or peat	93.83
Lignite—Waimumu or Roxburgh coalfields	91.02
Sub-bituminous	90.25
Bituminous, including anthracite	86.99

Table 3
Emissions factor for carbon

Emissions source category	Unit	Emissions factor
EF_C—carbon	tCO_2/tC	3.6641

Table 4
Emissions factors for methane and nitrous oxide

Fuel type	Methane (CO_2e)	Nitrous oxide (CO_2e)	Aggregate (M+N)	Unit
Coal	0.0186	0.3567	0.3753	tCO_2e/TJ
Natural gas	0.0354	0.0238	0.0592	tCO_2e/TJ
Waste	0.8837	1.1160	1.9997	tCO_2e/TJ

Schedule 1 table 1: replaced, on 1 February 2023, by regulation 24(1) of the Climate Change (Emissions Trading Scheme and Synthetic Greenhouse Gas Levies) Amendment Regulations 2022 (SL 2022/267).

Schedule 1 table 2: replaced, on 1 January 2014, by regulation 12(2) of the Climate Change (Unique Emissions Factors) Amendment Regulations 2013 (SR 2013/383).

Schedule 1 table 4: replaced, on 1 February 2023, by regulation 24(2) of the Climate Change (Emissions Trading Scheme and Synthetic Greenhouse Gas Levies) Amendment Regulations 2022 (SL 2022/267).

Schedule 2
Destruction factors

r 23C

Schedule 2: added, on 1 January 2011, by regulation 10 of the Climate Change (Unique Emissions Factors) Amendment Regulations 2010 (SR 2010/337).

Destruction equipment	Destruction factor
Open flare	0.5
Enclosed flare	0.9
Internal combustion engines, gas turbines, and boilers	0.9

Schedule 3
First-order decay model parameters

r 23C

Schedule 3: added, on 1 January 2011, by regulation 10 of the Climate Change (Unique Emissions Factors) Amendment Regulations 2010 (SR 2010/337).

Waste stream component	Default waste composition data (SWAP)	IPCC DOC	Equivalent methane generation potential Lo (m^3 CH_4/tonne)	Decay rate constant k
Garden	5.7%	0.20	100	0.100
Nappies and sanitary	2.5%	0.24	120	0.100
Putrescibles other than garden waste	9.0%	0.15	75	0.185
Paper	5.9%	0.40	200	0.060
Sewage sludge	1.9%	0.05	25	0.185
Timber	12.6%	0.43	215	0.030
Textile	5.0%	0.24	120	0.060
Inert	57.3%	0.00	0	0.000

Schedule 3 table: replaced, on 1 January 2023, by regulation 25 of the Climate Change (Emissions Trading Scheme and Synthetic Greenhouse Gas Levies) Amendment Regulations 2022 (SL 2022/267).

Michael Webster,
for Clerk of the Executive Council.

Issued under the authority of the Legislation Act 2019.
Date of notification in *Gazette*: 1 October 2009.

Notes

1 General

This is a consolidation of the Climate Change (Unique Emissions Factors) Regulations 2009 that incorporates the amendments made to the legislation so that it shows the law as at its stated date.

2 Legal status

A consolidation is taken to correctly state, as at its stated date, the law enacted or made by the legislation consolidated and by the amendments. This presumption applies unless the contrary is shown.

Section 78 of the Legislation Act 2019 provides that this consolidation, published as an electronic version, is an official version. A printed version of legislation that is produced directly from this official electronic version is also an official version.

3 Editorial and format changes

The Parliamentary Counsel Office makes editorial and format changes to consolidations using the powers under subpart 2 of Part 3 of the Legislation Act 2019. See also PCO editorial conventions for consolidations.

4 Amendments incorporated in this consolidation

Climate Change (Unique Emissions Factors) Amendment Regulations 2024 (SL 2024/202)

Climate Change (Emissions Trading Scheme and Synthetic Greenhouse Gas Levies) Amendment Regulations 2022 (SL 2022/267): Part 4

Climate Change (Unique Emissions Factors) Amendment Regulations 2021 (LI 2021/284)

Climate Change (Unique Emissions Factors) Amendment Regulations 2017 (LI 2017/249)

Climate Change (Unique Emissions Factors) Amendment Regulations 2015 (LI 2015/219)

Climate Change (Unique Emissions Factors) Amendment Regulations 2013 (SR 2013/383)

Environmental Protection Authority Act 2011 (2011 No 14): section 53(2)

Climate Change (Unique Emissions Factors) Amendment Regulations 2010 (SR 2010/337)

New Zealand Institute of Chartered Accountants Amendment Act 2010 (2010 No 74): section 11

Wellington, New Zealand:
Published under the authority of the New Zealand Government—2025