



## Topics for NZ ETS Review 2015/2016 consultation

### Submission by Powerco Limited

#### Contact information

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## Submission Form (Extract)

### Other issues: operational and technical matters

24. Are you aware of ways the administrative efficiency of the NZ ETS could be improved?

Yes

No

Unsure

25. Can you provide further information to support your answer?

We would be interested in comments on:

a) complexities involved in NZ ETS participation

b) penalties for breaching NZ ETS obligations

c) any technical or operational changes that could be made to the NZ ETS to improve efficiency.

### Complexities and compliance challenges associated with participating in the ETS as an SF<sub>6</sub> user

Powerco (an electricity and gas distributor) only recently became a direct participant in the New Zealand Emissions Trading Scheme (ETS) in relation to its use of sulphur hexafluoride (SF<sub>6</sub>) in electrical switchgear. Participation in the ETS is mandatory for the activity of “operating electrical switchgear that uses sulphur hexafluoride where any prescribed threshold is met”. The current threshold for participation is set at 1 tonne of SF<sub>6</sub> contained in all operating switchgear (under the *Climate Change (General Exemptions) Order 2009*). Until recently, Powerco was not an SF<sub>6</sub> ETS participant as its use of SF<sub>6</sub> in electrical switchgear was below the threshold.

Having now (marginally) exceeded the threshold, Powerco’s experience is that joining the ETS as an SF<sub>6</sub> participant is challenging. Powerco commends the Environmental Protection Authority (EPA) on its pragmatic and helpful approach to assisting Powerco to enter the scheme. Nevertheless, ETS participation has involved high compliance costs (including in particular a high administrative burden) and compliance challenges.

As outlined below, key issues faced by Powerco relate to:

- The legislative timeframes and requirements for ETS participation once the prescribed SF<sub>6</sub> threshold is exceeded;
- Challenges and complexities in collating the required data (both in relation to determining whether the threshold has been exceeded, as well as for calculating annual emissions liability);
- Difficulties with correctly calculating Powerco’s emission liability due to errors in the Ministry for the Environment (MfE) guidance material and the Excel calculator provided by the EPA; and

- Administrative burden generally, particularly in relation to the time and resources required (for both Powerco as well the EPA) for ETS compliance.

Overall, Powerco considers that the administrative burden of participating in the ETS (as an SF<sub>6</sub> user that only marginally exceeds the 1 tonne participation threshold) is disproportionately high compared with the level of emissions involved. Powerco's view is that changes should be made to the ETS to improve efficiency in relation to participation in the ETS by SF<sub>6</sub> users, including by increasing the threshold for inclusion in the ETS as a mandatory SF<sub>6</sub> participant.

### **Legislative timeframes and requirements for SF<sub>6</sub> participants once threshold exceeded**

Powerco's experience as an SF<sub>6</sub> user that was not originally an ETS participant (due to its SF<sub>6</sub> usage being below the 1 tonne threshold) but then became an ETS participant (having for the first time exceeded the 1 tonne threshold) is that complying with the legislative timeframes and requirements is challenging.

The key issue is that participation in the ETS as an operator of electrical switchgear that uses SF<sub>6</sub> is triggered when the combined SF<sub>6</sub> capacity of all the electrical switchgear operated in a year exceeds the 1 tonne threshold. Technically, the effect of the Climate Change (General Exemptions) Order 2009 and the Climate Change Response Act 2002 is that once the 1 tonne threshold is exceeded at any point during a year, the SF<sub>6</sub> user becomes a mandatory ETS participant for that entire (calendar) year and is required to register as a participant with the EPA within 20 working days of exceeding the 1 tonne threshold, and then to monitor and calculate emissions for that entire year (i.e. backdated to the start of that calendar year). SF<sub>6</sub> users who cross the exemption threshold are therefore required to almost immediately switch from being exempt from the ETS to full ETS compliance. Achieving full ETS compliance (particularly registering as a participant within 20 working days of exceeding the 1 tonne threshold) is challenging, especially given the complexities of data collection regarding the amount of electrical switchgear being "operated" (as discussed further below). When Powerco became aware that it had likely exceeded the exemption threshold for participation in the ETS, it immediately took steps to verify this position and to comply with the requirements of the scheme. This process proved time-consuming and resource intensive, including liaising with multiple representatives at the EPA and engaging external consultants (including to verify whether the 1 tonne threshold had in fact been exceeded and to verify emissions liability calculations).

Where an SF<sub>6</sub> user first exceeds the prescribed threshold for ETS participation, Powerco considers that the legislative timeframes should be adjusted to allow more time for the new participant to join the ETS (for example, once the threshold is exceeded during a year, allowing a longer period to register as a participant, and not commencing reporting obligations until the following year).

### **Challenges and complexities in SF<sub>6</sub> data collection**

The process for SF<sub>6</sub> users to determine whether their usage exceeds the ETS participation threshold and to calculate emissions liability is complex. The key difficulty relates to the challenge of monitoring and collating data from a large number of inputs. Powerco's SF<sub>6</sub> inventory is contained within electrical switchgear that is "scattered" across the company's electricity distribution network. Powerco owns switchgear in multiple locations, and these assets contain SF<sub>6</sub> in different quantities. These variables make it difficult for Powerco to easily record the quantities of SF<sub>6</sub> entering its network at a single point in time.

Consequently, there is an extensive dataset for Powerco's full SF<sub>6</sub> inventory (which needs to be calculated to determine whether the 1 tonne threshold has been exceeded). This extra layer of complexity differentiates SF<sub>6</sub> users from participants in other ETS sectors, where the number of measurement points is generally low (for example, a fuel meter backed up by invoices). There is also

complexity in data collation given that relevant inputs relate only to switchgear that is actually operated in the year. For example, spare parts and uninstalled equipment do not count towards ETS liability. SF<sub>6</sub> users must not only track the equipment they own, but must also confirm which equipment is put to use, and which equipment is taken out of service, as well as accounting for “top ups” and disposal of SF<sub>6</sub> from electrical switchgear. Given the dynamic nature of SF<sub>6</sub> inventories, there are also challenges in ensuring changes such as equipment installed late in the year are recorded before the reporting deadline.

To accommodate these challenges, a “verification” mechanism would assist SF<sub>6</sub> users in providing timely annual emissions returns. Such a mechanism would allow SF<sub>6</sub> users to provide estimates of their SF<sub>6</sub> usage with their annual returns. Those estimates would then be verified later in the year, following confirmation of the resulting change to each user’s SF<sub>6</sub> inventory.

Other changes to reduce the administrative burden for minor participants could include developing a simplified “lower user” process for SF<sub>6</sub> users under a certain threshold. The simplified process could include for example an “approximation” process that allowed lower SF<sub>6</sub> users to estimate the quantity of SF<sub>6</sub> in their electrical switchgear based on the amount of equipment they own (both for the purposes of calculating whether the participation threshold has been exceeded, as well for calculating annual emissions). Simplifying the formula for calculating emissions liability would also assist, and one option could be for users under a certain threshold to have a fixed amount of annual emissions liability.

#### **Difficulties with accurately calculating emission liability**

In the course of determining its emissions liability for the 2014 year, Powerco discovered an inconsistency between the emissions liability calculation in the Climate Change (Stationary Energy and Industrial Processes) Regulations 2009 and the calculation set out in MfE’s *Guide to synthetic gas activities in the New Zealand Emissions Trading Scheme 2013*:

- The regulations require one element of the calculation to be assessed according to the amount of SF<sub>6</sub> added to the electrical switchgear after it is installed in the year; whereas
- MfE’s guidance stated that the same element was to be assessed according to the total SF<sub>6</sub> used to install and maintain all electrical switchgear in operation during the year.

The EPA subsequently incorporated the MfE’s version of the calculation into a Microsoft Excel calculator that the EPA forwarded to Powerco. The effect of the error was to significantly overstate the level of SF<sub>6</sub> emission liability.

Once Powerco discovered the inconsistency (and having discussed the matter with the EPA), it re-assessed its emissions liability according to the calculation set out in the regulations. As a result, Powerco’s calculated liability reduced from 4776 tonnes of carbon dioxide equivalent (*tCO<sub>2</sub>e*) to just 28 *tCO<sub>2</sub>e*.

In addition to the inconsistency between the calculation in the regulations and MfE guidance, MfE’s formula for calculating emissions was expressed in different terms to the regulations (with different letters used to represent variables in the equation). Some elements of the EPA’s calculation were expressed in slightly different terms again to both the MfE guidance and the regulations. The differences in the equations created confusion when Powerco was seeking to ensure it had calculated its emission liability correctly.

Inaccuracies in MfE guidance and EPA calculators are likely to result in participants submitting incorrect emission returns. It is crucial that any guidance and worksheets developed by MfE and the

EPA accurately reflect the ETS legislative requirements (and are subject to a robust quality control procedure to minimise the risk of errors). Furthermore, it would be easier for participants to calculate their ETS liability if there is consistency in the way that equations are expressed in the regulations, the MfE's guidance and any calculation tools issued by the EPA.

### **Administrative burden issues**

From Powerco's perspective, there was a high degree of administrative burden associated with ETS compliance (particularly in the context of Powerco's very low level of emissions liability). The process of registering as a participant, opening a holding account and calculating emissions liability proved time-consuming and resource intensive, including engaging external consultants and liaising with multiple representatives at the EPA.

ETS compliance involved a surprisingly high number of personnel, which included the various holding account representatives required from Powerco, but also a large number of EPA personnel. For example, correspondence relating to Powerco's ETS participation sometimes involved more than a dozen people in total (from both Powerco and the EPA). Administrative requirements, such as getting company directors to sign the ETS registration form, also added to the timeframes and compliance costs (as Board papers needed to be submitted in order to obtain director signatures).

Powerco considers that new ETS participants should receive dedicated EPA guidance, with supporting step-by-step instructions, in plain English, to assist new participants through including calculating their emission liability.

### **SF<sub>6</sub> user 1 tonne threshold: administrative burden disproportionate to level of emissions**

As outlined above, joining the ETS as an SF<sub>6</sub> participant has involved a high administrative burden and Powerco has faced compliance challenges.

In light of these issues, Powerco considers that the administrative burden of participating in the NZ ETS (as an SF<sub>6</sub> user who only marginally exceeds the 1 tonne participation threshold) is disproportionately high compared with the level of emissions involved. Given Powerco is such a small ETS player, Powerco questions whether ETS participation is a cost effective exercise for both Powerco and the EPA. Powerco notes that the appropriateness of the prescribed threshold given the very low emissions liability that results from applying the legislation was an issue expressly raised by the external climate change specialist who undertook an SF<sub>6</sub> audit for Powerco. Powerco does not object to the inclusion of major users of SF<sub>6</sub> in the ETS, but considers that the current exemption threshold of 1 tonne of SF<sub>6</sub> is too low in light of the complexities and high compliance costs involved. In particular:

- As a relatively minor participant in the ETS, with an SF<sub>6</sub> inventory only marginally over the threshold, Powerco's emission liability for both the 2014 and 2015 years totalled just 104 tCO<sub>2</sub>e. Given the current "one-for-two" surrender obligation, Powerco was therefore only required to surrender a total of 52 units for both 2014 and 2015. Such a low ultimate emissions liability (even if it were to double following removal of the "one-for-two" transitional measure) does not justify full involvement in the ETS, and will not be effective in driving emission reductions (especially given that SF<sub>6</sub> is currently the best available technology for electrical switchgear insulation, and emissions typically arise from very low rates of gradual escape during the lifetime of the equipment);
- The threshold for participation for SF<sub>6</sub> users is anomalous when compared to the thresholds for other activities. The 1 tonne SF<sub>6</sub> threshold translates to a very low annual emissions level, as evidenced by the Powerco's very low emissions liability in 2014 and 2015. By contrast, other activities have much higher thresholds – for example, geothermal fluid (4000 tonnes of emissions per annum) and producing gold (5000 tonnes of emissions per annum).

- The threshold for SF<sub>6</sub> participation should be able to be increased without having a significant impact on the level of ETS coverage of SF<sub>6</sub> emissions, as there are a small number of SF<sub>6</sub> users who account for the majority of SF<sub>6</sub> emissions. Following the 2011 ETS Review, the Regulatory Impact Statement on the proposed amendments to the Climate Change Response Act<sup>1</sup> identified that one electrical switchgear user accounted for 60% of total emissions and three users accounted for over 75% of emissions;<sup>2</sup> and
  - The Climate Change Response Act 2002 already provides a specific offence for the wilful release of SF<sub>6</sub> into the atmosphere in the course of dealing with electrical switchgear.<sup>3</sup> Therefore smaller users of SF<sub>6</sub> who do not exceed the emissions threshold for full ETS participation are still subject to controls in relation to the wilful release of SF<sub>6</sub> from their electrical switchgear.
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<sup>1</sup> Regulatory Impact Statement – ETS Review 2011: Amendments to the Climate Change Response Act 2002 (27 April 2012)

<sup>2</sup> At page 21.

<sup>3</sup> Climate Change Response Act 2002, s 264.

## NZ ETS review: Operational matters technical note

The following questions relate to information presented in the Operational Matters Technical Note, which can be found here.

### Encouraging compliance with NZ ETS requirements

*OM1. Do you encounter challenges when completing New Zealand Emissions Trading Scheme (NZ ETS) requirements, such as meeting your emissions reporting or surrender requirements?*

Yes

No

Unsure

*What are these?*

See above Powerco response to Question 25, particularly in relation to legislative timeframes and requirements once the SF<sub>6</sub> threshold is exceeded, and complexities in data collection.

*What would overcome these challenges?*

See above Powerco response to Question 25.

*OM2. What is your opinion of the tools available to regulators to correct errors and address non-compliance?*

Powerco notes that in its dealing with the EPA, it has found the EPA staff to be helpful and pragmatic. Powerco considers it is important that the EPA retain discretion regarding what response is appropriate in the particular circumstances where there are errors or non-compliances.

*What would help improve these tools?*

**N/A**

*OM3. Are there options, not already included here, for improving compliance with emissions reporting and surrenders?*

Yes

No

Unsure

*What are they?*

See above response to Question 25.