



## The New Zealand Emissions Trading Scheme

# Proposed technical updates to Climate Change Response Act 2002 regulations for 2018

We want to know your views on proposed technical updates to three regulations under the Climate Change Response Act 2002 (the Act) as it applies to the New Zealand Emissions Trading Scheme (NZ ETS). This document takes you through those updates and asks you to consider some things.

**This consultation is not related to policy work on the Zero Carbon Bill or to broader proposals for improvements to the NZ ETS. Those proposals will be the subjects of separate consultations which we expect to begin later in 2018.**

The regulations affected by the proposed technical updates in 2018 are the:

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

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

This annual process, while important to some individual emitters, generally has relatively small economic impact and usually only involves policy changes to improve the operation of the NZ ETS under its current settings.

## Background

The NZ ETS is the Government's principal policy response to climate change and is established by the Act. The objectives of the Act are to support and encourage global efforts to reduce greenhouse gas emissions by:

- helping New Zealand to meet its international climate change obligations
- reducing New Zealand's net emissions below business as usual levels.

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 three of these regulations.<sup>1</sup>

People and businesses can participate directly in the NZ ETS in three ways:

1. Some will have obligations to surrender emission units to cover their direct greenhouse gas emissions or the emissions associated with their products. To do this, firms need to calculate the emissions that result from their activity over a calendar year, report to the Environmental Protection Authority by the end of March the following year, and acquire and surrender emissions units. This effectively puts a price on greenhouse gas emissions. Regulations, such as the SEIP Regulations, set out the requirements for calculating emissions. This document contains three proposals that affect some people with these obligations.
2. Some may have opportunities to earn emission units by carrying out an eligible removal activity. The purpose of providing for people to claim emissions units for emissions embedded in a product, or 'removed', is to ensure they do not pay NZ ETS costs for emissions that do not occur in New Zealand.

A removal activity is one in which an eligible product must embed, permanently or at least until exported, a substance that would otherwise result in the emission of greenhouse gases to the atmosphere. Those emissions must also be included in an emission return filed under the NZ ETS. The removal activity must result in a reduction of emissions reported in New Zealand's Greenhouse Gas Inventory (the Inventory).

These activities are set out in Schedule 4, Part 2 of the Act, and include embedding emissions in a product (eg, methanol), storing carbon dioxide (CO<sub>2</sub>) after capture, and exporting liquefied petroleum gas and synthetic greenhouse gases. There are two proposed changes to the Removals Regulations.

3. Some will be eligible for allocated emission units under the scheme. They can participate in the scheme because, if they apply for and receive an allocation, they can trade their emission units. The regulations underpinning these allocations are not impacted by the proposed changes.

Amendments to the Act in 2012 and the introduction of related regulations established the SGG levy scheme. The levy applies an emissions cost to goods containing hydrofluorocarbons (HFCs) such as fridges, air conditioners, and motor vehicles, when they are imported. The value of the emissions cost depends on the type and quantity of SGG in the good. A change is proposed to the SGG Levies Regulations.

NZ ETS regulations contribute to the objectives of the NZ ETS and must be accurate, efficient, and clear.

- Accuracy requires ensuring the methodologies and emissions factors used in the regulations are as close as practically possible to those used in the Inventory, otherwise participants or the Government incurring costs for emissions that are either not occurring or are not part of New Zealand international obligations.
- Efficiency covers concerns about administrative and compliance costs for participants and the Government.
- Clear means that the regulations must be unambiguous and consistent, so the obligations and costs imposed on regulated parties are equivalent and unavoidable.

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<sup>1</sup> The Ministry for Primary Industries is consulting on proposed changes to the Climate Change (Forestry Sector) Regulations 2008.

## Summary of proposed changes

A summary of the proposals is below and further detailed in table 1.

### SEIP Regulations

1. Updating the natural gas default emissions factors (DEFs) in the SEIP Regulations potentially affects gas purchasing (opt-in) participants. We propose to update the set of DEFs that relate to natural gas fields. This update occurs every year. Without these changes, there may be differences in how gas miners and opt-in participants report emissions.
2. We also propose to amend the DEF for used tyres combusted for energy. The current DEF in the regulations is not specific to used tyres, does not account for natural rubber content, and is very high relative to other country's emissions factors for combusting used tyres. This change will improve the accuracy of the NZ ETS and help advance an investment case for the participant affected.
3. The figure for the aggregate global warming potential (GWP) of R-448A in Schedule 2A Table 2 is proposed to be changed. It is currently not consistent with the methodology underlying the Inventory. The figure was sourced from manufacturer data and uses different GWPs for individual component chemicals that are different to those required to be used in the Inventory.

### Removals Regulations

1. Exporting natural gasoline produced from downstream gas processing of purchased gas was made an eligible removal activity in 2017. That change has subsequently been found to have been unnecessary because an exemption already allows a miner to deduct from their emissions returns any natural gas sold and used to make natural gasoline. We propose to revoke the regulatory amendment from last year to avoid double counting the export of those emissions.
2. Carbon dioxide (CO<sub>2</sub>) is a by-product of fuel refining at the refinery in Marsden Point, some of which is captured and compressed into liquid CO<sub>2</sub> for sale. The NZ ETS places obligations and costs on the suppliers of the process fuels used at the refinery and those costs are passed through to exports of liquid CO<sub>2</sub>. Because the CO<sub>2</sub> is emitted outside New Zealand and not reported in New Zealand's Inventory, the exporters should not face any NZ ETS costs. We propose allowing the production of liquid CO<sub>2</sub> for export to be an eligible removal activity.

### SGG Levies Regulations

1. Water coolers can be significant stand-alone pieces of equipment that may contain over 100kg of refrigerant gases. These units are included in the SGG Levy, but there is evidence some importers of large water coolers are avoiding the SGG levy by misreading a category in the Working Tariff Document of New Zealand. To address this interpretation issue, we propose to update the list of goods subject to the levy to include water coolers containing other SGGs and levy them on a per kg of SGG contained basis. This will ensure these imports incur consistent emissions pricing with other imports of goods containing SGG.

**Table 1: Summary of proposals**

Regulation	Proposal	Reason	Directly impacted
Climate Change (Stationary Energy and Industrial Processes) Regulations 2009	Update default emission factors for natural gas	Increase accuracy	Gas opt-in participants
	Update the default emissions factor for combusting used tyres for energy	Increase accuracy	Cement manufacturers
	Increase the GWP of R-448A	Alignment with methodologies used in the Inventory	Bulk importers of R-448A
Climate Change (Other Removal Activities) Regulations 2009	Redact exporting natural gasoline produced from purchased natural gas as an eligible removal activity	An exemption from NZ ETS obligations already exists for the natural gas used to make natural gasoline	The gas processor and the exporter of natural gasoline
	Allowing producing liquid carbon dioxide for export to be an eligible removal activity	Removal of NZ ETS costs from emissions that do not occur in New Zealand	Two exporters of liquid carbon dioxide
Climate Change (Synthetic Greenhouse Gas Levies) Regulations 2013	Clarify how water coolers are levied	Address an ambiguity being used as a loophole	Some importers of industrial water coolers containing SGGs

## Consultation process

This consultation will close at 5pm on Sunday 10 June 2018. Once we have considered submissions, final proposals will be put to the Minister for Climate Change and Cabinet for approval. Following Cabinet approval, the amended regulations should be published in the New Zealand Gazette by September 2018. Information on how to make a submission can be found at the back of this document.

## 1. Amendments to the SEIP Regulations

### a. Natural gas default emissions factors

#### Background

Natural gas miners and NZ ETS opt-in participants use the methodologies and emissions factors in the SEIP regulations to calculate their emissions.<sup>2</sup> Gas miners, using the methodologies, are required to run various tests on their gas to calculate an emissions factor specific to their field.

Opt-in participants can report emissions by referring to the gas field-specific and national average DEFs that are provided in Table 10 of the SEIP Regulations in Schedule 2.<sup>3</sup> Table 10 allows gas purchasing (opt-in) participants to report their emissions without seeking detailed emissions factor information from the gas miner.

<sup>2</sup> An opt-in participant is a person who voluntarily takes NZ ETS obligations instead of their fuel supplier and who meets particular criteria, including volume of fuel purchased.

<sup>3</sup> See Table 10 at the end of this webpage:

<http://www.legislation.govt.nz/regulation/public/2009/0285/latest/DLM2390302.html>.

## Problem definition

The emissions factors in Table 10 need to be updated each year because the chemistry of natural gas from a mine is not constant. Not amending Table 10 will lead to gas purchasing (opt-in) participants either inaccurately reporting emissions or having to contact gas miners for detailed information. The latter option will impose administrative and compliance costs on parties.

Table 10 has been regularly updated in the past to ensure it reflects current field operations and remains accurate. This involves exchange of data between agencies. To conform to good practice, in 2016 and 2017 we contacted gas mining participants to put in place data access arrangements. Good practice meets legal and transparency requirements while also being efficient for participants and administrating agencies. The access arrangements involved approval for the Environmental Protection Authority (EPA) to share data from NZ ETS reporting with the Ministry for the Environment and the Ministry for Business, Innovation and Employment to enable national and field-specific DEFs to be estimated.

There are no other feasible options to address this problem. Most gas miners have approved the data access arrangements for the purpose of updating Table 10.

## Proposal

Table 10 will be updated for gas fields where data access arrangements are in place. This potentially lowers administrative costs for both parties and increases the accuracy of the NZ ETS. Feedback from 2016 was that opt-in participants in particular (and some gas miners) strongly supported the retention and regular updating of the table. Updating Table 10 is a routine update to the SEIP regulations. The precise changes to Table 10 can only be determined, then shared, once the EPA have completed their reviews of the information in the emissions returns of gas miners.

**Table 2: Assessment of options against criteria**

Calendar year	Objectives of the NZ ETS	Accuracy	Efficiency	Clarity
<i>Status quo</i> (using existing table 10 or sharing information)	No change	Poor	Poor	No change
Updated Table 10	No change	Improved	No change	No change

## Next steps and implementation

We will update Table 10 for fields where data access arrangements are in place and once reporting data has been reviewed by the EPA. That review was not completed at the time of publication of this consultation document. When it is finished, a draft Table 10 will be separately forwarded to all affected NZ ETS gas mining and purchasing participants for comment by the end of May. If the DEF that you use has not been updated and you want it to be, please let us know.

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

### **b. Combusting used tyres for energy**

#### Background

Burning used tyres results in greenhouse gas emissions from the combustion of oil, rubber and other materials in the tyres. Consequently, a person who combusts used tyres for energy is a mandatory participant in the NZ ETS. There are no such participants at the time of publication.

## Problem definition

All the *status quo* options have problems and are barriers to investments in this activity, as follows.

The SEIP regulations provide the following options to calculate the greenhouse gas emissions from this activity:

### *SEIP standard method, using the DEF*<sup>4</sup>

This option uses the prescribed default emissions factor (DEF) of 136.27 tonnes of carbon dioxide equivalent per terajoule (tCO<sub>2</sub>e/TJ) of energy, after measuring the net calorific value of the used tyre fuel or measuring the energy that is produced.

The current DEF for used tyres is very high compared to the other possible DEFs reported in consultation material in 2009. That DEF was chosen because there was no other authoritative guidance on emissions factors from combusting used tyres at the time.<sup>5</sup> It was (and still is) the internationally recommended emissions factor for reporting emissions in national greenhouse gas inventories from combusting used tyres for energy. It was acknowledged as 'conservative', not least because it didn't consider the biomass component of used tyres (natural rubber). Emissions of CO<sub>2</sub> from combusting biomass should not be counted as they are considered part of the biogenic cycle and are reabsorbed by growing organic matter.

### *SEIP Standard method, using a unique emissions factor*

This method uses an approved unique emissions factor (UEF) for used tyres, instead of the DEF, in combination with either energy input or output calculations.

There are two problems with using a UEF: First, a person combusting used tyres can only apply for a UEF once they are a mandatory participant, which occurs only after they have been carrying out the activity. This means the person will not have emissions costs certainty for their initial investment decisions. This risk could be reduced, but not completely mitigated, through carrying out sampling and testing that would be compliant with the UEF regulations methodologies and using the estimated emissions factor to estimate future NZ ETS costs.

Secondly, the UEF regulations prescribe particular sampling and testing requirements that mean quantities of tyre chip samples will be required to be regularly sent overseas for testing. Each sampling and testing package will cost more than \$30,000 and will need to be repeated until the participant is sure the samples are representative of the fuel used in the year.

### *SEIP alternative method – Continuously or periodically recording information about the gases passing through the stack*

Continuous or periodic emissions monitoring (CEM or PEM) have several problems. These techniques require a plant to be operational before full knowledge of cost can be determined. Additionally, while technically possible, there is likely to be considerable difficulty in determining the biomass component of the CO<sub>2</sub> being emitted.

In summary, the DEF is inaccurate, the UEF option is inefficient, and the stack gas monitoring method is inaccurate and inefficient.

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<sup>4</sup> This is detailed further at <http://www.legislation.govt.nz/regulation/public/2009/0285/latest/DLM2391625.html>.

<sup>5</sup> Duffill Watts. 2009. Review of Default Emissions Factors in Draft Stationary Energy and Industrial Process Regulations: Waste Combustion for the Purpose of Generating Electricity or Industrial Heat. Unpublished, available from the Ministry for the Environment.

## Options

It is possible to amend the current DEF to an emissions factor that more accurately reflects the fuel type and its emissions. While there is no update to the international guidance on the DEF, the European Union Emissions Trading Scheme (EU ETS) requires the use of published emissions factors for CO<sub>2</sub> emissions sources.<sup>6</sup> These emissions factors are used by the installations that are mandatory EU ETS participants. The relevant emissions factor can be supplemented with CH<sub>4</sub> and N<sub>2</sub>O emissions factors from international greenhouse gas inventory guidance, such as detailed in the ‘background energy data’ table of the national greenhouse gas inventory of the United Kingdom.<sup>7</sup> The resulting emissions factor for combusting used tyres for energy, developed from those sources, is 61.13tCO<sub>2</sub>e/TJ. This is a material reduction from the existing DEF. This option would significantly lower NZ ETS costs for the participant, not impose any new sampling, testing or monitoring costs, while being a reasonable and accurate estimate of actual emissions.

There are two risks with this proposal:

1. The first is the possibility that using the EU ETS emissions factor would be inappropriate in New Zealand if the chemistry of EU used tyres is materially different to New Zealand used tyres. We are aware of some early tests of New Zealand used tyres that provide evidence of very little difference, but are interested in your input. Should the EU ETS DEF be shown at a later date to be inaccurate for use in New Zealand, then the DEF would need to be re-amended.
2. The second risk is that the emissions from combusting used tyres for energy could be different according to the industrial process. Changing the DEF to apply to all uses could be inaccurate. Internationally, used tyres are a fuel input to cement production, electricity generation and other industrial processes. The EU ETS emissions factor is the same for all uses. We are interested in your views on this risk.

When measured against the assessment criteria, amending the DEF is preferable to any of the *status quo* options because of its reduced administrative and compliance costs and improved accuracy of the NZ ETS and the Inventory.

**Table 3: Assessment of options against criteria**

Calendar year	Objectives of the NZ ETS	Accuracy	Efficiency	Clarity
<i>Status quo</i> options 1 and 2 DEF	No change	Poor	No change	No change
<i>Status quo</i> UEF	No change	Improved	Poor	No change
<i>Status quo</i> UEF (early estimation)	No change	Improved	Poor	No change
<i>Status quo</i> CEM or PEM	No change	Poor	Very poor	No change
Updated DEF	No change	Improved	No change	No change

## Proposal

We propose amending the existing DEF for combusting used tyres for energy from 136.27tCO<sub>2</sub>e/TJ to 61.13tCO<sub>2</sub>e/TJ.

<sup>6</sup> Emissions factors and Calorific Values for 2017; UK Government. <http://bit.ly/2FAPg4U>.

<sup>7</sup> UK Greenhouse Gas Inventory, 1990 to 2015: Annual Report for submission under the Framework Convention on Climate Change (2017). [http://naei.beis.gov.uk/reports/reports?report\\_id=929](http://naei.beis.gov.uk/reports/reports?report_id=929).

## Next steps and implementation

We are interested in your views on the issue, the options, and the proposal. In particular:

- What do you think of the proposal to materially reduce the default emission factor for this activity based on using the EU ETS emissions factor specific to used tyre combustion?
- What relevant and material differences are there between used tyres in the EU and New Zealand that would mean using the EU ETS emissions factor for CO<sub>2</sub> emissions from combusting used tyres for energy would be inaccurate?
- Do you think there is a case for a process specific default emissions factor from combusting used tyres (such as cement manufacture), in case used tyres are combusted for another industrial energy purpose that might have a different emissions profile?
- Do you have references to alternative emissions factor values for combusting used tyres for energy?

There are not expected to be any difficulties with implementing the proposal. It is proposed to come into effect from 1 January 2019.

### c. Increasing the GWP for R-448A

#### Background

The SEIP Regulations were amended in 2017 to help participants calculate emissions from importing R-448A and R-449A. These chemicals are relatively new blend of SGGs, intended as replacements for SGGs with higher GWP figures.<sup>8</sup> For example, R-448A is a 'drop-in' replacement for the large quantities of R-404A (GWP of 3920) used in supermarkets.

R-448A is a blend of R32, R125, R134A, R1234yf and R1234ze(E). Each of those components has a different GWP and the aggregate GWP value for R-448A is the weighted average.

New Zealand reports emissions of R448A in the Inventory using the GWP figures prescribed by the IPCC in its guidance materials.<sup>9</sup>

The 2017 amendment to Table 2 in Schedule 2A provided an aggregate GWP value for R-448A of 1273 as well as information on the proportions of the component chemicals.<sup>10</sup> This data was sourced from manufacturer information.

#### Problem definition

Although the R-448A compositional information in the SEIP regulations is correct, the aggregate GWP value is lower than is used in the Inventory, as follows in table 3:

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<sup>8</sup> Greenhouse gases vary in their radiative activity and atmospheric residence time. This means that greenhouse gases have different GWPs. To enable a meaningful comparison between gases, GHG emissions are commonly expressed as carbon dioxide equivalent (which has a GWP of 1). For example, one tonne of R-404A is equivalent to 3920 tonnes of CO<sub>2</sub>.

<sup>9</sup> The Inter-governmental Panel on Climate Change is an international body that advises governments on scientific matters related to climate change.

<sup>10</sup> <http://www.legislation.govt.nz/regulation/public/2009/0285/latest/DLM3514634.html>.

**Table 3: Difference in GWP for R-448A**

National greenhouse gas inventory	Manufacturer
1387	1273

This reason for this difference is that the Inventory uses guidance on GWPs from the IPCC published in 2006 while the manufacturer uses more recent information.

An importer that uses the current aggregate GWP value in the SEIP Regulations will report different a different amount of emissions to that reported in the Inventory. This will have fiscal impacts for government, because it is a misalignment between international commitments and NZ ETS obligations. The size of that impact will depend on the quantity of R-448A imported each year.

**Table 4: Assessment of options against criteria**

Calendar year	Objectives of the NZ ETS	Accuracy	Efficiency	Clarity
<i>Status quo</i> GWP for R-448A	Poor	Poor	No change	No change
Corrected GWP	Improved	Improved	No Change	No change

## Proposal

We propose to change the aggregate GWP value of R-448A to be the same as used in the Inventory. We also propose to backdate this change so it applies to activities from the start of 2018. This will ensure participants do not use the lower figure for their importing activities over this year. It will improve the accuracy of the NZ ETS and be consistent with the methodologies used to calculate the NZ ETS obligations of importers of other SGGs.

Importers of R-448A will not face increased NZ ETS costs from this correction. Up to the end of 2017, importers have used compositional look-up tables to calculate an aggregate GWP value. This calculated aggregate GWP figure is the same as used in the Inventory. By backdating the proposed change to the start of 2018, importers will continue to use the correct GWP figure. No new costs are imposed.

## Next steps and implementation

We are interested in your views on the issue, the options and the proposal. In particular:

- What do you think of the proposal to calculate the aggregate GWP value for R-448A from Inventory methodologies instead of manufacturer data?
- What other changes to Table 2 in Schedule 2A relating to SGG blends would be helpful?

There are not expected to be any difficulties with implementing the proposal. To ensure the incorrect figure is not used for under-reporting emissions for activities over 2018, the amendment is proposed to come into effect retrospectively from 1 January 2018.

## 2. Removals Regulations

### a. Revoking regulations for the export of natural gasoline

#### Background

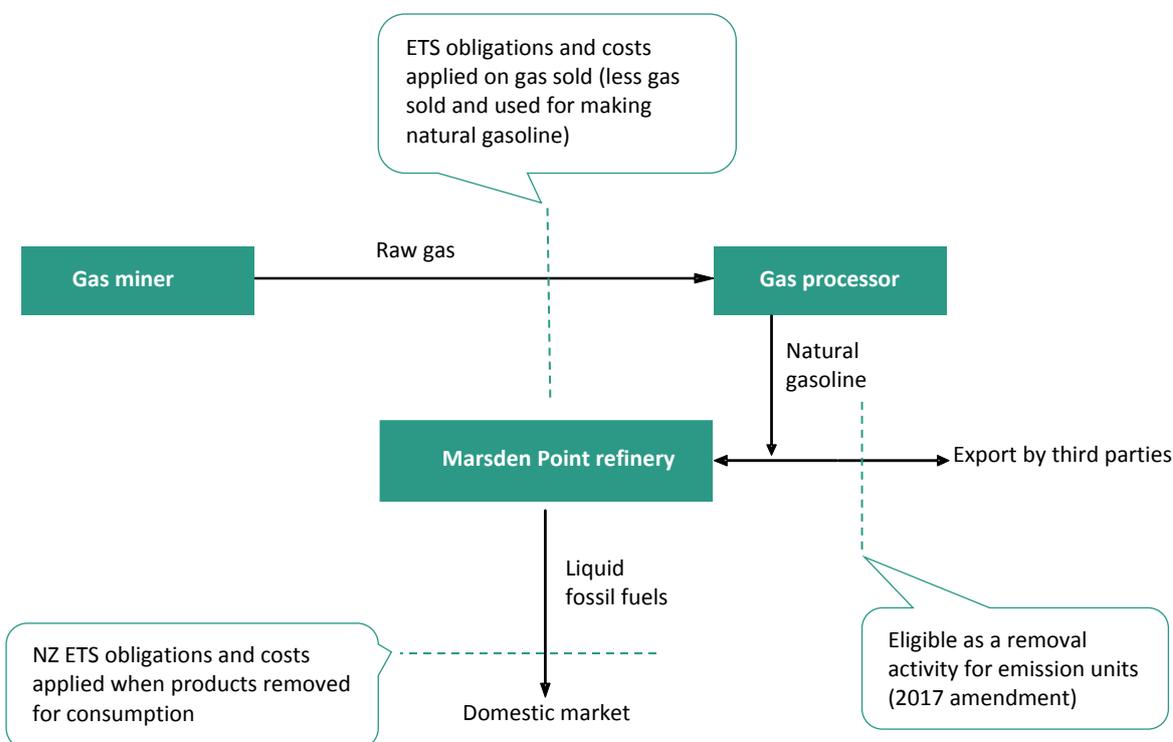
Kapuni natural gas is processed into natural gasoline and many other products. When the gas is sold by the miner to the processor, it attracts an NZ ETS cost that is subsequently passed downstream from the miner, to the processor, and to the market and consumer or exporter. With export, the emissions associated with the eventual combustion of the natural gasoline do not happen in New Zealand and are therefore not recorded in the Inventory and are not included in New Zealand's contribution to international greenhouse gas emissions reductions. These stages are outlined in figure 1 below.

A 2017 amendment to the Removals Regulations allows exporters of natural gasoline to receive emission units for that activity.<sup>11</sup>

#### Problem definition

In looking at how to respond to a request for similar policy treatment for natural gasoline sent to the Marsden Point refinery (where the emissions would attract a second NZ ETS cost on leaving it), an exemption from NZ ETS obligations for any gas sold and processed into natural gasoline was found. This exemption, despite being enacted in 2012, has not been used because gas miners and processors have been unaware of it until very recently

Figure 1: Current NZ ETS arrangements for natural gasoline



<sup>11</sup> This amendment: <http://www.legislation.govt.nz/regulation/public/2017/0247/latest/DLM7403937.html>.

This exemption means the export of natural gasoline should not be an eligible removal activity as there are no NZ ETS costs applied to the emissions. If the problem is not corrected, an exporter of 7000 tonnes of natural gasoline in 2019 would be eligible to receive approximately 21,500 emission units valued at \$450,000 (assuming an emissions unit price of \$21 each). This would be a cost to the government, as the exemption means a corresponding amount of emission units would not be surrendered by the miner.

**Options**

There are two options to resolve this problem and both involve regulatory amendment.

Option 1 involves removing the exemption. This would mean NZ ETS costs are carried onto exports of natural gasoline, where exporters would then use the Removals Regulations to recover those costs. However, this would not solve the problem of some of New Zealand’s natural gasoline being subject to NZ ETS obligations a second time when it leaves the Marsden Point refinery. This would require another regulatory solution and increase administrative costs for impacted people and the EPA.

Option 2 is to revoke the 2017 Removals Regulations amendment. All natural gasoline would thereby have no NZ ETS costs. Compared to option 1, this solution has less administrative costs for the Government and participants. It would be implemented through information sharing between gas miners and gas processors. Miners will deduct from their emissions return any gas sold that is subsequently refined into natural gasoline.

A risk with this option is that any emissions from combusting natural gasoline in New Zealand would not be priced by the NZ ETS. This risk of this occurring is very low as we understand there is no domestic market for natural gasoline other than as an input at the Marsden Point refinery. That is, currently most natural gasoline is exported and a small amount is sent to the Marsden Point refinery, and there are no expectations that this will change in the future. We will continue to monitor this risk.

**Table 5: Assessment of options against criteria**

Calendar year	Objectives of the NZ ETS	Accuracy	Efficiency	Clarity
<i>Status quo</i>	Poor	No change	No change	No change
Revocation of eligibility	Improved	No change	Slightly poor	No change

**Proposal**

Option 2 is the preferred option. This will revert the regulatory situation to what it was before, as if the original amendment had not happened. The proposal will remove the ability for exporters to calculate and claim emission units for exporting natural gasoline. The ability has not been used (no payments have been made), and will not be able to be used as long as the proposal proceeds in the timelines identified above.

In order to avoid both the exemption and the current Removals Regulations eligibility being used over 2018, the revocation will be backdated to 1 January 2018.

One firm, the exporter of natural gasoline, is impacted by the proposal. Under this proposal the firm will not receive emission units for their exporting natural gasoline activity, but neither will they be required to estimate and report their activity to the EPA and manage a New Zealand emissions registry account to receive those units.

## Next steps and implementation

We are interested in your views on the policy options. In particular:

- Which option do you consider is the best way to address the problem and why?
- Can gas miners and processors share information to ensure NZ ETS costs are properly applied?

Implementation issues are limited to ensuring accurate data can be shared between miners and gas processors. This is not expected to be a significant issue as those parties are known to readily share production information.

## b. Export of liquid carbon dioxide

### Background

Liquid carbon dioxide (CO<sub>2</sub>) is a by-product of petroleum refining at the Refining New Zealand plant near Whangarei. It is mainly used for refrigeration and fire extinguishing, but also for carbonation and in the film industry. Table 6 shows exports of liquid CO<sub>2</sub> are increasing.

Where emissions are exported and do not occur in New Zealand they are not part of our emissions obligations or targets and not reported in the Inventory. Because the NZ ETS applies obligations on the 'upstream' suppliers of the process fuels used at the Marsden Point refinery, the CO<sub>2</sub> produced carries an NZ ETS cost as if it were emitted in New Zealand, but in reality a proportion is exported. Figure 2 illustrates how this process differs from the natural gasoline issue.

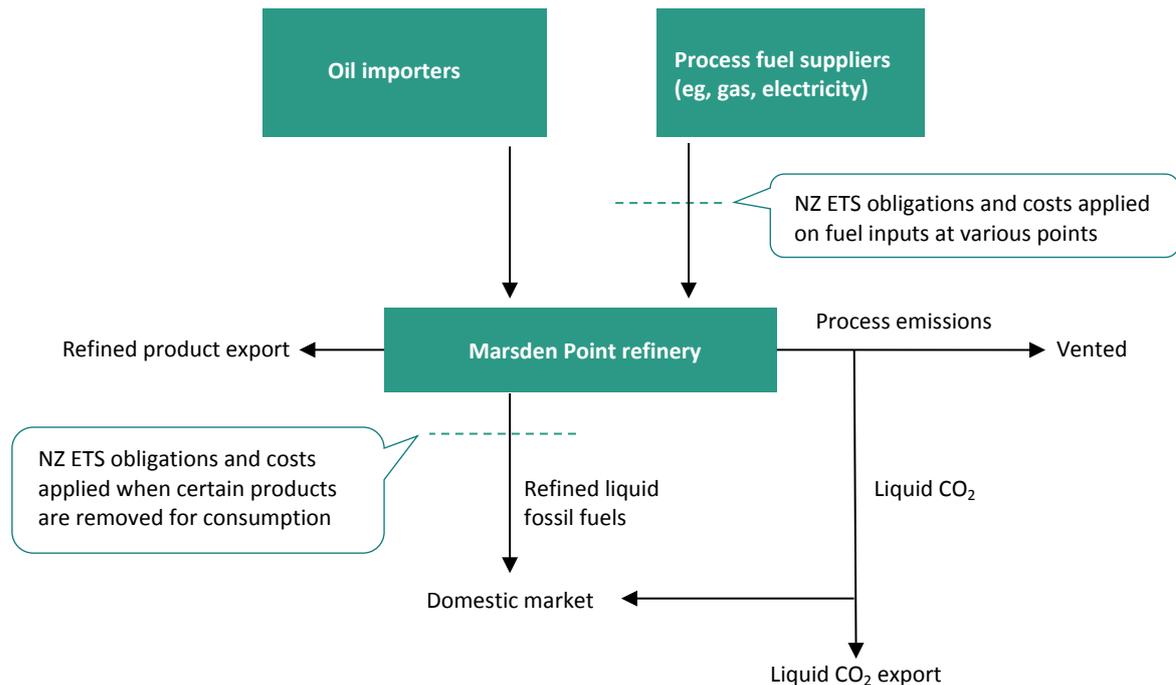
**Table 6: Exports of liquid CO<sub>2</sub> in tonnes by year end (source: Statistics NZ)**

Calendar year	Tonnes of liquid CO <sub>2</sub> exported
2014	1,923
2015	2,403
2016	5,344
2017	6,168

### Problem definition

Exporters of liquid CO<sub>2</sub> are incurring NZ ETS costs for emissions that occur outside New Zealand. Those emissions are not part of our international commitments or Inventory and were not intended to be included in the NZ ETS.

**Figure 2: Very simplified NZ ETS arrangements for Liquid CO<sub>2</sub>**



## Options

There are two options that resolve this problem. The first is to allow the production of liquid CO<sub>2</sub> for export to be an eligible removal activity by amending the Removals Regulations, recognising that the eventual emissions of CO<sub>2</sub> are the responsibility of the importing country. This would be consistent with Subpart 1 of Part 2 of the Act that covers the production of products that embed emissions, including temporary embedding and export.

This option would result in new administrative and compliance costs for the producer. These costs would be outweighed by the value of the emission units.

The second option is to exempt the fuels used to produce any exported liquid CO<sub>2</sub>. An example of this option is used in the production of natural gasoline. This would require careful documentation and communication between exporters of liquid CO<sub>2</sub>, the refinery (regarding quantities of fuels used), the suppliers of natural gas and other process fuels to the refinery, and the importers and miners of those fuels. It could be difficult to trace the export volumes to particular fuel suppliers through multiple parties in the supply chain.

This option imposes new communication and administration costs for all parties for the fuel miner or importer to accurately calculate the quantity of fuel exempt from NZ ETS obligations. There is also a question about effectiveness as it would be difficult for the fuel miner or importer to know exactly how much NZ ETS costs to pass on when the CO<sub>2</sub> export occurs at a later date and when the amount exported each year has the variability illustrated above.

**Table 7: Assessment of options against criteria**

Calendar year	Objectives of the NZ ETS	Accuracy	Efficiency	Clarity
<i>Status quo</i>	Poor	No change	No change	No change
Allow removal eligibility	Improved	No change	Slightly poor	No change
Exempt upstream fuels	Improved	Poor	Poor	No change

## Proposal

We propose to amend the Removals Regulations to enable the production of liquid CO<sub>2</sub> for export to be an eligible removal activity from 1 January 2019 under Subpart 1 of Part 2 of the Climate Change Response Act 2002 (production of a product with embedded emissions).

## Next steps and implementation

We are interested in your views on this issue and the proposed solution. In particular:

- What are your thoughts on the problem definition and the proposed solution?
- How significant will the administrative and compliance costs be, relative to current NZ ETS costs?
- Are there alternative policy options that resolve the problem that are not covered above? What are the costs and benefits of those options?

The proposal is intended to ensure exports of liquid CO<sub>2</sub> do not carry NZ ETS costs. The implementation and success of the proposal is dependent on the eligible person (the producer of the liquid CO<sub>2</sub> that is exported) being able to accurately recover NZ ETS costs through the value of awarded emission units. There may be timing and cash-flow risks for the producer to manage given awards of emission units can occur months after the liquid CO<sub>2</sub> has been produced.

The producer of the liquid CO<sub>2</sub> and the exporter will be required to share information to enable accurate reporting for the Removal Regulations. This will have some compliance and administration costs for those parties.

## 3. SGG Levies Regulations

### a. Water coolers and the synthetic greenhouse gas levy

#### Background

Since 2013, importers of goods containing SGG (such as fridges) have faced emissions pricing through the SGG levy. The levy ensures all imported SGGs have emissions costs equivalent to NZ ETS costs, so to minimise competitiveness impacts on local manufacturers of goods who use imported bulk SGGs. The levy has considerably lower compliance and administrative costs for importers compared to NZ ETS obligations, as they can use the NZ Customs Service systems to pay the levy instead of reporting activities and surrendering emission units annually to the EPA. Many of the goods imported contain very small amounts of SGGs and NZ ETS compliance costs would outweigh any benefits gained from NZ ETS participation.

The levy rates are updated every year to track the prevailing market price for emission units as closely as practicable. A large range of goods are listed in Schedule 2 of the SGG Levies Regulations,

differentiated by type of good and type of SGG.<sup>12</sup> The schedule needs annual amendment to adjust levy rates, to ensure new goods and SGGs are included in the scheme, and to resolve any interpretative ambiguities.

The levy is applied on an imported good in one of two ways:

1. A cost per kilogramme of the type of SGG contained in the good – where there is a wide range of sizes of particular goods and variation in the SGG charge (eg, large industrial air conditioning units).
2. A cost per good – where the goods are similar in application, have little to no variation in the amount of SGGs they contain, and where the numbers imported are often large (eg, domestic fridges and air conditioning units).

### Problem definition

The problem has two sources: a lack of clarity for importers on how to correctly classify industrial water coolers in the Working Tariff Document; and the cost incentive to take advantage of that ambiguity.

Water coolers containing the synthetic greenhouse gas HFC134a are currently levied per good as described in table 8.

Such water coolers should only be those used for office and domestic water chilling for consumption. These goods contain relatively small quantities of HFC134a. Large numbers of these units are imported in consignments, hence the levy being applied per good rather than per the quantity of HFC134a contained in the goods.

**Table 8: Water coolers classifications in the Working Tariff Document of New Zealand**

Description	Working tariff class	SGG levy payable
Water coolers containing HFC134A	8418.69.00 10C	\$1.05 per item
Water coolers containing other HFC	8418.69.00 12K	Free
Other water coolers	8418.69.00 13H	Free

A stakeholder contacted the Ministry for the Environment in 2017 concerned about the ambiguity of the description and reported his awareness of one importer recording industrial water coolers under 8418.69.00 12K (12K). A review of NZ Customs Service import data since 2013 found 93 imports that were recorded under 12K, of which 15 were clearly industrial units. Most of the other entries used the generic description ‘water cooler containing other HFC’, so while the scale of the problem is unclear, there could have been considerably more than 15 industrial water cooler imports avoiding the SGG levy since 2013.

Industrial water coolers can contain over 100kg of the gas R410A. If these were priced by the levy on the basis of the amount and type of SGG they contain, some of the goods would attract a levy of over \$3000 per item.<sup>13</sup>

<sup>12</sup> This is Schedule 2: <http://www.legislation.govt.nz/regulation/public/2013/0046/latest/DLM5093414.html>.

<sup>13</sup> If the SGG was imported alongside the unit but not installed, then the importer would be a mandatory NZ ETS participant as a bulk SGG importer. A 100kg import of R410A would be converted to an obligation to surrender 209 emission units from 2019. The \$3000/unit in the text above assumes lower emission unit prices and the transitional NZ ETS policy, as was applied to SGG levy rates since 2013.

Not paying the levy has the following impacts:

- Competitiveness differences between those facing full emissions pricing (manufacturers subject to the NZ ETS and importers declaring goods under other parts of the schedule) and those importers using 12K to not incur emissions costs.
- Reduced incentive for equipment users to avoid SGG leakage when emissions are not priced (although replacement refrigerant gases will likely carry emissions costs).

## Options

There are two options to address this problem. One option is to expand the schedule of goods subject to the levy by explicitly listing water coolers containing R410A or R407f and levy those goods according to the quantity and type of SGG they contain. Such new line items could be:

- Water coolers containing R410A (levied per kg of R410a)
- Water coolers containing R407f (levied per kg of R407f).<sup>14</sup>

To manage water coolers containing large amounts of HFC134a, it would be possible to split 8418.69.00 10C into two classifications:

- Water coolers containing less than 0.2 kg of HFC134a (levied per item)
- Water coolers containing more than 0.2 kg of HFC134a (levied per kg of HFC134a).

The 0.2kg threshold is estimated to capture all office and domestic water chilling for consumption below it, and other commercial and industrial equipment above it.

This option will improve the accuracy of the SGG levy scheme and the Inventory as better information would be provided by importers.

Importers and purchasers would be impacted. We consider the cost impact of the levy is expected to be very small relative to the purchase price of a commercial or industrial water cooler, although purchase price information has been difficult to identify for this consultation document due to commercial arrangements.

A second option is to advise New Zealand importers and suppliers of these goods of the more accurate classifications to record imports against. Assuming this is successful, the Inventory and the SGG levy would be improved as a result of better information and consistent treatment of similar emitting activities. However, this option is likely to be ineffective as not all current or future importers are known, and, given the classification ambiguity, it is unclear if there are likely to be compliance issues should importers continue to use 12K and 8418.69.00 13H. Publication of this issue also increases the risk that other water cooler importers take advantage of the ambiguity.

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<sup>14</sup> The import data showed one import of a water cooler containing this SGG

**Table 9: Assessment of options against criteria**

Calendar year	Objectives of the NZ ETS (SGG Levy component)	Accuracy	Efficiency	Clarity
<i>Status quo</i>	No change	Poor	No change	Poor
Expand Working Tariff classification	Improved	Improved	No change	Improved
Advising importers of correct classification (assumption of success)	Improved	Improved	No change	Poor

## Proposal

We propose to add the following entries to the schedule of goods subject to the SGG levy:

- Water coolers containing R410A (levied per kg of R410a)
- Water coolers containing R407f (levied per kg of R410a)
- Water coolers containing 0.2kg or less of HFC134a (levied per item)
- Water coolers containing more than 0.2kg of HFC134a (levied per kg of HFC134a).

And to remove:

- Water coolers containing HFC134a (levied per item).

## Next steps and implementation

We are interested in your views on the problem, options and proposal. In particular:

- Do water coolers use other types of SGG than HFC134a, R410A and R407F? If so, what are the typical charge sizes?
- If you have knowledge of the problem, how commercially important do you think it is, compared to the purchase price of a commercial or industrial sized water cooler?
- Can you suggest other options for managing this problem?
- What are your thoughts on the 0.2kg of HFC134A threshold?
- What other ambiguity in the application of the SGG levy are you aware of?
- What might be some of the market impacts from the proposed update of the list of goods subject to the SGG Levy?

Implementation will require amendment to the Working Tariff Document, amendment to the NZ Customs Service systems, and notification of the changes to importers. These steps are already performed every year when the carbon price behind the SGG levy is updated and the levy rates on all goods in the regulation schedule are amended.

The success of the proposal, and the entire SGG levy scheme to an extent, depends on the monitoring and compliance activities of the New Zealand Customs Service and the EPA. It is outside the scope of this document to consider the current effectiveness of those activities.

## Implementation timetable

This timetable relates to all proposed changes to regulations in the 2018 regulations updates:

Consultation	Tuesday 22 May to Sunday 10 June 2018
Regulations amended	Before 30 September 2018
Regulations in force	1 January 2019, or back dated to 1 January 2018 for the Removals Regulations change relating to revocation of the 2017 amendment, and for the correction to the GWP figure for R-448A in the SEIP regulations.

## Submission process

The questions throughout this document and summarised on the following page are a guide only and all comments are welcome.

### Have your say

Please send your submission by email to: [ETSRegsUpdate2018@mfe.govt.nz](mailto:ETSRegsUpdate2018@mfe.govt.nz)

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

ETS Regulations Updates 2018  
Ministry for the Environment  
PO Box 10362, Wellington 6143

### Deadline for submissions

The closing date for submissions is 5.00pm Sunday 10 June 2018.

### 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](http://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.

## Consultation questions

### Update of natural gas default emissions factors

1. If the DEF you use has not been updated and you want it to be, please let us know.

### Combusting used tyres for energy

2. What do you think of the proposal to materially reduce the default emission factor for this activity based on using the EU ETS emissions factor specific to used tyre combustion?
3. What relevant and material differences are there between used tyres in the EU and New Zealand that would mean using the EU ETS emissions factor for CO<sub>2</sub> emissions from combusting used tyres for energy would be inaccurate?
4. Do you think there is a case for a process specific default emissions factor from combusting used tyres (such as cement manufacture), in case used tyres are combusted for another industrial energy purpose that might have a different emissions profile?
5. Do you have references to alternative emissions factor values for combusting used tyres for energy?

### Increasing the GWP for R-448A

6. What do you think of the proposal to calculate the aggregate GWP value for R-448A from Inventory methodologies instead of manufacturer data?
7. What other changes to Table 2 in Schedule 2A relating to SGG blends would be helpful?

### Revoking regulations for the export of natural gasoline

8. Which option do you consider is the best way to address the problem and why?
9. Can gas miners and processors share information to ensure NZ ETS costs are properly applied?

### Export of liquid carbon dioxide

10. What are your thoughts on the problem definition and the proposed solution?
11. How significant will the administrative and compliance costs be, relative to current NZ ETS costs?
12. Are there alternative policy options that resolve the problem that are not covered above? What are the costs and benefits of those options?

### Water coolers and the synthetic greenhouse gas levy

13. Do water coolers use other types of SGG than HFC134a, R410A and R407F? If so, what are the typical charge sizes?
14. If you have knowledge of the problem, how commercially important do you think it is, compared to the purchase price of a commercial or industrial sized water cooler?
15. Can you suggest other options for managing this problem?
16. What are your thoughts on the 0.2kg of HFC134A threshold?
17. What other ambiguity in the application of the SGG levy are you aware of?
18. What might be some of the market impacts from the proposed update of the list of goods subject to the SGG Levy?

## Find out more

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## Next steps

Submissions will be analysed by the Ministry for the Environment and reported to the Minister for Climate Change for final decisions. Updates about the process will be provided on the Ministry for the Environment's website: [www.mfe.govt.nz/climate-change](http://www.mfe.govt.nz/climate-change).

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