Regulatory Impact Statement - New Zealand Climate change information

Regulatory Impact Statement
Climate Change (Synthetic Greenhouse Gases) Regulations 2010

Released 21 June 2010

Agency Disclosure Statement

This Regulatory Impact Statement has been prepared by the Ministry for the Environment. It provides an analysis of options for importers, exporters, manufacturers and destroyers of synthetic greenhouse gases to estimate their greenhouse gas emissions, thereby fulfilling part of their obligations under section 62 of the Climate Change Response Act 2002 (CCRA). The work to date has benefited from advice provided from an independent expert stakeholder technical advisory group and an independent consultant.

Because of the limited information on the number of persons importing or exporting synthetic greenhouse gases contained in goods, the policy proposals advanced by this statement contain gaps, uncertainties and assumptions. Other areas of uncertainty relate to the quantity of synthetic greenhouse gases contained in types of goods, and the composition of those gases. Consultation on in-principle policy decisions and draft regulations will be targeted at filling in information gaps and testing assumptions, where possible.

The policy proposals will not impair private property rights, market competition, or override fundamental common law principles. There will be a very small effect on the costs faced by different motor vehicle importers because of a proposed mandatory participation threshold. The cost effect of this threshold is very small and is therefore not expected to distort the wholesale market.

There are compliance costs on participants who import and manufacture synthetic greenhouse gases as they have mandatory obligations under the CCRA. Voluntary compliance costs will exist for participants who export or destroy synthetic greenhouse gases as those activities are not mandatory. The preferred policy proposals reduce potential compliance costs to the minimum while providing positive incentives for businesses to innovate and invest, in line with the objectives of the CCRA.

There are implementation risks and these are:

- The large number of mandatory participants (potentially thousands) given the multiple sectors involved in importing and exporting synthetic greenhouse gases.
- The difficulty for the NZ ETS administrator to assess compliance from the synthetic greenhouse

gas sector.

- Participants being required to surrender a greater number of emission units to the Crown than the Crown reports in actual emissions in any year.
- The complexity of the methodologies that may confuse and impede persons.

[signed by]
Stuart Calman, Director

Status quo and problem definition

Status Quo

1. The Crown is required to manage national greenhouse gas emissions under the United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol.
2. The Kyoto Protocol requires the Crown to control emissions over the 2008 to 2012 period to be no more than five times 1990 emissions, or purchase emission units to make up for any excess emissions. The synthetic greenhouse gas (SGG) sector does not have unit surrender obligations under the NZ ETS until after the Kyoto period 2008 to 2012. However for the assessment of fiscal costs this analysis assumes a continuation of the Kyoto commitment after 2012. So, if net national emissions from SGG activities as reported in the Inventory are more than the total emissions as reported from SGG participants under the NZ ETS, there is a fiscal cost to the Crown.
3. The SGG emissions reported in the New Zealand Greenhouse Gas Inventory ("Inventory") and covered under the Kyoto Protocol are:
    - Sulphur hexafluoride (SF_6); used as an insulator for high voltage electrical equipment. The majority of SF_6 is used in electrical equipment, particularly electricity generation, transmission and distribution.
    - Perfluorocarbons (PFCs); NZ's main source is the Tiwai Point aluminium smelter (these emissions are included in the aluminium smelting industrial processes sector). Some very small amounts are used in stationary refrigeration.
    - Hydrofluorocarbons (HFCs); mainly used in the stationary and mobile refrigeration industries. They are also used in specialist aerosol applications and in fire protection equipment.

4. Reported emissions of SGGs in 2008 were 830,000 t CO_2-e and valued at $42 million (at $50 per emission unit).
5. Refrigerants already covered by the Montreal Protocol are not included in the Kyoto Protocol and are therefore not covered by the New Zealand Emissions Trading Scheme.
6. There are multiple sectors involved in importing and exporting SGGs, potentially involving many thousands of participants. The majority of these participants are involved in importing used vehicles which have small charges of HFC contained in their air conditioning systems. Much larger amounts of HFCs are imported in bulk containers for use in manufacturing industries, as well as contained in commercial refrigeration and air conditioning equipment. A much smaller number of participants are involved in the importation of SF_6.
7. The Climate Change Response Act 2002 ("CCRA") imposes mandatory requirements on persons

manufacturing or importing SGGs either in bulk or in equipment from 1 January 2012. There are exemptions for medical uses (for example asthma inhalers) and when the gases are contained in imported equipment that is accompanied by the owner and not intended for sale or gifting.

8. The CCRA permits persons to apply to be a participant for the export or destruction of SGGs from 1 January 2012. These activities are described as 'removal activities' as they result in the removal of potential emissions from New Zealand.
9. At the current time, there is no manufacture or destruction of SGGs in New Zealand. Any destruction of SGGs is performed in Australia. Removing those waste SGGs for destruction falls into the activity description of exporting.
10. Section 62 of the CCRA states that a participant must calculate the emissions and the removals from the activity in accordance with the methodologies prescribed in regulations made under the Act. Regulations, as allowed under section 163 of the Act, will prescribe the data or other information that must be collected, as well as the methodologies that must be followed to calculate greenhouse gas emissions or removals. There is no requirement under the Act or Cabinet decision that regulations are required. The relevant provisions of the CCRA are contained in Appendix 1.
11. Section 60 of the CCRA permits exemptions to be made by Order in Council. Before recommending the making of an Order in Council exemption, the Minister must be satisfied that it will not materially undermine the environmental integrity of the NZ ETS, and that the costs of the Order do not outweigh the benefits.
12. Persons with obligations, including those who have applied to become participants in respect of their removal activities, are required to report on their 2012 calendar year activities by 31 March 2013. Persons with obligations are required to report on their 2013 calendar year SGG importing or exporting activities by 31 March 2014 and either surrender the necessary number of emission units by 31 May 2014 or be awarded emission units for removal activities.
13. There is a need to establish practical and accurate methods so SGG participants can meet their reporting obligations under the NZ ETS. The requirements for data collection and verification are intended to provide the right balance between simplicity and the robustness of emissions returns. It is important that emissions returns are robust as both the liabilities of SGG participants to surrender emission units, as well as the Crown's liability to transfer units for removal activities, are based upon their emissions returns.
14. The Act provides for voluntary reporting of SGG activities from 1 January 2011. Promulgation of regulations in 2010 will enable voluntary reporting to be undertaken with an understanding of the requirements that will apply when reporting becomes mandatory.

Problems to be solved

1. Complying with the Kyoto Protocol imposes an obligation on the Crown to reduce greenhouse gas emissions to five times 1990 emissions. This obligation can be achieved through domestic measures or through purchasing emissions units internationally. The NZ ETS is designed to assist in the achievement of that obligation. The absence of standardised methods for persons with NZ ETS obligations creates a fiscal risk to the Crown. Persons with obligations under the CCRA and those that voluntarily take up obligations as removal activity participants would have no

standardised approaches to reporting activities. It is likely that this would result in a substantial underestimation of emissions and an overestimation of removals. Additionally, the Crown would not have any basis to contest any reporting as inaccurate. The method chosen needs to minimize this fiscal risk.

2. The second problem is there are multiple sectors involved in importing and exporting SGGs, involving potentially thousands of participants. This creates potentially very large administration costs for the Crown especially where no alternative sources of information exist that identify mandatory participants and their activities. Additionally many participants are responsible for very small amounts of emissions each year and their mandatory participation in the NZ ETS could create high compliance costs to the industry. The costs of complying with the NZ ETS may outweigh any environmental benefit. The method chosen needs to address these costs where possible.

Objectives

1. The objectives of any intervention is to:
    1. Align the methodologies that participants will use to calculate their emissions or removals under the NZ ETS, as closely as practicable, to the principles and methodologies used to calculate the Inventory thus avoiding fiscal risk to the Crown;
    2. Minimise transaction and compliance costs to participants in terms of the information that must be collected and reported;
    3. Minimise administrative costs, including costs associated with verification and ensuring compliance, for the NZ ETS administrator;
    4. Provide the best price signal including if possible, incentives for improved emissions efficiency, and avoid creating perverse incentives;
    5. Provide participants with certainty so that the methodologies are known ahead of time.

2. The regulatory impact analysis is grouped into two areas for discussion; methodologies and exemptions.

Regulatory impact analysis – methodologies

1. Methodologies for calculating SGG emissions and emission factors were developed by a contractor from CRL Energy Ltd and considered by an independent expert stakeholder technical advisory group (TAG) over a four week period during March and April 2010. The TAG was comprised of sector experts from across the SGG sector.
2. Three broad options for calculating emissions have been identified.
    1. Non-regulatory guidance, where participants are able to chose a method to estimate emissions with support from non-binding guidance materials from the government.
    2. Regulations that apply a loss factor; which attempts to mirror methods used in the Inventory. Participants are required to report on emissions from their current and historical SGG activity and a default emissions factor.

3. Using a chemical mass balance approach; where participants are required to report on the absolute amount and type of gas they are importing or exporting in bulk or in pre-charged equipment in the year.

Option 1: Non-regulatory guidance

1. Non-regulatory guidance could take the form of published reports and calculators. Participants could utilise overseas methodologies such as the methodological options detailed within the Australian National Greenhouse and Energy Reporting regulations. New Zealand officials could develop similar technical forms and materials that would generate a degree of consistency in approach between participants.
2. A non-regulatory approach would have fiscal implications for the Crown. This is because the Inventory, which reports the Crown's obligation, would report a substantially different estimate of total emissions than might be reported by all participants. Methodological flexibility would enable participants to report the lowest possible estimate of annual emissions, as well as report the maximum amount of removals through exporting activities.
3. The benefit of a non-regulatory approach would be to minimise compliance and transaction costs for participants through maximising flexibility in methodological choice.
4. However non-regulatory guidance will not address the NZ ETS administrator's costs of assessing compliance and managing reports and obligations.
5. Without mandated methodologies, considerably more ad-hoc judgements will be used by participants. Such judgements are unlikely to be repeatable without documented evidence of the context in which they were made. This will not facilitate easy verification of emissions or removals.
6. Non-regulatory guidance will not result in an adequate price signal. Under-estimating emissions will limit the effectiveness of the NZ ETS in creating incentives to reduce emissions from the use of SGGs in the medium to long term because the cost signal would be reduced.

Table 1: How the non-regulatory guidance method meets the objectives

	Meets objective criteria
Aligns methodologies	×
Minimises costs to participants	√
Minimises costs to the Crown	×
Provides price signal	×
Certainty of methodologies	×

Option 2: Regulations using a loss factor

1. A loss factor could be applied to SGGs imported into or exported from NZ. There are a range of

loss factors that could be applied depending on the use of the SGG. For example, there is assumed to be a 100 percent loss rate for aerosols in a year or a 5 to 15 percent loss for commercial air conditioning units. Using the example of a stationary air conditioning unit, a person who imported one tonne of SGG in a year with the loss factor method would be required to report 5% of that amount as emissions for the next twenty years. The person would also need to surrender the necessary number of units each year for twenty years.

2. The benefit of applying a loss factor would be that the NZ ETS reporting would be more closely aligned with the methods used in the Inventory. The Inventory utilises assumed loss factors in many SGG sub-sectors, because emissions are otherwise impossible to estimate.
3. However the method would create an incentive for participants not to fulfil their responsibilities for surrendering emission units over such a long length of time (eg over 20 years), with the additional risk of businesses closing and leaving the financial liability to the Crown.
4. The loss factor method would facilitate the verification of emissions or removals providing records are kept. However, given the small loss factor assumed by most uses of SGGs, it may prove increasingly difficult over time to trace activity records.
5. The compliance and administrative costs of such a method would be large. The use of a loss factor would require a participant to report emissions and surrender units for many years after the SGG was imported. Similarly, the Crown would need to reward exporters of SGGs with emissions units for many years after the SGG was exported. Over time, this could result in many hundreds of persons surrendering or receiving emission units for activities that occurred up to 20 years prior.
6. Those administrative and compliance costs are in addition to the second problem of the large number of participants identified in the problem statement. This loss factor method does not reduce the compliance assessment or administrative costs faced by the NZ ETS administrator from the sector.
7. A loss-factor method would provide a price signal to create incentives to improve emissions efficiency but it would be unlikely to be the full price because of the highly competitive nature of the industries, as well as the high uncertainty regarding the price of emissions units for the next 20 years.
8. The loss factor approach is not recommended as the preferred method as it would create an incentive for participants not to fulfil their obligations, especially given the length of time emissions units would need to be surrendered over. This creates a financial risk to the Crown.

Table 2: How the loss factor method meets the objectives

	Meets objective criteria
Aligns methodologies	√
Minimises costs to participants	×
Minimises costs to the Crown	×
Provides price signal	√

Certainty of methodologies	√

Option 3: Regulations on chemical mass balance – the preferred option

1. The chemical mass balance approach to estimating emissions from SGG use reports emissions as if they were emitted in the year that the gas was imported.
2. Emissions, as reported in the Inventory, are influenced by the rate at which losses are assumed to occur through general equipment usage and eventual obsolescence. The chemical mass balance approach therefore does not align with the Inventory method in the short term. However over time the resulting emissions and removals from importing and exporting of SGGs will align with Inventory reporting. This time scale will vary according to the actual use of the SGG: less than ten years for domestic refrigeration equipment, but over thirty years for SF_6 contained in electrical switchgear.
3. Therefore the costs to participants are initially greater than reflected in the inventory estimates. There could be the perception that the Crown is benefiting from this approach.
4. Comparing Inventory emissions over eight years (2001 to 2008), with the emissions calculated using the proposed chemical mass balance method, results in an average overstatement of 65 percent for the period, or $22 million at $50 per emission unit.
5. This is because increasing amount of SGGs imported into New Zealand over this eight year period would have led to excess units surrendered over emissions reported in the Inventory if the chemical mass balance approach had been used by NZ ETS synthetic greenhouse gas participants. However, as noted, over time the chemical mass balance approach and inventory reporting will align more closely.
6. It is worth noting that if importing activity drops away in a year, then it is possible that the Inventory will report more emissions than are reported under this method in the NZ ETS.
7. The chemical mass balance method will minimise the transaction and compliance costs to participants in terms of the information that must be collected and reported. Participants will already hold the relevant information found on equipment nameplates or from manufacturer records that can be used or use default SGG charge rates in the case of vehicle air conditioners (refer to Table 3). Detailed discussion on the proposed method and data requirements is contained in Appendix 2.

Table 3: Data availability

	Data availability
Bulk chemicals	Accurate records kept by importers on amount and type of gas or gas mixture. Exporters will require analysis of gas mixtures for quantity and composition of SGGs. Gas (or gas mixture) and quantity obtained from equipment

Pre-charged equipment (excluding vehicles)	nameplate or manufacturer’s records. Limited knowledge on the number of importers and who most of them are.
Vehicles containing air conditioning units	There is data on the number of vehicles imported but questionable information on who imports them. Nameplate often, but not always contains gas type or quantity. Default gas charges provided.

1. Many importers and exporters are already familiar with the chemical mass balance method as it is has close similarities with the approach used in the Australian Ozone and Greenhouse Gas legislation that places certain requirements on importers of SGGs.
2. However, this method will not, by itself, address the administrative costs faced by the NZ ETS administrator. The administrative costs are caused by the very large number of participants and the current lack of information on identifying those participants. The exemptions section below explores possible solutions to this problem.
3. The chemical mass balance method will provide a strong price signal to incentivise the efficient use of SGGs. The full NZ ETS price of all future emissions will be reflected in the price of SGGs imported. This price will be passed through to consumers, including commercial installations of refrigeration equipment, who will have a clear incentive to prevent leakage of SGG, and maintain the highest possible equipment maintenance. It will also strongly incentivise the waste SGG collection and destruction industry (through export), as it will be rewarded for all emissions removed as soon as the SGG is exported.

Table 4: How the chemical mass balance method meets the objectives

	Meets objective criteria
Aligns methodologies	√
Minimises costs to participants	√
Minimises costs to the Crown	×
Provides price signal	√
Certainty of methodologies	√

Regulatory impact analysis – exemptions

1. As noted in paragraph 43 above, no method can address the problems of compliance and administration costs associated with the large number of required participants. Methods can seek to minimise costs from estimating emissions for an individual, but not the costs that arise from having many thousands of persons being required to undertake that estimation and reporting. These are different costs. The latter is a function of the activity description used in the CCRA, where it imposes NZ ETS obligations on anyone importing or exporting synthetic greenhouse gases.
2. There are some exemptions in the CCRA. Schedule 3 Part 4 Subpart 2 of the Act exempts aerosols containing SGGs for medical uses (eg asthma inhalers) and any SGGs imported contained in goods that are household goods, if the owner also travels with those goods.
3. Section 60 permits the Minister to recommend the making of exemptions. There are several assessment criteria for exemptions using section 60 of the Act. The exemptions need to not undermine the environmental integrity of the scheme, while ensuring that the costs of the exemption do not outweigh the benefits.
4. Any exemptions proposed for importing or exporting SGGs in some particular goods will need to show that those exemptions will have little impact on the environmental integrity of the NZ ETS, and have benefits greater than the costs. There are four exemptions proposed in this analysis. These are importing or exporting SGG if contained in:
    1. the refrigeration or air conditioning system of an aircraft, ship or container engaged in an international trip, including any domestic leg of an international trip; and
    2. a manufactured product that consists in part of that gas only because the gas was used in the manufacturing process (example – insulation foam); and
    3. goods where the goods are imported for that person's personal non-business use and are not intended for gift, sale or exchange; and
    4. motor vehicles where the person imports or exports less than 100 tonnes of carbon dioxide equivalent (t CO_2-e) in a year.

Exemption one – international movements

1. The first proposed exemption is necessary because there are many hundreds of importing and exporting activities possibly captured by the Act that do not result in any emissions. Every time a passenger jet or refrigerated ship or container enters or leaves New Zealand it is importing or exporting refrigerants. No emissions are recorded in the Inventory from such activity because New Zealand is not responsible for emissions from international journeys. The alternative approach, being NZ ETS coverage, would result in considerable compliance costs for the Crown and participants for no environmental or net fiscal gain. This source of emissions is exempt from the proposed Australian emissions trading scheme.

Exemption two – insulation foam

1. The second proposed exemption relates to the importing and exporting of SGGs contained within insulation foam. The Inventory reported 100 tonnes of CO_2-e emissions in 2008 from this source. This is a trivial amount. There is no accurate method to reliably test the quantity of SGG contained

in insulation foam. The Inventory also noted there was a 60% uncertainty estimate regarding foam emissions. This source of emissions is also exempt from the proposed Australian emissions trading scheme.

2. The fiscal cost of exempting foam is expected to be negligible as the 2008 emissions would be estimated to be just $5,000 in 2013, using $50 per emission unit.
3. The very small amounts of SGG currently used in foam would mean exempting foam from the NZ ETS will not materially undermine the environmental integrity of the NZ ETS.

Exemption three – non-business use

1. The third exemption will further reduce the potential number of participants. The Act requires thousands of people to become participants simply by importing one piece of equipment (eg a refrigerator or car). As mentioned above, Schedule 3 Part 4 Subpart 2 already exempts any SGGs imported contained in goods that are household goods if the owner also travels with those goods. However this does not avoid the situation where a person is importing one refrigerator for their personal use from having to become a participant under the NZ ETS. In many cases, the actual amount of SGG imported by persons is very small. A person who imports a single car in a year will have a consequent NZ ETS liability of 1 emission unit (equivalent to NZ$50).

Exemption four – vehicles

1. Even with these proposed exemptions, there will still be many thousands of potential participants in any year. There will be resulting compliance costs for participants and administrative costs for the NZ ETS administrator.
2. Managing compliance costs for small importing businesses is difficult. A great number of small emitters are vehicle importers. It is expected that any threshold would incentive business restructuring to avoid the NZ ETS costs. However, those costs need to be considered against their actual impact on the costs of purchasing and importing a vehicle. In that context, the NZ ETS costs are probably not significant to warrant massive restructuring in order to avoid those obligations. Consequently a threshold is considered a useful tool for vehicle importers.
3. A threshold of 100 t CO_2-e for SGGs contained in or attached to vehicles is proposed. Using analysis from the most recently available and relevant data (2007) and an assumption that each vehicle contains 700g of HFC 134a this equates to around 110 cars. All vehicles imported would be covered by this threshold, including agricultural machinery, trucks and cars. Applying this threshold would mean around 200 persons importing vehicles would be mandatory participants. Those 200 persons were responsible for around 85% of the imported HFC contained in vehicles in 2007. Without the threshold, in 2007 there would have been over 6,000 mandatory participants from this activity. This proposed threshold recognises that the compliance and administrative costs for most vehicle importing and exporting participants are larger than the environmental benefits gained by requiring their participation. It would also reduce the administrative costs of the NZ ETS administrator.
4. The proposed threshold would have a fiscal impact of around $1.5 million per year, assuming $50 per emission unit.

5. A higher threshold would further reduce numbers of mandatory participants, but also reduce the coverage of the NZ ETS and increase the likelihood of businesses restructuring activities to fall below the threshold.

Exemptions - related issues

1. The other sector with compliance cost issues is imported stationary refrigeration and air conditioning equipment. A threshold here would create problematic competitiveness impacts, especially for small appliances. The NZ ETS would increase costs relatively substantially for a domestically manufactured appliance that was filled with SGG from a bulk gas supplier. That same appliance would compete in NZ against competitors who might be below a threshold and therefore have no NZ ETS costs.
2. The TAG felt it was unfair on large importers for smaller players to be exempted by a threshold. They pointed to the Australian reporting for the Ozone Protection Act where there is no threshold and the reporting system thus far works well. However, that legislation is a relatively simple licensing and reporting scheme without the other unit surrender obligation or application for removal activities that are contained in the CCRA.
3. Early forms of the CCRA proposed NZ ETS obligations on bulk gas importers only. This was strongly opposed by submitters, some of whom provided evidence that exemptions for SGG in imported goods would severely affect their domestic competitiveness.
4. Blanket NZ ETS coverage of SGG imported in stationary air conditioning equipment remains the preferred method because of the competitiveness concerns that any threshold would cause.
5. There are significant costs and risks for the NZ ETS administrator from this approach. These arise from the administrator being required, under the CCRA, to
    1. Identifying the mandatory participants in the ETS; and
    2. Ensure the quality of emissions reporting undertaken by those that do register; and
    3. Being able to undertake the compliance and enforcement actions required under the Act in an efficient and cost effective manner.

6. The administrator has strong concerns about being able to perform those responsibilities. This problem is not related to the choice of method or level of threshold. It is caused by the CCRA coverage of particular SGG activities and a lack of knowledge and reporting on the SGG importing activity.
7. At this stage there is no answer to these potentially high administrative costs, aside from complete exemption of all SGG imported. This is not an available solution as entirely exempting a Schedule 3 activity would undermine the environmental integrity of the scheme. Even though the emissions are relatively small, the gases identified are three of the six Kyoto Protocol gases.
8. If the information gaps were addressed, then the problem would be resolved. It is recommended that solutions to this problem be worked on outside of the NZ ETS work on methodological regulations.

Consultation

1. Officials have worked with a contractor from CRL Energy Ltd (who has had extensive experience in SGG Inventory reporting) and members of an independent expert stakeholder technical advisory group to explore and develop preferred methodologies. The members of the TAG were recommended by the contractor to ensure representation from across the diverse SGG sector. The contractor tested out preferred methodologies with the TAG over two meetings before completing the report to officials.
2. The TAG's main concerns related to the technical and methodological issues were around compliance issues rather than the proposed methods themselves.
3. The TAG was concerned about how compliance for vehicle importers would work given the large number of likely participants and short business life spans. Their recommendation was to either make vehicle air conditioning compliance reporting (and fees payment) compulsory at the border or exempt vehicle importers because of the significant risk of non-compliance with smaller scale vehicle importers. The issue of compliance will be worked through with the industry either during the consultation phase or through a separate work stream.
4. The TAG noted that the 2011 review of the ETS could be an opportunity to revisit the inclusion of SGGs in the NZ ETS and wanted opportunities to explore alternative legislative options and revising the Ozone Layer Protection Act at the same time.
5. The TAG recognised the chemical mass balance method as the simplest and most-cost effective option available.
6. Consultation on exposure draft regulations is proposed for four weeks from the end of June 2010. Submissions will be sought through workshops and written reports. Following that consultation, Cabinet will be asked to confirm or change its in-principle policy decisions.
7. A draft of this RIS was circulated to the following departments for comment: the Treasury, the Ministry for Agriculture and Forestry, the Ministry of Economic Development, the Ministry of Foreign Affairs and Trade, the Ministry of Transport and Te Puni Kokiri. The Department of Prime Minister and Cabinet was informed. Departments agree with the preferred option. The Ministry of Economic Development, as the NZ ETS administrator, has included a departmental comment in the Cabinet paper. That comment notes its strong concerns with the workability of any methodological options for implementing the CCRA on synthetic greenhouse gas importers. These concerns are explored further in paragraphs 63 to 66 above.

Conclusions and recommendations

1. This RIS considers three options for fulfilling the NZ ETS obligations of manufacturing, importing, exporting and destroying SGGs under the Climate Change Response Act 2002. The non-regulatory approach is not recommended as it would create too much uncertainty for participants, not provide an adequate price signal and inevitably underestimate emissions to the cost of the Crown.
2. The loss factor approach is also not recommended as it would create an incentive for participants not to fulfil their obligations, especially given the length of time emissions units would need to be surrendered over. This creates a financial risk to the Crown. Additionally the approach would create substantial compliance costs for all SGG participants and administrative burdens for the

Crown.

3. The chemical mass balance method allows for all SGG activities to be captured regardless of their subsequent use. The benefit of this approach is that it captures all significant emissions and removals with less compliance costs than the other options. It also has less fiscal risk. Reporting information that participants already hold (such as equipment nameplate information or manufacturer records) can be used. It does initially result in higher annual emissions compared to Inventory reporting to the benefit of the Crown. However, over time the resulting emissions and removals from importing and exporting SGGs will align with Inventory reporting. The chemical mass balance approach is preferred by officials and the contractor for the above reasons, and is accepted by the TAG as the simplest and most-cost effective option.
4. This RIS discusses exemptions for certain SGG importing and exporting activities, being SGGs contained in imported goods not intended for sale or business use, SGGs contained in insulation foam and in the refrigeration systems of aircraft, containers and ships. A threshold is proposed for importing SGG contained in motor vehicles. This threshold will reduce the potential number of participants significantly but still maintain broad coverage of SGG imported. There are clear benefits that outweigh the costs of such exemptions, including removing compliance and administrative costs, compared to negligible environmental and fiscal impact.

Implementation, Perverse Outcomes and Risks

Perverse outcomes

1. A perverse outcome from the price impact of the NZ ETS on SGGs is the incentive to continue importing goods containing ozone layer depleting substances (ODS). The Ozone Layer Protection Act, passed to help achieve Montreal Protocol obligations, has resulted in the phasing out of the importation of bulk ODS, but it currently does not prevent the importation of ODS contained in goods. The NZ ETS will provide a cost incentive to continue the importation of this equipment as long as possible, leading to stranded assets that cannot be maintain as there is no stock of ‘raw’ ODS to replenish the systems. The incentive will also affect New Zealand’s achievements under the Montreal Protocol.
2. The proposed NZ ETS regulations cannot address this perverse outcome as they are not able to extend beyond the powers provided in the Act. Officials are considering policy on this perverse outcome and will provide advice to Ministers later in the year.
3. For some SGGs, such as SF_6, there will be a significant price impact that could create other perverse outcomes. While the NZ ETS will incentivise participants to import SGGs before January 2013 to avoid NZ ETS costs, it could also create an opportunity for people to re-export bulk SGGs to take advantage of the high global warming potentials of the gases. For example, a person who imported one tonne of SF_6 in 2012 for $30,000/t, would earn 23,900 units (valued at $50 each, or $1.2m in total) through re-exporting that gas in the following year. These units would be not be matched by an equivalent number of units surrendered for the importing activity, and would therefore be a cost to the Crown.
4. There is therefore a need to restrict eligibility for removal activities for exporting SF_6 in bulk. The

preferred approach to achieve this would be to require documentation to accompany any application for removals related to that particular activity. The documentation would need to show that the SF_6 being exported entered New Zealand after 1 January 2013 therefore assuring the Crown that any emissions units awarded for removals is balanced by surrendered emissions units. Requiring such documentation can only be performed through regulations.

5. Such an approach is not expected to create large compliance costs for any SF_6 exporters, as there is not expected to be a hugely complex set of trades that make tracing the original importation date of the gas difficult.
6. The requirement will maintain the environmental integrity of the NZ ETS, manage a fiscal risk, and assist in the verification of emissions and removals.

Implementation risks

1. Including the SGG sector in the NZ ETS potentially means thousands of direct participants with mandatory obligations.
2. Most of these import SGG contained in vehicles. The remaining SGG participants could number 100-200, without household and other personal uses of SGG imported considered, although these numbers are very speculative.
3. Apart from vehicle importers (who are highly regulated) there is very little information on the exact number of people who import (or export) SGGs contained in goods. This is because such reporting is not required at the NZ border and there is no mandatory licensing for such activities. Some activity data is captured by Customs New Zealand and reported by Statistics New Zealand, however expert advice developed for the Inventory states there is often contradictory data, a lack of detail, and a high degree of speculation.
4. Given the large number of participants, the costs of administering and enforcing implementation of the SGG sector into the NZ ETS could be extremely high. These issues include identifying the mandatory participants, assessing the quality of the information reported by participants and being able to undertake the compliance and enforcement actions required under the Act in an efficient and cost effective manner. None of the options proposed in this paper are able to address these issues.
5. The issues could be managed through exemptions, however such broad exemptions need to be considered alongside other solutions given the impact broad exemptions would have on the environmental integrity of the scheme.
6. Officials will look at ways to reduce compliance and administrative costs with the NZ ETS administrator and other agencies in parallel with the development of regulations.
7. The divergence in the chemical mass balance approach with Inventory reporting could result in SGG participants surrendering more units than are matched by reported emissions in the inventory in the short term. There is a risk that SGG participants will consider this to be unfair. This risk will be managed by ensuring the participants are aware that they are reporting potential emissions but they will become actual emissions over time and will align with Inventory reporting and there will be minimal long term fiscal implications for the Crown.
8. However there is the risk of an increasing carbon price over time. The timing difference between the Inventory reporting (and meeting international obligations) and SGG participants surrendering

units does mean there is the potential for over or under surrendering of units compared to the Crown's international obligations.

9. There are implementation risks from poor communication, including SGG participants being unaware of their obligations or not understanding the methodologies. These risks will be managed through industry and government lead communications efforts, including NZ ETS regulation consultation and implementation meetings. Communications networks developed through the SGG TAG could be used for NZ ETS implementation work.
10. Compliance costs to participants are mitigated as much as possible though the choice of methodological approach. The chemical mass balance approach is simple and uses SGG data already available on equipment nameplates and manufacturer records. Compliance costs will be further reduced through the development of a spreadsheet calculator tool so that SGG participants only need input a small amount of data to determine their emissions liability.
11. Pending Cabinet approval, the NZ ETS Synthetic Greenhouse Gas Regulations and amendments to the other Removals Activities Regulations will be promulgated by 1 October 2010. Following this, there will be a period of targeted stakeholder engagement with the sector to inform them of the final design of the regulations. This will include the development and dissemination of guidance materials, regional workshops for all participants and individual case management for certain participants. The NZ ETS Synthetic Greenhouse Gas Regulations and related amendments to the other Removals Activities Regulations will come into effect on 1 January 2011.

Monitoring, evaluation and review

1. Compliance and enforcement of the regulations will be in accordance with the Subpart 4 of Part 4 of the Act that sets out the provisions relating to offences and penalties. The proposed regulations are to be administered by the chief executive of the Ministry of Economic Development as part of his role in administering the Act.
2. The implementation risk noted above on the difficulty in ensuring compliance with the Act and its regulations is important. However, this risk is not resolvable through methodological choice, but should be addressed by policy development prior to the onset of mandatory obligations in 2012.
3. The government can review regulations at any time. Furthermore, the regulations may be reviewed in the context of the scheduled reviews of the operation and effectiveness of the NZ ETS, as required by section 160 of the Act. The first review is to be completed by the end of 2011.

Appendix 1 – relevant CCRA provisions

1. Section 60 of the CCRA allows the Minister for Climate Change Issues to exempt certain persons or classes of person from obligations where there is sufficient justification to do this. The exemption from being a participant can be in respect of:
    1. *The activity; or*
    2. *Part of the activity; or*
    3. *A proportion of the emissions from the activity; or*
    4. *A combination of the above.*

2. Under section 60(2), the Minister must be satisfied that:
    1. *any exemption will not materially undermine the environmental integrity of the greenhouse gas emissions trading scheme; and*
    2. *the costs of making the exemption do not exceed its benefits.*

3. In addition, the Minister *must have regard to* the following (section 60(3)) when making an exemption or setting a threshold:
    1. *the need to maintain the environmental integrity of the scheme; and*
    2. *the desirability of minimising any compliance and administrative costs, and*
    3. *the relative costs of giving the exemption or not giving it; and*
    4. *any alternatives that are available for achieving the objectives of the Minister in respect of giving the exemption; and*
    5. *any other matters the Minister considers relevant.*

4. Section 163 (1) of the Climate Change Response Act 2002 states that:

    The Governor General may, by Order in Council made on the recommendation of the Minister, make regulations for 1 or more of the following purposes:

    (a) Prescribing the data or other information that must be collected under section 62(a) [collecting prescribed data to estimate emissions or removals] in respect of an activity, and, if relevant, the mechanism or method by which the data or information must be collected; and

    …

    (c) Prescribing a methodology or methodologies for calculating emissions or removals from the activity for the purposes of section 62(b) [calculate emissions or removals];
5. Section 168 (1)(m) of the Climate Change Response Act 2002 states that:

    The Governor General may, by Order in Council, make regulations for 1 or more of the following purposes…(m) prescribing a threshold for the purposes of any removal activity listed in Part 2 of Schedule 4

Appendix 2 – details of data and methods for bulk chemical and pre-charged equipment

1. There are several distinct groups within the synthetic greenhouse gas sector and the chemical mass balance method allows the same general method to be used for all of these groups while allowing for minor variations to accommodate specific data requirements.

Bulk chemical imports and exports

1. The general method for importers and exporters of bulk chemicals is the quantity of SGG imported or exported multiplied by the global warming potential of the particular SGG.
2. Accurate records are kept for both the amount and type of SGG imported in bulk. SGGs (with the exception of SF_6) are usually exported as mixtures. Participants will be required to sample and test to suitable international standards (for example methods accredited to ISO 17025) if chemical identification cannot be provided. It is acknowledged gas would probably be collected from a number of sources before being analysed and it would be difficult to attribute gas composition and quantity to individual users.

Pre-charged equipment imports and exports

1. Pre-charged equipment encompasses a huge range; household refrigerators, freezers, air-conditioners and dehumidifiers to self-contained refrigerated equipment used in the retail food and beverage industry, remote cabinet systems used in supermarkets and dairy farming and industrial and commercial coolstores.
2. The proposed chemical mass balance method for pre-charged equipment would be the number of pieces of a particular equipment type multiplied by the SGG charge for that equipment type and the global warming potential.
3. The required data for this method can be obtained by using the equipment nameplate information (including identifying the gas and the charge quantity) or from manufacturer records. Most importers and exporters of pre-charged equipment already hold or can access this information.
4. The exception in this group is the vehicle importer sector for SGGs used in mobile air conditioning units. It is a rarity to find information on the gas charge used to fill mobile air conditioning units. Therefore SGG charge information would either have to be determined for each model of car, truck and bus or a default SGG charge determined for these groups of vehicles. The contractor has provided default SGG charge rates for cars, trucks and buses and off-engine refrigerated trucks.

Aerosol packages

1. Around 21 million aerosol packages are sold in New Zealand each year, with the majority of these being imported. Synthetic greenhouse gas propellants are a high priced alternative to hydrocarbons and are therefore used in specialist applications. Currently there are around 10 identified importers of aerosol products into New Zealand.
2. The chemical mass balance method for pre-charged equipment would apply for aerosol packages with the SGG charge included in the aerosol multiplied by the appropriate global warming potential for the specific SGG.

0800 CLIMATE

[0800 254 628] Business hours 9am - 5pm