



The New Zealand Emissions Trading Scheme

Consultation on proposed technical updates to New Zealand Emissions Trading Scheme regulations 2017

Purpose

The purpose of this consultation document is to seek your views on proposed technical updates to four regulations under the New Zealand Emissions Trading Scheme (NZ ETS).

These regulations are the:

- Climate Change (Stationary Energy and Industrial Processes) Regulations 2009 (SEIP Regulations)
- Climate Change (Other Removal Activities) Regulations 2009 (Other Removals Regulations)
- Climate Change (Unique Emission Factors) Regulations 2013 (UEF Regulations)
- Climate Change (Synthetic Greenhouse Gas Levies) Regulations 2013 (SGG Levies Regulations).

Scope

A set of 11 regulations (and several orders) govern the efficient and accurate operation of the NZ ETS. The proposed regulation changes in this document affect four of these regulations.

NZ ETS regulations require amending from time to time to update technical factors which change over time, to keep the regime up-to-date, and address anomalies when they arise. This ensures the NZ ETS remains fit for purpose and is as accurate as possible.

Summary of proposed changes

Stationary Energy and Industrial Processes Regulations

Updating the natural gas default emissions factors (DEFs) in the Stationary Energy and Industrial Processes (SEIP) Regulations potentially affects gas mining and gas purchasing (opt-in) participants.

We propose to update the set of DEFs that relate to natural gas fields.


Users of sulphur hexafluoride (SF₆) in electrical switchgear will need to report emissions from SF₆ in equipment and stores, including equipment being repaired and SF₆ in containers. The regulations will provide a methodology for counting emissions.

We propose to clarify what is meant by 'importing of hydrofluorocarbons (HFCs) or perfluorocarbons in bulk'. This will affect those who import such chemicals in small containers for recharging and servicing systems.

Finally, table 2 of schedule 2A will be updated with the addition of new blends of synthetic greenhouse gases, including R448A and R449A.

Other Removals Regulations

We propose to make exporting natural gasoline produced from downstream gas processing of purchased gas be an eligible removal activity. The regulation changes will include a methodology and prescribe the data to be collected. This will resolve charging for emissions that do not occur in New Zealand as a result of natural gasoline that is exported. It may also avoid the potential for NZ ETS double counting of emissions if this natural



gasoline is sold for processing at the Marsden Point refinery.

The manufacture of polyol¹ in New Zealand involves the embedding of the synthetic greenhouse gases (HFCs) which have been imported and subjected to NZ ETS obligations. It is proposed to make the export of HFCs embedded in polyol an eligible removal activity.

Unique Emissions Factors Regulations

Minor technical changes are proposed for the geothermal elements of the UEF regulations. These changes bring the specified methodologies more into line with the actual steam flow testing processes of geothermal participants.

Another amendment to these regulations will affect those waste sector participants who have landfill gas collection systems. In particular, we propose to clarify part of the landfill gas UEF methodology to prevent potential inaccuracies in estimating of the collection efficiency ratio.

Synthetic Greenhouse Gas Levy Regulations

We propose to update the list of goods subject to the Synthetic Greenhouse Gas (SGG) Levy to include new gases and goods.

Consultation process

This consultation will close on 26 May 2017. Once we have considered the submissions, final proposals will be put to the Minister for Climate Change Issues and Cabinet for approval. Following Cabinet approval, the amended regulations should be published in the New Zealand Gazette by September 2017.

1. SEIP Regulations

a) Updating natural gas default emissions factors (DEFs)

Background

Table 10 of the SEIP Regulations in Schedule 2 includes field-specific and national average DEFs. These are provided to assist gas purchasing (opt-in) participants and users of gas storage facilities to report their emissions.

The provision of field-specific DEFs was included to ensure that an opt-in purchaser could report on their emissions without requiring detailed information from the gas miner. This potentially lowers administrative costs for both parties and increases certainty. Feedback from 2016 was that opt-in participants in particular (and some gas miners) strongly supported the retention and regular updating of the table.

Problem definition

Table 10 has been regularly updated so it reflects current field operations and remains accurate. This involves exchange of data between agencies.

To reflect operational experience updating natural gas DEFs, a formalisation of data exchange procedures is considered good practice. Good practice meets legal and transparency requirements while also being efficient for participants and administering agencies.

Proposal

We propose to continue to regularly update Table 10. To conform to good practice, in 2016 we contacted gas mining participants to put in place data access arrangements. These involved approval for the Environmental Protection Authority (EPA) to share data from NZ ETS reporting with the Ministry for the Environment (MfE) and the Ministry for Business, Innovation and Employment (MBIE) to enable national and field-specific DEFs to be estimated.

A significant number of gas miners approved the data access arrangements. For gas miners that did not respond to the 2016 request, further attempts will be made to obtain approval. Table 10 will then be updated for gas fields where data access arrangements are in place.

Next steps

MfE will work with the EPA to contact the remaining gas mining participants who have not yet approved data access arrangements. This is expected to occur soon after you receive this consultation document. Please respond promptly to the request.

We will update Table 10 for fields where data access arrangements are in place and reporting data available. A draft Table 10 will then be separately forwarded to all affected NZ ETS gas mining and purchasing participants for comment.

¹ Polyols are a family of compounds with multiple hydroxyl groups, used as a constituent of polyurethane foam. Some polyol formulations include HFCs as blowing agents.

Following this, the Minister for Climate Change Issues will be asked to approve drafting of the amendment regulations.

b) SF₆ emissions accounting change

Background

Users of SF₆ in electrical switchgear are required to collect and record information about the amount of SF₆ added into switchgear being operated, the capacity of the switchgear, and the amount of SF₆ in installed or removed switchgear. This means these users only have to report the emissions from equipment being operated. Some users may have stores of SF₆ contained in equipment under repair or in bulk form in containers.

Problem definition

The storage of SF₆ in bulk and in equipment, plus the repair of equipment, are known to be sources of emissions, for example, through accidental handling errors during equipment repair. These sources are currently outside the scope of the regulations despite the responsibility and management of these emissions being within the control of the user of electrical switchgear.

Proposal

All users of SF₆ in electrical switchgear will need to develop inventories of the SF₆ they have control over, including in operating and stored equipment and in bulk form. This will mirror industry best practice, as defined though ENA Doc 022-2008 (the Energy Networks Australia Industry Guideline for SF₆ Management).²

This means users of SF₆ in electrical switchgear will need to report on changes to SF₆ stocks across all SF₆ owned.

We propose to incorporate reference to ENA Doc 022-2008 as allowed under s169 of the Climate Change Response Act 2002, and require participants to use the mass balance approach to determine emissions, as set out in Appendix A of the industry guideline.

The mass balance approach, also referred to as the tier 3 method in the IPCC³ Guidelines for

National Greenhouse Gas Inventories, was the accepted method of voluntarily reporting SF₆ emissions before the introduction of the NZ ETS.⁴

This change may mean some users of SF₆ in electrical switchgear will breach the exemption threshold and be required to participate in the NZ ETS. There are currently seven mandatory NZ ETS participants. We expect the change will mean one firm will join that group.

Another option considered was upstream NZ ETS obligations, such as on importers, which would capture all sources of SF₆ emissions. This would require primary legislative amendment, creates complexities when SF₆ is re-exported, and it is unclear how to equitably price SF₆ imported in equipment with imported bulk SF₆.

c) Defining 'bulk' imports of hydrofluorocarbon (HFCs) and perfluorocarbon (PFCs)

Background

Under the Act any importer of HFCs or PFCs is a mandatory participant in the NZ ETS, except for those gases contained in goods. Regulation 44H of the SEIP Regulations then adds the condition that emissions must be calculated if these gases are imported in bulk.

Problem definition

Using the wording of the SEIP Regulations, it is not clear if an importer of non-bulk amounts of such gas that is not contained in goods is obliged to report on emissions, for example, an importer of these gases contained in small cans for recharging systems, or an importer who for any other reason, does not consider their import to be 'in bulk'. This wording artificially and incorrectly implies an exemption for non-bulk imports.

Preferred option

It is proposed to add an interpretation of 'bulk' in the SEIP Regulations that aligns with the existing interpretation in the Ozone Layer Protection Regulations 1996. This will remove the ambiguity. Persons affected by this amendment will probably already be familiar with the interpretation, as there is a historical relationship between importing ozone depleting substances and SGG.

² This is available for reading at MfE, or by purchase from <http://infostore.saiglobal.com/emea/Details.aspx?ProductID=1506769>.

³ Intergovernmental Panel on Climate Change – an international body that advises governments on scientific matters related to climate change.

⁴ IPCC Good Practice Guidelines 2006, chapter 8, volume 3, as found at www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/3_Volume3/V3_8_Ch8_Other_Product.pdf.

An alternative approach is to delete 'in bulk' from the SEIP Regulations. However this would require all importers of SGG, including those importing SGG in goods, to comply with the regulations. To avoid double counting, the regulations need to differentiate between the SGG imported for supply, servicing and manufacturing, from that imported in goods and vehicles that are subject to the SGG Levy.

We are interested in suggestions on other solutions and on your preferred option.

d) Updating Table 2 of Schedule 2A in the SEIP Regulations for new synthetic greenhouse gas blends

Background

Table 2 of Schedule 2A of the SEIP regulations provides a breakdown of the composition of synthetic greenhouse gas blends. This allows participants who import bulk SGGs to quickly calculate the global warming potential (GWP), and therefore the potential emissions, of those blends.

A person who imports a blend not listed in the table still has NZ ETS obligations for any hydrofluorocarbon (HFCs) and perfluorocarbon (PFCs) components in the blend through regulation 4 (definition of 'class').

Problem definition

An importer of a gas blend that contains HFCs or PFCs not listed in the table may be uncertain about their NZ ETS obligations. To add to the uncertainty, the importer is also faced with calculating the GWP of the gas blend by referring to the proportions of chemicals and their individual GWPs. This complex task might be done at the busy time at the end of the reporting year.

Preferred option

It is proposed to simplify the task by updating the relevant table to include the following new gas blends:

- R448A
- R449A.

This will avoid the need for importers to determine the correct GWP figure for each class, and increase the certainty of NZ ETS coverage of these gases. We are interested in suggestions for other blends that might be added to the table.

2. Other Removals Regulations

a) Natural gasoline from processing purchased gas

Background

Natural gas processing results in the production of some natural gas liquids, including natural gasoline, a low octane liquid usually blended into other liquid hydrocarbons. Where this is done by a gas miner, the natural gasoline (and condensate) does not incur an NZ ETS obligation.

Problem definition

A situation has arisen where a gas purchaser further processes gas for which the NZ ETS obligation has been covered by the upstream gas miner. The natural gasoline by-product is on-sold to a third party (not the upstream gas miner) for export or possibly as an input to the Marsden Point Refinery.

If the natural gasoline is exported then the emission occurs outside New Zealand and thus is not part of our inventory and should not incur an emission charge. If the natural gasoline enters the Marsden Point Refinery, a possible double NZ ETS obligation would arise, since liquid fuels enter the NZ ETS when 'removed for home consumption'.

Preferred option

Add natural gasoline, produced from purchased natural gas (ie, for which an NZ ETS cost has been incurred) to the list of Other Removals' activities. This enables the emission cost of the natural gasoline to be refunded by a corresponding allocation. This is similar to the addition of LPG exports to the regulations in a 2011 amendment.

Other options considered included:

- non-regulatory; relying on contractual arrangements to ensure costs match emissions – a complex chain back to the gas miner
- opt-in by the purchaser; enables the purchaser to deduct the natural gas emissions directly – feasible but results in a larger unfavourable commercial spill-over effect
- S-60 exemption; for the upstream gas miner based on information provided by the purchaser – more complex and may not be so comprehensive.

Other issues

The range of possible downstream commercial arrangements and the chemical transformation behind natural gasoline production complicates how NZ ETS costs efficiently pass down the value chain. Commercial arrangements make opt-in by the purchaser unattractive.

The most likely use of this natural gasoline is sale for export. Including natural gasoline produced from purchased gas as an Other Removal activity addresses the issue of applying a cost to emissions that occur outside New Zealand. We need to do further work for natural gasoline sold to the Marsden Point Refinery, to ensure it meets 'Other Removals' requirements.

b) Exporting polyol

Background

Polyol formulations along with isocyanates are constituents of polyurethane foams, which are widely used in insulation. Some polyol formulations include HFCs as blowing agents. Polyol is either formulated in New Zealand or imported directly.

Problem definition

Locally formulated polyol can include imported HFCs which has incurred an NZ ETS cost, since bulk importation of SGGs triggers mandatory NZ ETS participation. Imported polyol that contains HFCs is not presently on the goods schedule of the SGG Levy (see section 4). Some New Zealand formulated polyol is exported, meaning the emission of any HFCs occurs outside New Zealand.

Preferred option

Include formulated polyol containing HFCs to the list of activities in the 'Other Removals' activities. A proposed methodology for determining the emissions removed by exporting formulated polyol is included in [Appendix 1](#).

Other issues

We plan to add imported polyol that contains HFCs to the SGG Levy goods schedule. The rationale for adding export of formulated polyol that includes HFCs to the 'Other Removals' activities is based on emissions embodied in an export product.

3. UEF Regulations

a) Landfill gas counting

Background

There are 24 landfill operators that are mandatory NZ ETS participants. Landfill operators that collect and destroy landfill gas are able to apply for a unique emissions factor (UEF). Many landfills have been able to remove up to 90 per cent of their landfill gas this way and this is reflected in their UEF.

The landfill gas collection UEF is based on the measurement of methane in the gas flowing through to destruction equipment, compared to the modelled emissions of the landfill in the year.

Problem definition

There is ambiguity in the counting of potential (modelled) emissions which could, if matched against actual emissions destroyed, result in an artificially large collection efficiency and hence a lower UEF. It is possible for a person to only model emissions from active and open landfill cells, but measure emissions collected and destroyed from all landfill cells.

Preferred option

The ambiguity will be resolved by adding a line to 23C of the UEF Regulations.

The landfill facility from which landfill gas is collected and measured must be the same as that modelled for potential emissions and the same as applying for the UEF.

b) Adding acceptable methodologies for measuring geothermal steam flow

Background

People who use geothermal fluid above a threshold are able to apply for UEF based on the gases associated with the steam and the quantity of steam used. There are 12 mandatory geothermal participants in the NZ ETS, several of which hold UEFs.

UEF Regulation 16(3)(a) specifies that venturi meters or equipment with similar accuracy must be used to measure steam flow. We understand that other technologies typically used for measuring steam flow include orifice plates and annubar meters.

Problem definition

Participants have been asked by UEF verifiers to demonstrate that the instruments they use to measure steam flow are as accurate as venturi meters. This is in accordance with the wording of the regulation. However, for multiple UEF applications, providing such information becomes costly and of little additional value.

Preferred option

Generalising UEF Regulation 16(3)(a), perhaps by explicitly listing commonly used technologies for steam measurement such as orifice plates and annubar meters, could remove the need for participants to score their accuracy against that of venturi meters. This will also bring the regulations into line with common industrial practice for measuring steam flow. The policy intention is to reduce the transaction costs of obtaining a UEF, not lower the accuracy of the data behind a UEF.

Other issues

Participants have raised issues around the expiry of UEFs should monitoring indicate a change in the factor. One option suggested was to relax the threshold applied by the EPA (of +/- 5 per cent change with some discretion at the margin) if emissions declined. The EPA has indicated that increases and decreases need to be treated the same and that UEF and DEF differences create operational issues, especially where errors have occurred.

We consider that scheduling updates to DEFs may help address the need for UEFs and reduce the problem of UEF expiry. A new geothermal field can initially report using the 'other' DEF in the SEIP Regulations. This is set at a high level and encourages prompt application for a UEF. Once the field emissions stabilise and a few years' UEF data exists, then a field-specific DEF can be added to the table. With steadily declining emissions, some participants prefer to continue applying for UEFs. We want your views.

It has been suggested that the regulations should specify the minimum number of samples. This would address a perceived inconsistency of interpretation between verifiers. We do not favour that suggestion. It was considered that sample size is a matter between the applicant and the verifier, and is not critical to UEF eligibility. Eligibility requires the sampling to be representative and for the confidence interval of the estimated UEF not to overlap the DEF.

4. SGG Levies Regulations

Background

Importers of goods and motor vehicles that contain SGGs are required to pay a levy through Customs NZ or the New Zealand Transport Agency. This policy simplifies NZ ETS obligations for a large number of importers. The list of goods and motor vehicles and their levy rates are in Schedules 1 and 2 of the SGG Levies Regulations.

Problem definition

While most imported goods containing HFC134a and R404A are included in the SGG Levy system, goods containing other SGGs (such as R32) are not. This has created a price distortion for the import of such goods.

It has also created a problem where the imported gases are 'priced' by NZ ETS obligations (thus affecting any local purchasers and users of them), but importers of the gases contained in goods are not priced at all. This is a potential breach of the General Agreement on Tariffs and Trade.

The list of goods also has a few omissions. For example, parts for air conditioning units containing R404A are included, but parts containing HFC134A are not.

Preferred option

A table of proposed additions to Schedules 1 and 2 is attached as [Appendix 2](#) to this consultation document. We are interested in your views on the completeness of the proposed additions.

The other option would be to require importers of HFC in the goods listed to be participants in the NZ ETS. This would be impractical, given the often small amounts of HFC in the goods, and unfair as the administrative costs for importers and regulators would outweigh the benefits.

Other issues

The annual update to the rate of the levies will be performed later this year as usual, once we know the average emission unit price over the preceding 12 months to 30 June 2017. The update will also include the second step in the phase out of the transitional 'one for two' policy. The regulations will be amended and in force from 1 January 2018. The average emission unit price used for the 2016 update was \$9.85.

Implementation timetable

This timetable relates to all proposed changes to regulations in the 2017 regulations updates:

Consultation	10 May to 26 May 2017
Regulations amended	Before 30 September 2017
Regulations in force	1 January 2018, or backdated to 1 January 2017 for the 'Other Removals' changes.

Submission process

The questions on the following page are a guide only and all comments are welcome. You do not have to answer all of the questions.

Have your say

Please send your submission by email to:
ETSRegsUpdate2017@mfe.govt.nz.

If you are unable to email your submission, please post it to:

ETS Regulations updates 2017
Ministry for the Environment
PO Box 10362, Wellington 6143

About the submission process

The closing date for submissions is
5.00pm Friday 26 May 2017.

Publishing and releasing submissions

All or part of any written submission (including names of submitters) may be published on the Ministry for the Environment's website www.mfe.govt.nz. Unless you clearly specify otherwise in your submission, we will consider that you have consented to website posting of both your submission and your name.

Contents of submissions may be released to the public under the Official Information Act 1982 following requests to the Ministry for the Environment (including via email). Please advise if you have any objection to the release of any information contained in a submission and, in particular, which part(s) you consider should be withheld, together with the reason(s) for withholding the information. We will take into account all such objections when responding to requests for copies of, and information on, submissions to this consultation under the Official Information Act.

The Privacy Act 1993 applies certain principles about the collection, use and disclosure of information about individuals by various agencies, including the Ministry for the Environment. It governs access by individuals to information about themselves held by agencies. Any personal information you supply to the Ministry in the course of making a submission will be used by the Ministry only in relation to the matters covered by this consultation. Please clearly indicate in your submission if you do not wish your name to be included in any summary of submissions that the Ministry may publish.

Find out more

Phone +64 4 4397400

Email: ETSRegsUpdate20176@mfe.govt.nz

Next steps

Submissions will be analysed by the Ministry for the Environment and reported to the Minister for Climate Change Issues for final decisions. Updates about the process will be provided on the Ministry for the Environment's website:

www.mfe.govt.nz/climate-change.

Consultation questions

Update of natural gas default emissions factors

Please note that NZ ETS natural gas participants who did not respond to the 2016 data access request will be contacted by MfE and the EPA to put in place data access arrangements.

Once the data has been collected an updated draft Table 10 will be prepared and sent to all gas participants for comment.

Change to accounting for SF₆ emissions

- 1 Will the proposed requirement to use the mass balance methodology in the Energy Networks Australia Industry Guideline for SF₆ Management provide sufficient information to reduce SF₆ emissions?
- 2 What will be your additional administrative costs from using the ENA mass balance approach to meeting NZ ETS reporting requirements?
- 3 What amount of additional emissions will you report using the proposed methodology?

Change to wording of importing HFCs and PFCs 'in bulk'

- 4 What is your preferred alternative wording?
- 5 Are there any market impacts that we need to be aware of from changing the wording?

Update of synthetic greenhouse gas classes table in SEIP Regulations

- 6 What other SGG blends should be included in the table?

Changes to UEF Regulations

- 7 Will the change ensure matching between the sources of modelled potential and actual landfill gas generation?
- 8 What technology does your firm apply to geothermal steam flow measurements?
- 9 Is this technology as accurate as a venturi meter system?
- 10 Is demonstrating equivalent accuracy to venturi meters onerous in UEF applications?
- 11 Are there any issues with including orifice plates and annubar meters (and any other commonly used technology) as acceptable instruments for measuring steam flow?
- 12 What are the advantages and disadvantages of regularly updating geothermal DEFs to a pre-announced schedule (say every 3 or 4 years)?
- 13 What clarification wording for the landfill gas UEF methodology would ensure the source of modelled emissions is the same area as the source of emissions measured through a collection system?

Updates to Other Removals Regulations

- 14 How should natural gasoline emissions be estimated, eg, from the measured mass fraction of carbon in natural gasoline and the mass of natural gasoline sold?
- 15 Does the proposed approach effectively exclude natural gasoline produced from gas processing by a miner, which is not reported directly as part of an NZ ETS gas sales emissions return?
- 16 Do you think any of the other options considered as alternatives to adding natural gasoline to 'Other Removals' regulations are superior? If so why?
- 17 Are there any issues associated with adding polyol containing HFCs to the 'Other Removals' regulations?
- 18 Is polyol containing HFC accurately described?

Updates to goods schedule in SGG Levies Regulations

- 19 What goods or gases are missing from the proposed additions and should be included, even if just to future-proof the Schedule?
- 20 Which of the proposed additions are unnecessary?
- 21 What are likely to be the range of cost impacts for consumers from including the proposed imported goods and gases in the SGG Levy?
- 22 What might be some of the market impacts from the proposed update of the list of goods subject to the SGG Levy?



Appendix 1: Proposed methodology for determining emissions removed by exporting polyol

- Step 1: Does the exported polyol contain hydrofluorocarbons (HFCs)?
- Step 2: Record the quantity exported and the mix of HFCs involved
- Step 3: The Environmental Protection Authority (EPA) calculator then estimates the carbon dioxide equivalent emissions contained in the exported polyol (according to the global warming potentials listed in the Schedule to the regulations)
- Step 4: The EPA calculator then finalises the removal, taking into account any transitional measure applying to that year.

Appendix 2: Proposed inclusions to Schedule 2 Goods Levy Schedule of the SGG Levies Regulations

1 Air conditioning units (household and small commercial window or wall-mounted heat pumps)	
Air-conditioning machines comprising a motor-driven fan and elements for changing the temperature and humidity, window or wall types, self-contained or split-system, containing HFC134a , single-phase, and of cooling capacity less than or equal to 4 kW	Per item
Air-conditioning machines comprising a motor-driven fan and elements for changing the temperature and humidity, window or wall types, self-contained or split-system, containing HFC134a , single-phase, and of cooling capacity greater than 4 kW and less than or equal to 7 kW	Per item
Air-conditioning machines comprising a motor-driven fan and elements for changing the temperature and humidity, window or wall types, self-contained or split-system, containing HFC134a , single-phase, and of cooling capacity greater than 7 kW and less than or equal to 10 kW	Per item
Air-conditioning machines comprising a motor-driven fan and elements for changing the temperature and humidity, window or wall types, self-contained or split-system, containing HFC134a , single-phase, and of cooling capacity greater than 10 kW	Per item
Air-conditioning machines comprising a motor-driven fan and elements for changing the temperature and humidity, window or wall types, self-contained or split-system, containing R32 , single-phase, and of cooling capacity less than or equal to 4 kW	Per item
Air-conditioning machines comprising a motor-driven fan and elements for changing the temperature and humidity, window or wall types, self-contained or split-system, containing R32 , single-phase, and of cooling capacity greater than 4 kW and less than or equal to 7 kW	Per item
Air-conditioning machines comprising a motor-driven fan and elements for changing the temperature and humidity, window or wall types, self-contained or split-system, containing R32 , single-phase, and of cooling capacity greater than 7 kW and less than or equal to 10 kW	Per item
Air-conditioning machines comprising a motor-driven fan and elements for changing the temperature and humidity, window or wall types, self-contained or split-system, containing R32 , single-phase, and of cooling capacity greater than 10 kW	Per item
Air-conditioning machines comprising a motor-driven fan and elements for changing the temperature and humidity, window or wall types, self-contained or split-system, three-phase, and containing R32	Per kg of specified SGG contained in item
Air-conditioning machines comprising a motor-driven fan and elements for changing the temperature and humidity, window or wall types, self-contained or split-system, other than single- or three-phase, and containing R32	Per kg of specified SGG contained in item
3 Air conditioning units (household and small commercial heat pumps)	
Air-conditioning machines comprising a motor-driven fan and elements for changing the temperature and humidity (other than air-conditioning machines described in classes covered under headings 1 and 2), incorporating a refrigerating unit and a valve for reversal of the cooling/heat cycle (reversible heat pumps), containing HFC134a , single-phase, and of cooling capacity less than or equal to 4 kW	Per item
Air-conditioning machines comprising a motor-driven fan and elements for changing the temperature and humidity (other than air-conditioning machines described in classes covered under headings 1 and 2), incorporating a refrigerating unit and a valve for reversal of the cooling/heat cycle (reversible heat pumps), containing HFC134a , single-phase, and of cooling capacity greater than 4 kW and less than or equal to 7 kW	Per item
Air-conditioning machines comprising a motor-driven fan and elements for changing the temperature and humidity (other than air-conditioning machines described in classes covered under headings 1 and 2), incorporating a refrigerating unit and a valve for reversal of the cooling/heat cycle (reversible heat pumps), containing HFC134a , single-phase, and of cooling capacity greater than 7 kW and less than or equal to 10 kW	Per item
Air-conditioning machines comprising a motor-driven fan and elements for changing the temperature and humidity (other than air-conditioning machines described in classes covered under headings 1 and 2), incorporating a refrigerating unit and a valve for reversal of the cooling/heat cycle (reversible heat pumps), containing HFC134a , single-phase, and of cooling capacity greater than 10 kW	Per item



Air-conditioning machines comprising a motor-driven fan and elements for changing the temperature and humidity (other than air-conditioning machines described in classes covered under headings 1 and 2), incorporating a refrigerating unit and a valve for reversal of the cooling/heat cycle (reversible heat pumps), containing R32 , single-phase, and of cooling capacity less than or equal to 4 kW	Per item
Air-conditioning machines comprising a motor-driven fan and elements for changing the temperature and humidity (other than air-conditioning machines described in classes covered under headings 1 and 2), incorporating a refrigerating unit and a valve for reversal of the cooling/heat cycle (reversible heat pumps), containing R32 , single-phase, and of cooling capacity greater than 4 kW and less than or equal to 7 kW	Per item
Air-conditioning machines comprising a motor-driven fan and elements for changing the temperature and humidity (other than air-conditioning machines described in classes covered under headings 1 and 2), incorporating a refrigerating unit and a valve for reversal of the cooling/heat cycle (reversible heat pumps), containing R32 , single-phase, and of cooling capacity greater than 7 kW and less than or equal to 10 kW	Per item
Air-conditioning machines comprising a motor-driven fan and elements for changing the temperature and humidity (other than air-conditioning machines described in classes covered under headings 1 and 2), incorporating a refrigerating unit and a valve for reversal of the cooling/heat cycle (reversible heat pumps), containing R32 , single-phase, and of cooling capacity greater than 10 kW	Per item
4 Air-conditioning units (large commercial and industrial reversible heat pumps)	
Air-conditioning machines comprising a motor-driven fan and elements for changing the temperature and humidity (other than air-conditioning machines described in classes covered under headings 1 and 2), incorporating a refrigerating unit and a valve for reversal of the cooling/heat cycle (reversible heat pumps), single-phase, and containing R32	Per kg of specified SGG contained in item
Air-conditioning machines comprising a motor-driven fan and elements for changing the temperature and humidity (other than air-conditioning machines described in classes covered under headings 1 and 2), incorporating a refrigerating unit and a valve for reversal of the cooling/heat cycle (reversible heat pumps), three-phase, and containing R32	Per kg of specified SGG contained in item
Air-conditioning machines comprising a motor-driven fan and elements for changing the temperature and humidity (other than air-conditioning machines described in classes covered under headings 1 and 2), incorporating a refrigerating unit and a valve for reversal of the cooling/heat cycle (reversible heat pumps), containing R32 , and other than single- or three-phase	Per kg of specified SGG contained in item
5 Air conditioning units (household and small commercial heat pumps, not covered under headings 1 – 4)	
Air-conditioning machines comprising a motor-driven fan and elements for changing the temperature and humidity (other than air-conditioning machines described in classes covered under headings 1 to 4), incorporating a refrigerating unit (but no valve for reversal of the cooling/heat cycle), containing HFC134a , single-phase, and of cooling capacity less than or equal to 4 kW	Per item
Air-conditioning machines comprising a motor-driven fan and elements for changing the temperature and humidity (other than air-conditioning machines described in classes covered under headings 1 to 4), incorporating a refrigerating unit (but no valve for reversal of the cooling/heat cycle), containing HFC134a , single-phase, and of cooling capacity greater than 4 kW and less than or equal to 7 kW	Per item
Air-conditioning machines comprising a motor-driven fan and elements for changing the temperature and humidity (other than air-conditioning machines described in classes covered under headings 1 to 4), incorporating a refrigerating unit (but no valve for reversal of the cooling/heat cycle), containing HFC134a , single-phase, and of cooling capacity greater than 7 kW and less than or equal to 10 kW	Per item
Air-conditioning machines comprising a motor-driven fan and elements for changing the temperature and humidity (other than air-conditioning machines described in classes covered under headings 1 to 4), incorporating a refrigerating unit (but no valve for reversal of the cooling/heat cycle), containing HFC134a , single-phase, and of cooling capacity greater than 10 kW	Per item
Air-conditioning machines comprising a motor-driven fan and elements for changing the temperature and humidity (other than air-conditioning machines described in classes covered under headings 1 to 4), incorporating a refrigerating unit (but no valve for reversal of the cooling/heat cycle), containing R32 , single-phase, and of cooling capacity less than or equal to 4 kW	Per item
Air-conditioning machines comprising a motor-driven fan and elements for changing the temperature and humidity (other than air-conditioning machines described in classes covered under headings 1 to 4), incorporating a refrigerating unit (but no valve for reversal of the cooling/heat cycle), containing R32 , single-phase, and of cooling capacity greater than 4 kW and less than or equal to 7 kW	Per item

Air-conditioning machines comprising a motor-driven fan and elements for changing the temperature and humidity (other than air-conditioning machines described in classes covered under headings 1 to 4), incorporating a refrigerating unit (but no valve for reversal of the cooling/heat cycle), containing R32 , single-phase, and of cooling capacity greater than 7 kW and less than or equal to 10 kW	Per item
Air-conditioning machines comprising a motor-driven fan and elements for changing the temperature and humidity (other than air-conditioning machines described in classes covered under headings 1 to 4), incorporating a refrigerating unit (but no valve for reversal of the cooling/heat cycle), containing R32 , single-phase, and of cooling capacity greater than 10 kW	Per item
6 Air-conditioning units (large commercial and industrial heat pumps not covered under headings 1 to 5)	
Air-conditioning machines comprising a motor-driven fan and elements for changing the temperature and humidity (other than air-conditioning machines described in classes covered under headings 1 to 5), incorporating a refrigerating unit (but no valve for reversal of the cooling/heat cycle), single-phase, and containing R32	Per kg of specified SGG contained in item
Air-conditioning machines comprising a motor-driven fan and elements for changing the temperature and humidity (other than air-conditioning machines described in classes covered under headings 1 to 5), incorporating a refrigerating unit (but no valve for reversal of the cooling/heat cycle), three-phase, and containing R32	Per kg of specified SGG contained in item
Air-conditioning machines comprising a motor-driven fan and elements for changing the temperature and humidity (other than air-conditioning machines described in classes covered under headings 1 to 5), incorporating a refrigerating unit (but no valve for reversal of the cooling/heat cycle), containing R32 , and other than single- or three-phase	Per kg of specified SGG contained in item
7 Air-conditioning unit parts (for all types of household, commercial and industrial heat pumps)	
Parts (containing HFC134a) for air-conditioning machines comprising a motor-driven fan and elements for changing the temperature and humidity	Per kg of specified SGG contained in item
Parts (containing R32) for air-conditioning machines comprising a motor-driven fan and elements for changing the temperature and humidity	Per kg of specified SGG contained in item
13 Heat pumps (other than air-conditioning machines described in classes covered under headings 1 to 7)	
Heat pumps (other than air conditioning machines described in classes covered under headings 1 to 7) containing R32 , single phase, and of cooling capacity less than or equal to 4kW	Per item
Heat pumps (other than air conditioning machines described in classes covered under headings 1 to 7) containing R32 , single phase, and of cooling capacity greater than 4kW and less than or equal to 7kW	Per item
Heat pumps (other than air conditioning machines described in classes covered under headings 1 to 7) containing R32 , single phase, and of cooling capacity greater than 7kW and less than or equal to 10kW	Per item
Heat pumps (other than air conditioning machines described in classes covered under headings 1 to 7) containing R32 , single phase, and of cooling capacity greater than 10kW	Per item
Heat pumps (other than air conditioning machines described in classes covered under headings 1 to 7), three phase and containing R32	Per kg of specified SGG contained in item
Heat pumps (other than air conditioning machines described in classes covered under headings 1 to 7) containing R32 , other than single or three phase	Per kg of specified SGG contained in item
Heat pumps (other than air-conditioning machines described in classes covered under headings 1 to 7), containing HFC134a , and other than single or three phase	Per kg of specified SGG contained in item
15 Parts for refrigerating or freezing units (charged with refrigerant for all types of household and commercial equipment) and some heat pumps	
Parts containing HFC134a for refrigerating or freezing units	Per kg of specified SGG contained in item
Parts containing HFC134a for refrigerating or freezing units that are evaporators and condensers	Per kg of specified SGG contained in item
Parts containing HFC134a for refrigerating or freezing equipment (other than parts described in other classes covered under this heading) or heat pumps (other than air-conditioning machines described in classes covered under headings 1 to 7)	Per kg of specified SGG contained in item



17 Dehumidifiers	
Dehumidifiers containing R404A	Per kg of specified SGG contained in item
Dehumidifiers containing R32	Per kg of specified SGG contained in item
New – Tariff chapter 88.02	
Aeroplanes and other aircraft, of an unladen weight not exceeding 2000kg, containing HFC134A	Per kg of specified SGG contained in item
Aeroplanes and other aircraft, of an unladen weight exceeding 2000kg but not exceeding 15000kg, containing HFC134A	Per kg of specified SGG contained in item
Aeroplanes and other aircraft, of an unladen weight exceeding 15000kg, containing HFC134A	Per kg of specified SGG contained in item
New – Tariff chapter 84.24	
Fire extinguishers charged with HFC-227ea (heptafluoropropane)	Per kg of specified SGG contained in item
New – Tariff chapter 8443.32.01	
Industrial ink-jet printing machines containing HFC134A	Per kg of specified SGG contained in item