



Summary of submissions

Proposed measures to reduce the environmental impact of fluorinated gases

He huarahi marohi ki te whakaheke
i te pānga o te haurehu kōwhai ki te taiao



Ministry for the
Environment
Manatū Mō Te Taiao



Te Kāwanatanga o Aotearoa
New Zealand Government

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Executive summary

From 8 November to 18 December 2022, the Ministry for the Environment (the Ministry) consulted on proposed regulations for priority product stewardship schemes for synthetic refrigerants and prohibiting the import and sale of certain pre-charged equipment containing hydrofluorocarbons (HFCs).

The Government proposed regulations to:

- require the sale of these synthetic refrigerants and products containing them to be in accordance with an accredited product stewardship scheme
- require workforce competence evidence to work with equipment containing or designed to use fluorinated gases (F-gases), or to purchase bulk or pre-charged refrigerants
- set stewardship scheme targets, quality standards for end-of-life management of refrigerants, and reporting requirements
- prohibit the import and sale of products pre-charged with high global warming potential (GWP) HFCs.

The Ministry received 38 submissions, mostly from business and industry representatives, local authorities and individuals. This report summarises the views expressed in submissions and outlines the main findings, themes and support for each proposal.

This summary report does not make recommendations on the basis of the submissions. Any recommendations will be made through policy advice to the Minister for the Environment.

Product stewardship regulations

Refrigerants and other synthetic greenhouse gases were made a 'priority product' under the Waste Minimisation Act 2008 in 2020. This requires a product stewardship scheme to be developed and accredited for that product and enables regulations to mandate acting in accordance with the accredited scheme.

The consultation proposed regulations to support a mandated product stewardship scheme for fluorinated gases, which had been included as an action in 2022 under the first emissions reduction plan.

The proposed regulations were informed by recommendations to government from an industry co-design working party in 2020. Important elements of the co-designed scheme include improved requirements for workplace competence and widened coverage to other sectors using fluorinated gases (eg, automotive air conditioning and heat pumps).

For more information, see: [About product stewardship in Aotearoa New Zealand](#).

Prohibitions on pre-charged equipment

The consultation proposed prohibitions on the import and sale of products pre-charged with hydrofluorocarbons (HFCs) that have high global warming potential (GWP).

These proposed prohibitions were designed to be implemented once alternative technology becomes available. These proposed prohibitions will enable the government to stop the import of unnecessarily high-GWP gases, while not jeopardising essential industries that rely on refrigerant technology. Because the proposed prohibitions do not target the use of equipment specifically, consumers would only have to replace affected equipment once it reached its end of life.

To achieve this, these proposed prohibitions would be implemented in three tranches (in 2025, 2028 and 2032), with different GWP limits being set for specific classes of equipment. Equipment containing HFCs above those limits would be unable to be imported or sold. The full details of the proposed prohibitions are set out in table 2.

An import prohibition was also proposed on equipment containing ozone-depleting refrigerants. This previous generation of refrigerant has already been banned but can currently still be imported in pre-charged equipment.

For more information, see: [Reducing emissions from fluorinated gases](#).

Key findings

Refrigerant product stewardship

A clear majority of submitters supported the proposed regulatory framework for refrigerant product stewardship (table 1). Suggestions for improvement were also provided.

Table 1: Summary of submissions on refrigerant proposals – per cent support

Proposal	Agreement by those answering the question (per cent)	Agreement by total submitters (per cent)
Regulatory framework for refrigerants – agree in principle	88	74
Obligation to take part – permit sale of refrigerants only, in accordance with an accredited scheme	90	71
Take-back and targets – set minimum expectations for product stewardship organisation to provide service, including recovery, reuse and recycling targets, and reporting	96	65
Qualifications – restrict sale of fluorinated gases (F-gases) to companies and/or people registered with an accredited scheme	87	68
Business requirements – require businesses decommissioning, dismantling, disposing of or recycling equipment containing refrigerants to register with an accredited scheme and demonstrate appropriate competence	93	71
Code of competence – require businesses that install, service, modify, or dismantle any equipment containing or designed to use refrigerants to demonstrate they have appropriate competence under the Ozone Layer Protection Act 1996	89	66

Proposal	Agreement by those answering the question (per cent)	Agreement by total submitters (per cent)
Scheme funding – fund the regulated scheme in the first years through New Zealand Units earned under the New Zealand Emissions Trading Scheme by the Trust for the Destruction of Synthetic Refrigerants	85	61
Quality standard – require businesses decommissioning, dismantling or degassing of any equipment containing refrigerants to ensure F-gases are disposed of through full destruction (such as a plasma arc plant) or are recycled into plant with documented leak-testing and repair protocols	93	68
Recycling – allow recycling of F-gases under a quality standard	65	39

Impacts on business

A number of business and industry submitters gave feedback on the likely impact of the proposed refrigerant regulations on their business operations.

Some refrigeration companies noted that the cost would be minimal because investment has already been made in training on refrigerant handling. Other businesses noted that they expect the scheme will increase their costs and that these costs would be passed on to the consumer. These costs that would be passed on to the consumer were not able to be quantified without further information on the scheme design.

Prohibition on pre-charged equipment

The Government proposed GWP limits (ranging from 150 to 2500) for different categories of equipment, covering household, commercial, transportation and industrial (see [table 2](#)). The proposed prohibition on the import and sale of pre-charged equipment containing F-gases received mixed feedback. Submitters generally supported, at least in principle, a prohibition on pre-charged equipment containing F-gases, but only 4 out of the 21 submitters who responded to questions on prohibitions supported all proposed dates for the proposed prohibition and GWP limits.

Most submitters showed support for some prohibitions and opposed others. Submitters provided the following insights on specific prohibitions.

- Most believed the prohibitions for the 2028 and 2032 tranches were seen as too difficult to comment on because a lot of uncertainty exists in the industry about what future alternative refrigerants will be.
- Many submitters supported the 750 GWP limit on household air conditioning and the 150 GWP limit on domestic refrigeration because household air conditioning and domestic refrigeration had already made this transition.

Some conflicting comments were expressed on vehicle air conditioning. Many submitters felt the 150 GWP limit on new vehicles was appropriate because a low-GWP replacement refrigerant is available (R-1234yf). However, vehicle industry organisations commented that it is not as simple as having a viable alternative and that other factors need to be considered for a prohibition involving vehicles.

Many submitters felt the definitions of the categories provided were too broad and expressed a need for greater clarity.

Submitters raised these issues about the refrigerant industry.

- Manufacturers need notice in advance of changes to product importation requirements because changes can take three to nine years to be implemented.
- Some submitters were of the view that the energy efficiency of the refrigerant use in equipment needs to be considered, as well as the GWP of the refrigerant.
- Submitters also mentioned that any prohibitions on heat pumps should not undermine efforts to move away from air-conditioning technologies that are responsible for higher emissions.
- Because most prospective alternative refrigerants are flammable to some degree, a submitter suggested that controls will be necessary to ensure health and safety is not jeopardised in the effort to secure emissions reductions.

Most submitters strongly supported proposed prohibition on equipment pre-charged with ozone-depleting refrigerants. A couple of comments suggested exceptions be made for equipment exported to Pacific nations, which may still be reliant on this technology, and for classic and vintage car collectors.

About the consultation

This document reports on the findings of public consultation by the Ministry for the Environment (the Ministry) from 8 November to 18 December 2022. The consultation sought feedback from New Zealanders on proposed measures to reduce the environmental impact of fluorinated gases.

[View the 2022 consultation.](#)

Background

Fluorinated gases (F-gases) and synthetic refrigerants have long been regulated in Aotearoa New Zealand as a way of meeting the country's international obligations under the Montreal Protocol on Substances that Deplete the Ozone Layer and the Paris Agreement, in recognition of their impact on the environment. F-gases have been part of the New Zealand Emissions Trading Scheme (NZ ETS) since 2013, ozone-depleting refrigerants were phased out under the Ozone Layer Protection Act 1996, and hydrofluorocarbons (HFCs) are in the process of being phased down using import restrictions since 2020.

In July 2020, refrigerants and other synthetic greenhouse gases were made a priority product under the Waste Minimisation Act 2008 (WMA).

In advising the Government on meeting Aotearoa New Zealand's emissions budgets, He Pou a Rangi | Climate Change Commission made recommendations in May 2022 on how F-gas emissions should be reduced. This included recommendations that "measures to reduce HFCs should include expanding import restrictions where feasible". Proposals to address the recommendations were consulted on to inform actions to be included in the [first emissions reduction plan](#) (ERP1).

The ERP1 contained four actions related to F-gases. These were:

- Action 16.1: Develop training and accreditation for handling alternative gases
- Action 16.2: Prohibit imports of pre-charged equipment
- Action 16.3: Investigate prohibiting F-gases with high GWPs
- Action 16.4: Introduce a mandatory product stewardship scheme for refrigerants.

Following further policy development in mid-2022, both actions 16.2 and 16.4 required consultation to progress. Because both projects had the same stakeholders, they were consulted on jointly in late 2022.

This document summarises submissions from the consultation [Proposed measures to reduce the environmental impact of fluorinated gases](#). This consultation proposed regulations to support effective outcomes from accredited product stewardship schemes for refrigerants, and proposed prohibition on the import and sale of equipment pre-charged with HFCs.

Product stewardship

Once a product is declared as a priority product under the WMA, a product stewardship scheme needs to be developed and accredited for that product. Regulations can be put in

place to ensure the sale of that product be in accordance with the scheme and supports its effective implementation.

To date, schemes for the priority products have been co-designed by stakeholders and supported by the Waste Minimisation Fund.

The Minister for the Environment decides on accreditation, subject to criteria in the WMA. While the Ministry has undertaken public consultation on proposed regulations to give effect to priority product stewardship schemes, the proposed schemes for accreditation are not subject to public consultation under the WMA.

Proposals

The following regulations were proposed during public consultation for a refrigerant product stewardship scheme.

- **Participation obligation (WMA, 22(1)(a))**
Prohibit the sale of refrigerants except in accordance with an accredited product stewardship scheme.
- **Sale of refrigerants (WMA, 23(1)(b))**
Restrict the purchase of refrigerants only to persons who meet qualification requirements set by an accredited product stewardship scheme.
- **Quality standards (WMA, 23(1)(g) and (h))**
Set quality standards to ensure that best practice is followed for managing refrigerants to prevent harm.
- **Disposal and leak testing (WMA, 23(1)(a))**
Restrict the disposal of refrigerants to a method that ensures it undergoes a chemical composition change and restrict the recycling of refrigerants to plants with document leak-testing protocols and procedures.
- **Take-back service (WMA, 23(1)(c) and 23(1)(i))**
Require the accredited scheme to provide a free and convenient product collection service, and information provision requirements related to this.
- **Targets (WMA, section 23(1)(c) and 23(1)(i))**
Set collection and recycling targets for accredited schemes, and information provision requirements related to this.

Prohibitions on pre-charged equipment

Proposals

The prohibitions proposed on the import and sale of pre-charged equipment can be found in [table 2](#). After specified dates, limits would be imposed on the GWP of a refrigerant that can be contained within specified classes of goods.

Table 2: Proposed timeline of prohibitions proposed in the 2022 consultation

Type of good	Date of prohibition and upper global warming potential limit		
	From 1 January 2023	From 1 January 2028	From 1 January 2032
Household refrigerators and dehumidifiers	150	–	–
Household and small commercial air conditioning, heat pumps and air conditioners	750	150	–
Household and small commercial water-heating heat pumps	150	–	–
Vehicle air conditioning (excluding trains and buses)	150 (for new vehicles)	150 (for used vehicles)	–
Passenger vehicle air conditioning (eg, trains and buses)	750 (for new vehicles)	–	150 (new and used vehicles)
Heavy commercial and industrial air conditioning (eg, office buildings and retail including variable refrigerant flow systems)	750	–	150
Commercial refrigeration (eg, food retail, supermarkets and self-contained cabinets)	–	150	–
Commercial refrigeration (eg, less than 40 kilowatts rated capacity excluding food retail and applications below –50 degrees Celsius)	1500	750	–
Transport refrigeration (eg, refrigerated trucks, shipping containers, fishing boats and reefer vessels)	–	1500	750
Industrial refrigeration (eg, stationary refrigerant systems with rated capacity more than 40 kilowatts excluding applications below –50 degrees Celsius)	2500	150	–

These prohibitions were designed to be effective as alternative technology becomes available. This would enable the Government to stop the import of unnecessarily high-GWP gases without jeopardising essential industries that rely on refrigerant technology. Because the proposed prohibitions do not target the use of affected equipment, consumers would only have to replace equipment once it reached the end of its life.

Prohibition on the import and sale of equipment containing ozone-depleting refrigerants was also proposed. These are a previous generation of refrigerant that is banned but can currently be imported pre-charged in equipment.

Consultation process

How we consulted

From 8 November to 18 December 2022, the Ministry consulted on proposed measures to reduce the environmental impact of F-gases through a regulated refrigerant stewardship scheme and prohibitions on the import and sale of equipment pre-charged with HFCs.¹

[View the 2022 consultation .](#)

Consultation tools

Submitters gave feedback through two channels.

- Online submissions, which asked various questions, including some specific to business and industry.
- Via email to the Ministry.

Who responded

Although the response was relatively small (38 submissions), a good cross-section of submissions were received from potentially affected businesses, individuals, environmental and community groups, and local government agencies (see table 3).

Table 3: Type and number of submissions

Submitter type	Number
Individual	14
Business and industry	13
Industry association	7
Local government	2
Other organisation	2
Total	38

Submitter comments

Comments from submitters are included throughout this summary. Footnotes state the name of submitters who consented for their comments to be published.

Some comments are not footnoted, either for brevity, because they are paraphrased or because the organisation or individual chose to remain anonymous.

¹ Ministry for the Environment. 2021. *Ngā waeture tiaki rawa kua takoto i konei: Ngā taea me ngā pūhiko kaitā | Proposed product stewardship regulations: Tyres and large batteries*. Wellington: Ministry for the Environment.

Quantifying submitters

When referring to submitters, the document quantifies support based on the classifications in table 4. The wording classification is proportionate to the number of responses received to the question.

Table 4: Submitter quantification terms used in the document

Classification	Definition
Few	Fewer than 5% of submitters on this topic
Some	5–25% of submitters on this topic
Many	26–50% of submitters on this topic
Most	More than 50% of submitters on this topic
All	100% of submitters on this topic

Next steps and policy decisions

Publishing submissions

Alongside the release and publication of this document, we will also publish and release submissions from those who agreed to publication. These will be available on the Ministry's website.

Policy decisions

The Ministry will provide advice to Ministers and Cabinet on next steps for F-gas product stewardship and prohibitions on pre-charged equipment. This will be based on insights gathered from this consultation process and other Ministry activities, such as engaging with stakeholders, consulting with various government agencies, studying international best practices, and ongoing work initiatives.

To stay up to date on any decisions and announcements, visit [the Ministry for the Environment's waste page](#), [Facebook](#) or [Instagram](#).

What we heard: Refrigerant scheme regulations

Regulatory framework

Synthetic refrigerants have been declared a priority product. A declaration requires development and accreditation of a product stewardship scheme for the product and opens the option to restrict sale of synthetic refrigerants to those who do so in accordance with the scheme. Other product regulations under the WMA are also available for both priority and non-priority products.

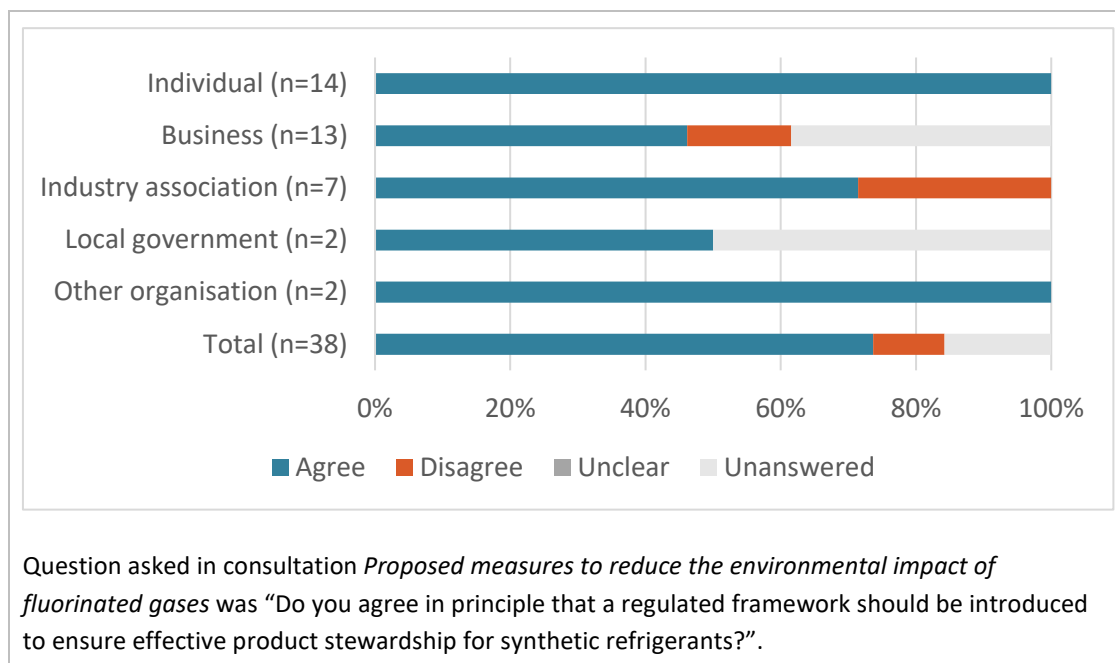
In this consultation, submitters were asked whether they supported in principle such a regulated framework for refrigerants.

There was strong support in principle for a regulatory framework for refrigerants, from:

- 88 per cent of submitters who answered the question
- 74 per cent of total submitters.

Some submitters did not answer the question (8 per cent) or disagreed with the proposal (2 per cent). Support for the framework was strongest among individuals and 'other organisations' (figure 1).

Figure 1: Support in principle for a regulated framework



Comments and suggestions

Reasons given by submitters for their support mostly echoed the consultation document.

Product stewardship shifts costs to producers

Four submitters, including one local government, noted that regulated product stewardship would shift costs to producers. Two of these submitters noted that they thought the responsibility for managing the environmental impact of the products should fall to producers and industry.

Every party should be responsible

Five submitters noted that every party should be responsible for the environmental impact of the products. One of these submitters noted that the proposal will ensure all industry players bear the same costs and restrictions.² Another submitter noted:

Regulating these activities ensures a level playing field for the market and does not give a competitive advantage to participants doing the wrong thing.³

Other key themes

Two submitters supported the proposal but recommended the scheme should be expanded to capture more products. One of these submitters said the scheme should capture e-waste,⁴ and the other submitter said the scheme would benefit from being extended to all refrigerants.

A few submitters suggested that other regulatory frameworks be used, instead of the WMA, to control management of F-gases.⁵ One submitter suggested that the Ozone Layer Protection Act 1996 should be the basis for licensing technicians to operate on refrigerant-containing equipment.

Reasons for opposing the proposal

Four submitters, including two businesses and two industry associations, did not support the proposal. Their concerns included the following.

- The large product range and various industry sectors make it difficult to develop an equitable system.⁶
- One submitter recommended regulating refrigerants under the Climate Change Response Act 2022. They noted that refrigerants are being regulated as an end-of-life product rather than being regulated based on their GWP level.⁷

² Chemiplas NZ Ltd.

³ Anonymous other organisation.

⁴ WasteMINZ Product Stewardship Sector Group.

⁵ IHRACE, CCCANZ, RLNZ, RRNZ and RRO (the industry associations), Zero Carbon Tasman Inc, New Zealand Heat Pump Suppliers Association.

⁶ Motor Industry Association.

⁷ IHRACE, CCCANZ, RLNZ, RRNZ and RRO (the industry associations).

Sale in accordance with an accredited scheme

Once a product has been declared a priority, the Minister can recommend a regulation under WMA section 22(1)(a) to prohibit the sale of a priority product except in accordance with an accredited scheme. This regulation requires parties involved at the point of sale (eg, importers, retailers) to participate in an accredited scheme.

The consultation sought public feedback on whether to introduce this regulation for synthetic refrigerants, now they have been declared a priority product.

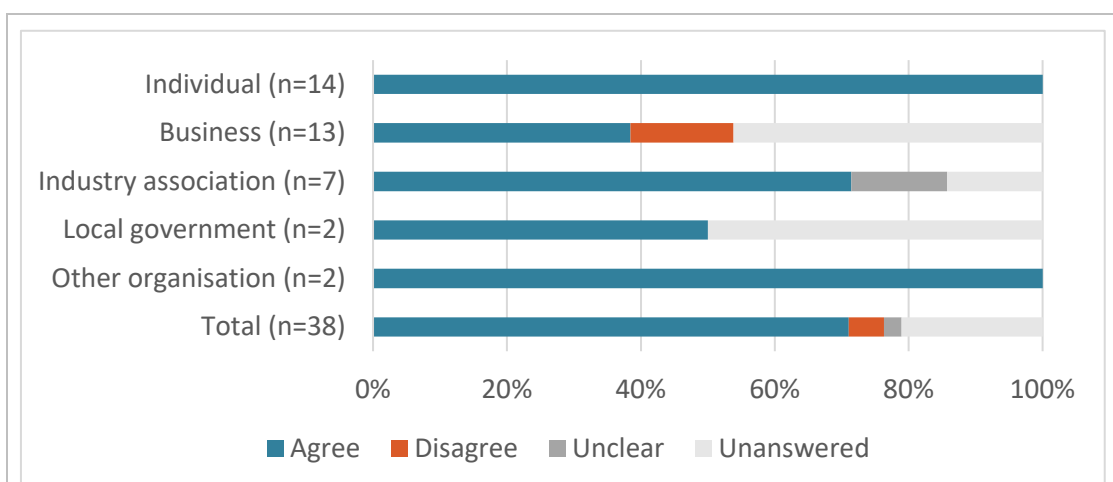
There was strong support for requiring the sale of synthetic refrigerants to be in accordance with an accredited scheme, from:

- 73 per cent of submitters who answered the question
- 71 per cent of total submitters.

Support was strongest among local government, individuals, business and industry (see figure 2).

A minority did not answer the question (12 per cent) or did not agree with the proposal (1 per cent).

Figure 2: Support for sale only in accordance with an accredited scheme



Question asked in consultation *Proposed measures to reduce the environmental impact of fluorinated gases* was “Do you agree with the proposal to make it mandatory to sell a product only in accordance with an accredited scheme for synthetic refrigerants?”.

Comments and suggestions

Twenty-eight submitters supported the proposal. The main themes of comments and suggestions echoed the arguments provided in the consultation paper.

Need to regulate the synthetic refrigerants market

Five submitters noted that Aotearoa needs to regulate the synthetic refrigerants market for various reasons, such as reducing risk of environmental harm. One submitter noted:

We do not want to see New Zealand become a dumping ground for products with a higher environmental impact. Regulations are already in place or are being put in place globally. We need to create a level playing field.⁸

The sulphur hexafluoride (SF₆) industry recommended that SF₆ should be monitored throughout the lifecycle, and recovering SF₆ should be mandatory at the end-of-life stage. These representatives noted that many switchgear systems,⁹ used to de-energise charged electrical equipment using SF₆, were first introduced in the 1980s and have a 40-year lifecycle, so a large number will soon expire.

Two submitters noted that regulations are required to ensure the scheme's impact is not limited by lack of industry participation.¹⁰ Another submitter noted full compliance is essential to cut emissions.¹¹ One submitter noted that accreditation will result in sellers and buyers being fully informed, and another submitter noted that accreditation removes the opportunity to game the system for gain.

Other submitters supported the proposal because:

- they thought the voluntary scheme has not worked to date¹²
- they consider it beneficial to have refrigerant sales controlled through product stewardship¹³
- unregulated producers and retailers could enter the market if product stewardship is not mandatory.¹⁴

Sixteen submitters who supported the proposals shared both suggested changes and concerns. Submitters noted that it is important everyone is aware of and complies with their obligations. One submitter noted that:

...we need certainty that all users/buyers are informed of their obligations and willing to participate to maximise involvement.¹⁵

An important theme raised was that Aotearoa has no market influence over overseas manufacturers, so the Government must allow enough flexibility in the scheme to adapt to overseas trends.

⁸ Anonymous other organisation.

⁹ Switchgear systems are electrical disconnect switches, fuses or circuit breakers used to control, protect and isolate electrical equipment.

¹⁰ The Trust for the Destruction of Synthetic Refrigerants; anonymous individual submitter.

¹¹ Zero Carbon Nelson Tasman Inc.

¹² Anonymous individual submitter.

¹³ Anonymous business.

¹⁴ Patricia Scott.

¹⁵ Chemiplas NZ Ltd.

Submitters also noted that:

- the scheme should cover equipment maintenance and checking for refrigerant leaks
- suppliers of equipment are not keeping installers informed about good practice on refrigerants or encouraging them to use products with low GWP
- there should be obligations on owners of equipment not just those who maintain them.

Two industry submitters did not agree with the proposal to require sale of refrigerants to be in accordance with an accredited scheme.

One submitter noted that refrigerants had not been declared as a priority product when the co-design work was undertaken, so there was minimal impact or engagement from industry. This same submitter did not agree that membership should be required of anybody to be able to purchase refrigerant.

Scheme funding

The consultation sought public input on whether the regulated synthetic refrigerant scheme should be funded in the first years through New Zealand Units (NZUs), while longer-term funding options are developed and consulted on. NZUs are earned under the New Zealand Emissions Trading Scheme (NZ ETS) by the Trust for the Destruction of Synthetic Refrigerants (the Trust).

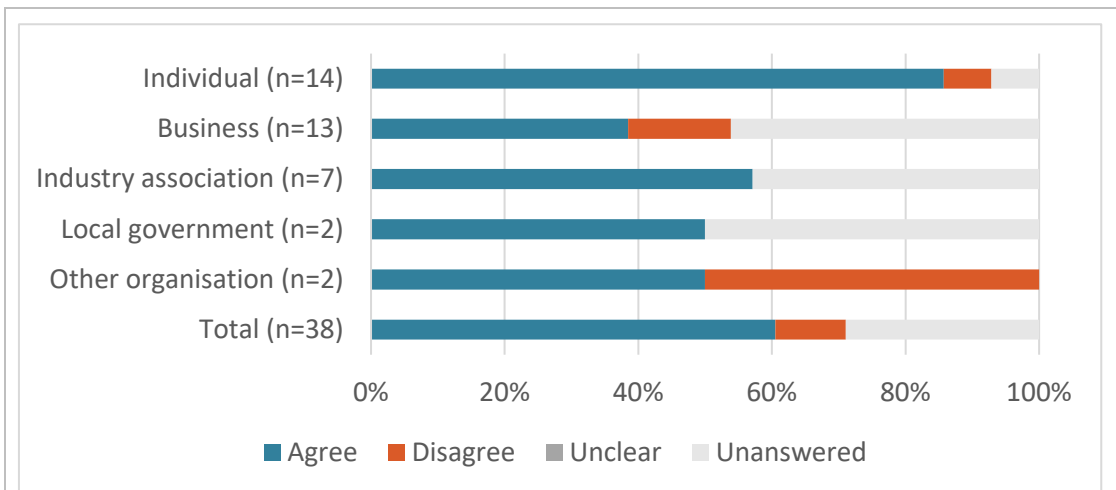
The longer-term funding options discussed in the consultation included a fee set under section 23(1)(d) of the WMA. The fee would cover services provided by an accredited product stewardship scheme for synthetic refrigerants. A levy was not suggested as an option because it is not available under the WMA.

There was strong support in principle for the proposal on how the scheme will be funded from:

- 85 per cent of submitters who answered the question
- 61 per cent of total submitters.

Support was strongest amongst individuals and industry associations ([figure 3](#)). A minority did not answer the question (29 per cent) or did not agree with the proposal (11 per cent).

Figure 3: Support for interim funding of a regulated scheme through New Zealand Units earned under the New Zealand Emissions Trading Scheme



Question asked in consultation *Proposed measures to reduce the environmental impact of fluorinated gases* was “Do you agree in principle that a regulated refrigerant scheme should be funded in the first years through New Zealand Units earned under the New Zealand Emissions Trading Scheme by the Trust for the Destruction of Synthetic Refrigerants while longer-term funding options are developed and consulted on?”.

Support for funding proposal

Most submitters agreed in principle with funding the regulated refrigerant scheme through NZUs earned under the NZ ETS in the short-term, while longer-term funding options are being developed and consulted on.

One industry association noted the scheme needs a sustainable and effective funding model.¹⁶ This submitter challenged the assumption in the consultation document that the Trust for the Destruction of Synthetic Refrigerants can access the NZUs in the NZ ETS Registry account originally registered by Refrigerant Recovery New Zealand.¹⁷

Some submitters noted that the current source of funding for the scheme may be sufficient at present, but other sources of funding may be required in future.

Ideally there would be dedicated funding from the outset, but this is an acceptable stopgap measure.¹⁸

We think it important that the long-term viability of funding is robustly tested so that local authorities do not end up financing costs should other scheme funding mechanisms fail.¹⁹

¹⁶ IRHACE, CCCANZ, RLNZ, RRNZ and RRO (the industry associations).

¹⁷ IRHACE, CCCANZ, RLNZ, RRNZ and RRO (the industry associations).

¹⁸ Katia de Lu.

¹⁹ Auckland Council.

Some submitters suggested other funding methods, including:

- establishing a fund for the specific recovery and destruction of F-gases, while the use of these gases is phased down. This fund can be used when the volume available for recovery is too low to be commercially viable, once refrigerants become a legacy product²⁰
- using the funds generated through NZ ETS levies and NZUs gained from refrigerant removal, collection and destruction activities to fund the scheme for refrigerants²¹
- considering setting an advanced disposal fee to fund the scheme after the scheme is implemented²²
- exploring newer funding methods if the current funding is exhausted in the future.²³

One submitter supported CoolSafe's current approach of providing incentive payments for technicians to return refrigerant gases.²⁴

Reasons for opposing the proposal

Four submitters did not agree in principle that, in the interim, the regulated refrigerant scheme should be funded in the first years through NZUs earned under the NZ ETS by the Trust, until longer-term funding options are developed and consulted on.

One organisation noted that funding the scheme through NZUs is administratively complex.²⁵ One industry submitter questioned why the collection of the destruction levy was paused, because it could have provided funding for training and provisions for cylinders, especially when there was a shortage of cylinders in 2018–19 and no way for recovered refrigerant to be collected.²⁶

Scheme targets and reporting

The consultation sought public feedback on setting and enforcing targets for the accredited scheme, including for the:

- recovery and destruction of F-gases
- phase in of a comprehensive workforce competence recognition framework

There was strong support in principle for setting targets for the recovery and destruction of F-gases and the phase in of a workforce competence recognition framework from:

- 96 per cent of submitters who answered the question
- 63 per cent of total submitters.

²⁰ IRHACE, CCCANZ, RLNZ, RRNZ, and RRO (the industry associations).

²¹ Anonymous business.

²² Auckland Council.

²³ Anonymous business.

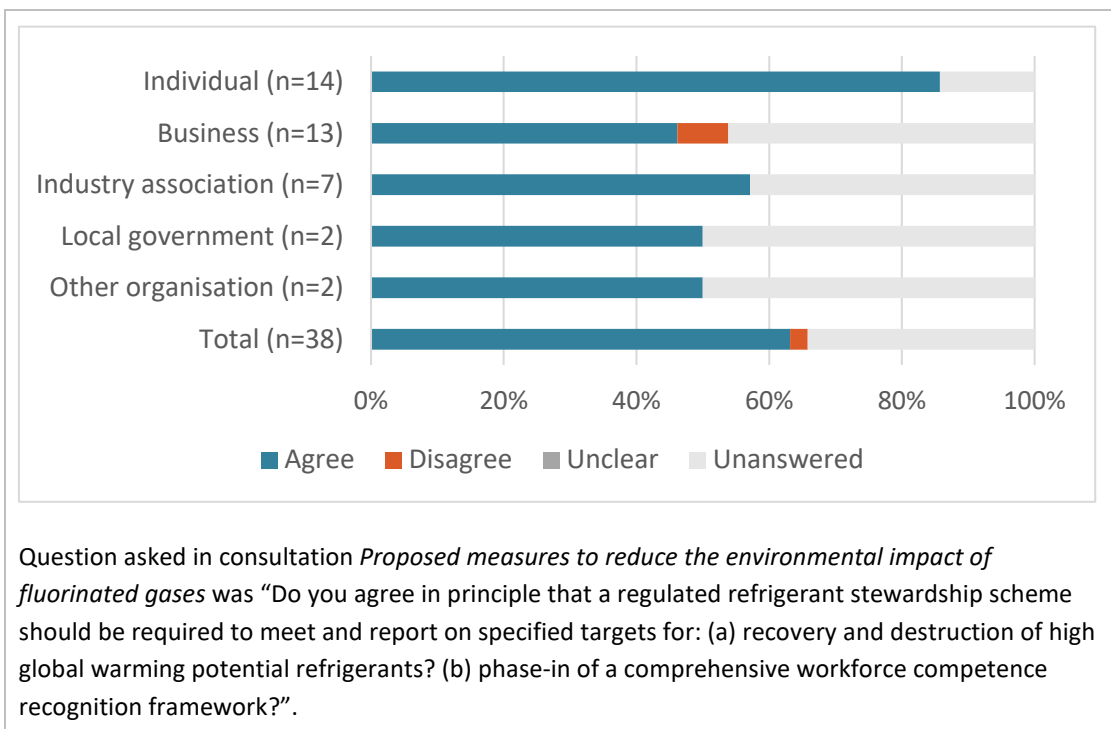
²⁴ Anonymous business.

²⁵ Zero Carbon Nelson Tasman Inc.

²⁶ Anonymous business.

A minority of submitters (34 per cent) did not answer the question or did not agree with the proposal (3 per cent) (figure 4).

Figure 4: Support for setting targets for accredited scheme



Support for targets

Twenty-two submitters agreed in principle to setting targets for the accredited scheme. The proposed targets were generally seen as ambitious but achievable.

Some submitters emphasised the importance of setting challenging but realistic targets to drive progress. One individual suggested acting with ambition for the benefit of future generations.²⁷ Another submitter commented:

Any scheme of this size should have to report against targets so that it is clear it is effective.²⁸

Some submitters suggested other targets, including:

- reporting on refrigerant type and quantity²⁹
- aligning with international standards for recovery targets.³⁰

One submitter, who agreed in principle with take-back and targets, did not recommend training as a target. This submitter expressed concern that the scheme should not be responsible for workforce competence training.

²⁷ Katia De Lu.

²⁸ Anonymous business.

²⁹ Three anonymous individual submitters.

³⁰ Dave Nicholls.

One submitter, who also agreed in principle, expressed concerns about the data collection, suggesting that reporting needs to be designed in such a way that:

- the collection of data is not burdensome for the scheme participants and users
- the format is consistent with existing reporting frameworks to avoid duplication or conflict with baseline and mass balance data.³¹

Comments and suggestions

Four submitters suggested other targets should be included. The main themes of the suggestions were as follows.

- **Targets and assessment:** Two submitters emphasised the need to set targets and conduct ongoing assessments to measure the effectiveness and accessibility of the proposed scheme.³²
- **Reporting requirements and targets:** One submitter supported the proposal of reporting requirements and targets that use a chain-of-custody approach to monitor onshore and offshore material processing and harm reduction. This submitter also supported the proposal to include public reporting.³³
- **Increased reporting from industry:** One submitter considered that measuring and reporting performance by the industry sector will be important in the future. They also noted that collection rates need to be improved for the automotive sector, particularly for automotive dismantlers, where negligible volumes are currently collected.³⁴

Reasons for opposing the proposal

One submitter did not agree with the proposal to set targets for the recovery and destruction of high-GWP potential refrigerants and the phase in of a workforce competence framework. This submitter questioned the data used to calculate the refrigerant recovery rate and noted that the accredited scheme should aim to collect and destroy all refrigerants at end of life.

Quality standards

The consultation sought public feedback on quality standards to minimise refrigerant leaks in the refrigerant recovery and disposal process:

- restricting the recycling of synthetic refrigerants to plant with documented leak-testing and repair protocols
- ensuring the disposal of synthetic refrigerants is through full destruction.

³¹ The Trust for the Destruction of Synthetic Refrigerants.

³² Zero Carbon Nelson Tasman; anonymous individual submitter.

³³ Auckland Council; WasteMINZ Product Stewardship Sector Group.

³⁴ Dave Nicholls.

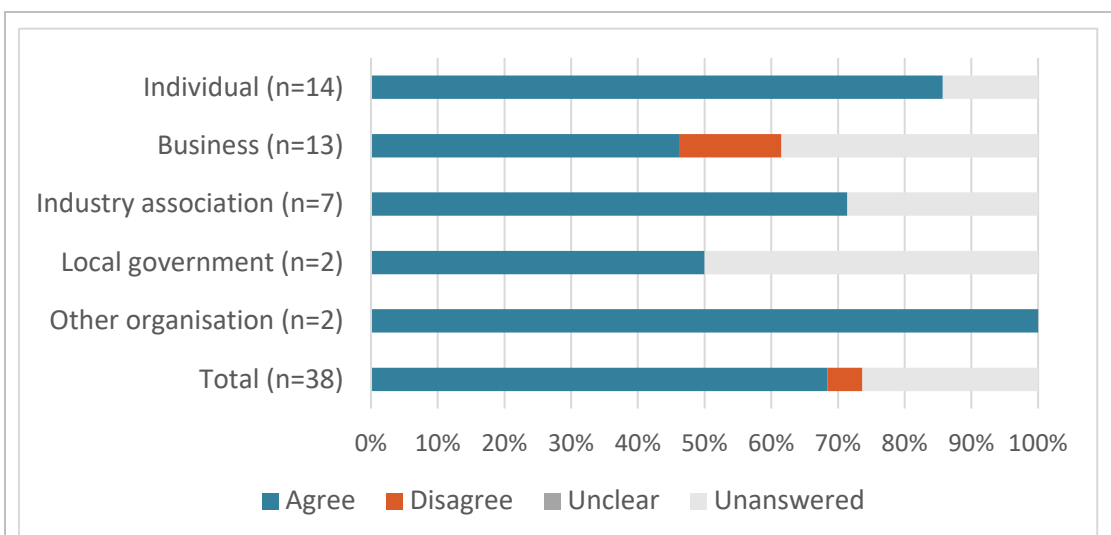
Quality standards for disposal

Most submitters supported the proposed quality standards for the decommissioning, dismantling or degassing (disposal) of refrigerants and F-gases, including:

- 93 per cent of those who answered the question
- 71 per cent of total submitters.

Support was highest among individuals (figure 5).

Figure 5: Support for quality standards for disposal



Question asked in consultation *Proposed measures to reduce the environmental impact of fluorinated gases* was “Do you agree that any person whose business is or includes the decommissioning, dismantling or degassing of any equipment containing or designed to use controlled substances, or any representative of such persons, be required to ensure that disposal of F-gases or other synthetic greenhouse gases is through full destruction (eg, plasma arc plant) or recycled into plant with documented leak-testing and repair protocols, never by release to the air?”.

Submitter views on quality standards for disposal

Twenty-seven submitters supported the proposed quality standards. Of these submitters, five noted that the standards would prevent leakage. Four submitters had other reasons for their support, including:

- to encourage recycling within the scheme³⁵
- to promote verified reuse at the required standard.³⁶

In addition, four submitters commented that there should be mandatory reporting requirements to support these quality standards.

³⁵ Anonymous individual submitter.

³⁶ A-Gas NZ Ltd.

Two submitters did not support the quality standards.

- One submitter noted that the collector should not be responsible.
- One submitter requested a threshold consistent with the European Union requirements, to avoid disproportionate effects.³⁷

Quality standards for recycling of refrigerants

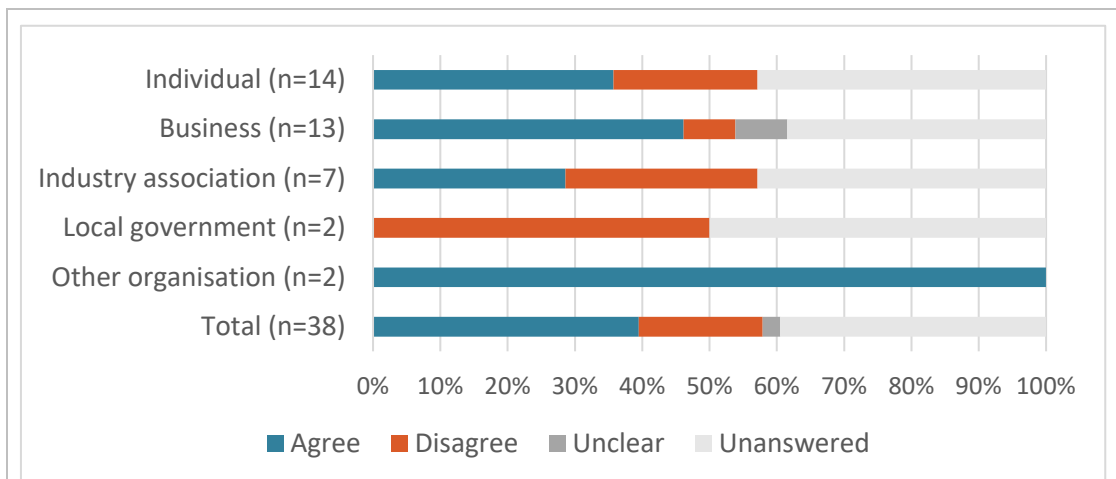
Most submitters supported the proposed quality standards for the recycling of refrigerants and F-gases, including:

- 65 per cent of those who answered the question
- 39 per cent of total submitters.

Eleven submitters supported the proposed quality standards, and six submitters supported them with reservations. Seven submitters did not support them.

Support was highest among individuals followed by other organisations (figure 6).

Figure 6: Support for allowing the reuse and recycling of fluorinated gases under a quality standard



Question asked in consultation *Proposed measures to reduce the environmental impact of fluorinated gases* was “Do you think that recycling of F-gases into other heating, ventilation, air conditioning and refrigeration applications (domestic use or exported) should be allowed under such a quality standard?”.

Some submitters gave reasons for their support, including that the early destruction of resources should be avoided.³⁸

One submitter noted that reporting requirements must be robust, to prevent the reuse of high-GWP refrigerants:

Greater visibility of F-gas transactions coupled with standardised maintenance will do more to reduce leakage than anything else.³⁹

³⁷ Siemens Ltd.

³⁸ Anonymous business.

³⁹ IRHACE, CCCANZ, RLNZ, RRNZ and RRO (the industry associations).

One submitter who supported the reuse of refrigerants noted that leakage rates should be targeted and operators and technicians should adopt best practice leak-monitoring and repair practices.⁴⁰

Opposition and uncertainty about the proposed quality standards

The seven submitters who did not support the proposed quality standards for recycling noted that recycling and reuse would not minimise environmental harm. Of these, three submitters supported recycling and reuse in the future, but only after existing high-GWP refrigerants and F-gases are phased out. One submitter noted:

Destruction should be promoted until such time as the bank of refrigerants [have] transitioned to predominantly lower global warming potential (GWP) refrigerants. At that point ... 'reuse and recycling' should be the preferred option of any scheme.⁴¹

Three submitters noted that the proposed quality standards for recycling would not reduce environmental harm.⁴² One submitter noted this would delay the transition to alternative, lower-GWP options, and another submitter noted that destruction should be the preferred option for high-GWP refrigerants.

Some individuals and industry members made comments about whether high-GWP refrigerants and F-gases should be allowed to be recycled or reused.

- One industry member suggested a 'phased' approach that would "[allow] the industry to gradually transition to lower-GWP alternatives, rather than driving rapid reductions in HFC use [which] could have negative [environmental] consequences".⁴³
- One individual suggested that reprocessing of certain F-gases into lower-GWP versions should be possible under the scheme because this "reduces [environmental] harm in [some] equipment by 65% with or without leak testing".⁴⁴

A few submitters made comments on the reuse and recycling of refrigerants in the context of the wider lifecycle of the product.

- One industry association commented that most environmental issues with F-gases occur earlier than destruction and recovery. They noted that environmental issues occur because of "substandard installations, poor maintenance and illegal discharges".⁴⁵
- One industry association⁴⁶ and one local government submitter suggested tracking products containing F-gases throughout their lifecycle:

...the single greatest benefit [of] a well-designed ... scheme is the ... greater visibility of F-gas transactions throughout the supply chain ... to identify where leakage is occurring [and] tracking technician certification.⁴⁷

⁴⁰ A-Gas NZ Ltd.

⁴¹ The Trust for the Destruction of Synthetic Refrigerants.

⁴² Auckland Council; Trust for the Destruction of Synthetic Refrigerants; WasteMINZ Product Stewardship Sector Group.

⁴³ Anonymous business.

⁴⁴ Anonymous business.

⁴⁵ IRHACE, CCCANZ, RLNZ, RRNZ and RRO (the industry associations).

⁴⁶ IRHACE, CCCANZ, RLNZ, RRNZ and RRO (the industry associations).

⁴⁷ IRHACE, CCCANZ, RLNZ, RRNZ and RRO (the industry associations).

Suggested quality standards for reuse, recycling or recovery

Eight submitters suggested specific quality standards, as outlined in table 5.

Table 5: Proposed quality standards for reuse, recycling or recovery of refrigerants

Proposed standard	Description
AS/NZS 5149.4:2016	Provides requirements for the operation, maintenance and repair of refrigerants and systems that are designed to minimise injuries to people and damage to property and the environment resulting from the improper handling of refrigerants.
AHRI 700 (2019); 700D (2012) and 700C (2008)	Specify acceptable levels of contaminants (purity requirements) for fluorocarbon, hydrocarbon, and carbon dioxide refrigerants regardless of source, and list acceptable test methods.
IEC 60480:2019	Provides criteria for the reuse of sulphur hexafluoride and its mixtures after recovery and reclaiming from electrical equipment (eg, for maintenance or at the end of life).
IEC 60375:2018	Specifies the rules for signs and reference directions and reference polarities for electric currents and voltages in electric networks.
IEC 62271-4:2022	Applies to the procedures for handling of gases for insulation and/or switching during installation, commissioning, repair, overhaul, normal and abnormal operations and disposal of electric power equipment at the end of its life.

One submitter supported the AHRI standard and noted that:

...the AHRI Standard is a universally recognised standard for refrigerants and ensures that the refrigerants are fit for purpose ... and will not result in higher indirect emissions (higher energy usage due to compressor inefficiency).⁴⁸

One submitter suggested aligning the standards for ozone-depleting and high-GWP refrigerants with the hazardous refrigerants regulated by WorkSafe New Zealand.⁴⁹

Another submitter suggested the European Union F-gas maintenance requirements.⁵⁰

Workforce competencies

The proposed workforce competencies would require people involved with their sale and management to demonstrate an appropriate level of competence to handle refrigerants, which will minimise the risk of environmental harm.

New requirements under Ozone Layer Protection Act 1996

Most submitters supported the proposed quality standards and workforce competencies for businesses that install, service, modify or dismantle products containing refrigerants, under [section 11](#) and [section 16](#) of the Ozone Layer Protection Act 1996.

Twenty-one submitters supported the proposed measures:

- 89 per cent of those who answered the question
- 60 per cent of total submitters.

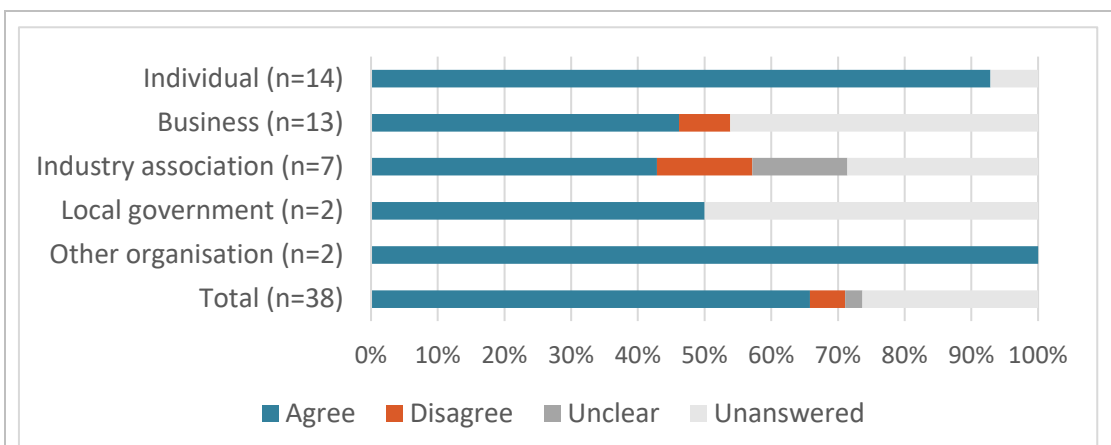
⁴⁸ A-Gas NZ Ltd.

⁴⁹ Anonymous individual submitter.

⁵⁰ Anonymous individual submitter.

Support was highest among individuals, at 54 per cent (figure 7).

Figure 7: Support for workforce competencies



Question asked in consultation *Proposed measures to reduce the environmental impact of fluorinated gases* was “Do you agree with the proposal to require businesses that install, service, modify or dismantle any equipment containing or designed to use any controlled substance that is a refrigerant, or the direct handling of these substances involving a possible risk of their release into the atmosphere, to: (a) register with the accredited refrigerant stewardship scheme and (b) demonstrate that employees have the appropriate competence recognised by that scheme for their work, under a new regulation using section 11 and section 16 of the Ozone Layer Protection Act 1996?”.

Of the submitters who supported the proposed workforce competencies for installation, five noted this would minimise leaks and environmental harm. One submitter noted that:

Through [these measures] we can reduce the harm synthetic refrigerants can cause, making a positive contribution to New Zealand’s climate change commitments.⁵¹

Two submitters commented that the proposal would make the industry fairer by ensuring industry follows the same rules. One submitter noted that:

Regulation will provide the platform for a consistent and level operational and compliance environment.⁵²

Four submitters supported the proposal but had concerns, including about the proposed four-year period for demonstrating competency and the reporting and verification process. One submitter noted that increased efforts will have to be planned for in the energy grid extension plans and by the utilities.⁵³

Three submitters did not support the proposed workforce competencies under the Ozone Layer Protection Act 1996. One submitter expressed concern about a lack of knowledge about the scheme’s design and impacts on businesses.⁵⁴

⁵¹ The Trust for the Destruction of Synthetic Refrigerants.

⁵² Anonymous business.

⁵³ Siemens Ltd.

⁵⁴ Anonymous business.

Two submitters were unclear about whether they supported these measures. One felt that qualifications should be handled by a separate entity, outside of registration with the product stewardship organisation (PSO).⁵⁵

Restriction on purchase of refrigerants

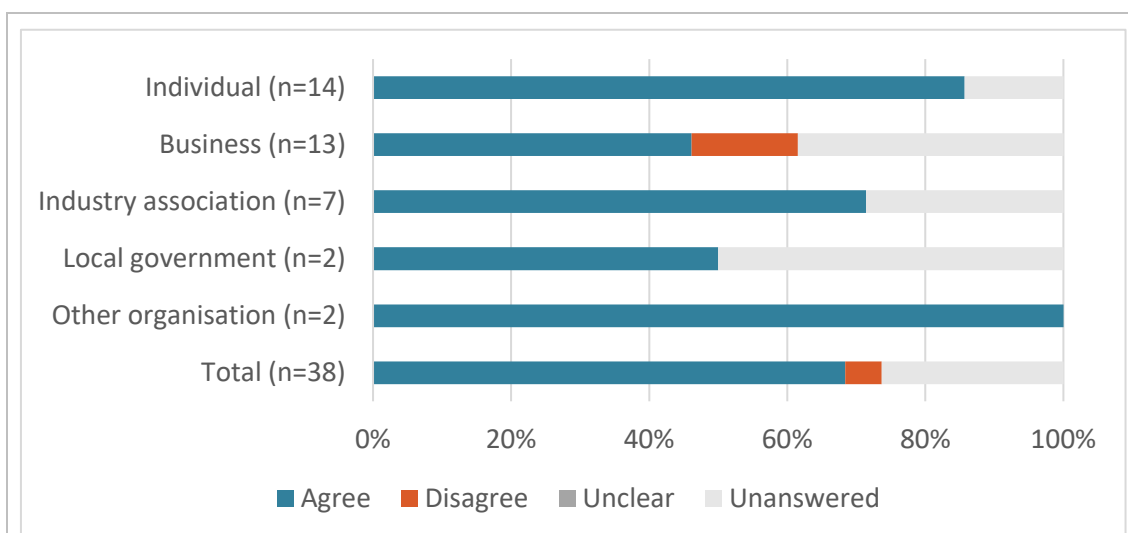
Most submitters agreed that the sale of F-gases should be restricted to competent individuals or companies under [section 23\(1\)\(b\)](#) of the WMA:

- 86 per cent of those who answered the question
- 62 per cent of total submitters.

Twenty-seven submitters supported the proposal to restrict the sale of these products to competent individuals and companies. Three did not support the proposal.

Support was highest among individuals (figure 8).⁵⁶

Figure 8: Support for restricting sale of fluorinated gases to scheme participants and qualified technicians



Question asked in consultation *Proposed measures to reduce the environmental impact of fluorinated gases* was “Do you agree with the proposal to restrict sales of F-gases, in bulk, pre-charged units or products, to companies that are registered with an accredited scheme or an individual who can demonstrate appropriate competence recognised by an accredited scheme under section 23(1)(b) of the Waste Minimisation Act 2008?”.

The main reasons for submitter support include the following.

- Four submitters supported the proposed workforce competencies, due to the high environmental harm from F-gases.
- Two submitters noted that requiring these competencies would minimise leakage risk.

⁵⁵ Anonymous business.

⁵⁶ Fifty-two per cent of submitters who supported the proposed workforce competencies for the sale of refrigerants and F-gases were individuals.

Of those who had concerns, one local government submitter noted that enforcement was difficult without product tracking. Two submitters noted that the proposal does not capture all actors in the supply chain:

Some requirements should also extend to equipment owners to avoid establishment of an informal sector that acquires refrigerants from existing equipment.⁵⁷

Two submitters noted that the sale of some refrigerants and F-gases (such as retail⁵⁸ and pre-charged units⁵⁹) should be excluded, due to potentially low volumes and high political impacts.⁶⁰

Other submitters were concerned that legacy products and other (related) priority products are not addressed by the proposal.⁶¹

The three submitters who did not support the proposal noted that:

- complexities exist with creating a process to manage a variety of customers, which has increased costs⁶²
- licensing should be separate from the scheme manager⁶³
- greater accountability is needed for a variety of actors both within and outside the refrigerant industry.⁶⁴

It was unclear whether three other submitters supported the proposal. One local government submitter noted that the “seat of responsibility is not clear”, further stating:

...many customers and operators are still not aware of their obligations, and opportunities still exist for leakage of gases into the environment, particularly from members of the public who do not currently have an awareness of the issue, or incentives to follow through on recovery options.⁶⁵

Restriction on end-of-life refrigerant management

Most submitters agreed that the disposal or recycling (management) of refrigerants should be restricted to competent businesses or individuals under [section 23\(1\)\(g\) and \(h\)](#) of the WMA:

- 86 per cent of those who answered the question
- 62 per cent of total submitters.

Twenty-five submitters supported the proposed workforce competencies for the disposal and recycling of refrigerants and F-gases. Three submitters did not support the proposed measures.

⁵⁷ Anonymous business.

⁵⁸ Jason Quinn.

⁵⁹ Imported Motor Vehicles Industry Association.

⁶⁰ Jason Quinn.

⁶¹ WasteMINZ Product Stewardship Sector Group.

⁶² Anonymous business.

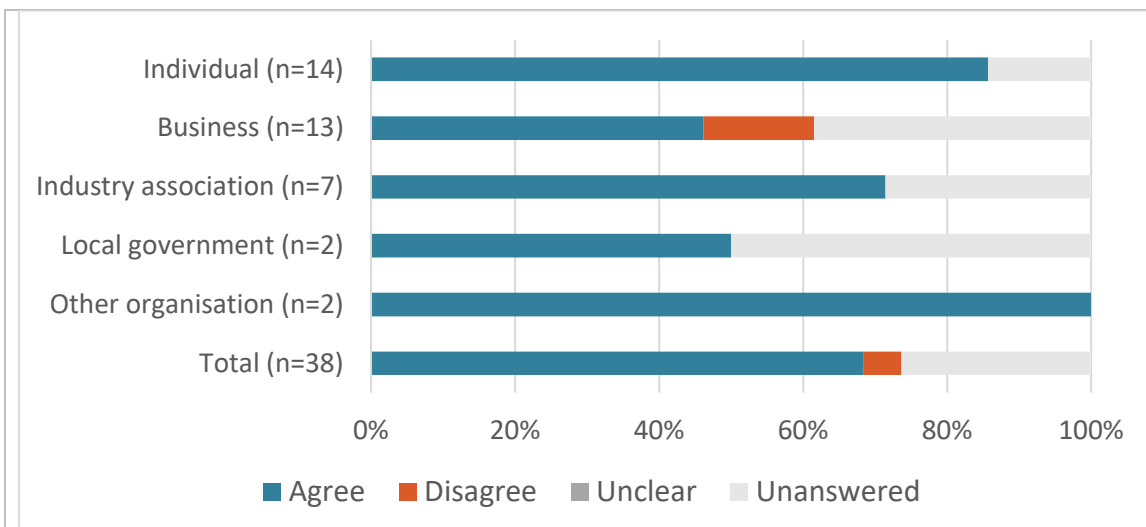
⁶³ Anonymous business.

⁶⁴ IRHACE, CCCANZ, RLNZ, RRNZ and RRO (the industry associations).

⁶⁵ Auckland Council.

Support was highest among individuals (figure 9).⁶⁶

Figure 9: Support for restricting the decommissioning, disposal and recycling of refrigerant-containing equipment to scheme participants and qualified technicians



Question asked in consultation *Proposed measures to reduce the environmental impact of fluorinated gases* was “Do you agree with the proposal to require businesses decommissioning, dismantling, disposing of or recycling equipment containing refrigerants or other synthetic greenhouse gases to register with an accredited refrigerant stewardship scheme and demonstrate appropriate competence recognised by the scheme under section 23(1)(g) and (h) of the Waste Minimisation Act 2008?”.

Support for proposal

Of the submitters who supported the proposed measures, four noted the measures would minimise leaks. One submitter noted that “[t]hese processes need to be carefully managed to avoid leakage”.⁶⁷

Four submitters gave other reasons for their support, including:

- responsible parties will not be able to avoid the cost of appropriate disposal⁶⁸
- without these requirements, some businesses are likely to “take advantage of not doing the right thing”.⁶⁹

One submitter expressed the importance of having a robust verification and reporting system to ensure consistency across the country in ensuring technicians are qualified. Another submitter noted there would be more benefits in improving marketing and communication, consumer education, and forming relationships with key stakeholders, compared with expanding workforce competency and registration.

⁶⁶ Fifty per cent of submitters who supported the proposed workforce competencies for the management of refrigerants and F-gases were individuals.

⁶⁷ Anonymous individual.

⁶⁸ Anonymous individual.

⁶⁹ Anonymous business.

Currently we understand there is no legal requirement for items to be degassed and some disposal operators (including councils) require this to be done before they accept them, and some don't.⁷⁰

Two submitters had reservations about the proposed workforce competencies including:

- whether previous experience would be recognised
- about the additional cost of training employees.⁷¹

A few submitters also wanted more clarity about the effects of the proposed scheme design on businesses.

- One industry member did not support the requirement to register with an accredited scheme, because they did not know the scheme manager's objectives.
- Two submitters opposed or had reservations about the proposed quality standards and workforce competencies, due to the scheme manager's governance.⁷²

Reasons for opposing the proposal

Three submitters did not support the proposed measures. One noted that registration would not be necessary if technicians already have the required level of competency. Workforce competency should also cover industries that interact with these products, such as construction.⁷³

Benefits and costs: Workforce competencies

The Government sought feedback on the impact on businesses of the proposed quality standards and workforce competencies.

Twelve submitters noted benefits from the proposed workforce competencies.

Generally, submitters felt that these measures would improve the abilities of the refrigerant workforce and ensure requirements are consistent for all industry players. Of the submitters who outlined benefits, seven noted there would be minimal impact on their operations. Two submitters considered there would be:

- no impact as we are already selling to people who would be in the scheme already⁷⁴
- minimal impact beyond maintaining current databases & requiring proof of competence from customers.⁷⁵

One submitter noted that the proposal would improve standards across the industry, due to a "reduction in 'cheap' competition".

⁷⁰ Zero Carbon Nelson Tasman Inc.

⁷¹ The Trust for the Destruction of Synthetic Refrigerants; IRHACE, CCCANZ, RLNZ, RRNZ and RRO (the industry associations).

⁷² IRHACE, CCCANZ, RLNZ, RRNZ and RRO (the industry associations).

⁷³ Anonymous business.

⁷⁴ Anonymous business.

⁷⁵ Anonymous business.

In contrast, eleven submitters noted that the proposed measures would have costs. Of these, five submitters noted that upskilling staff would have a cost, with one submitter commenting:

I expect it would become near impossible to find adequately trained people [at least in] the 2–10yr timeframe.⁷⁶

Five submitters provided examples of costs, including:

- the cost of storage and handling of waste-cooling equipment at transfer stations
- staff shortages that will lead to illegal dumping (cost to the environment)
- compliance costs
- impacts on customers
- re-training of staff if previous training is not recognised by the scheme.

One submitter noted that the scheme would have costs for their business due to subsequent impacts that need to be justified:

Any measures that could put barriers between us and our customers will impact negatively on our business ... the PSO [product stewardship organisation] [and the responsible government agencies must] actively engage in media campaigns explaining how and why these measures are being introduced. We cannot have the responsibility for justifying the scheme being left to the wholesalers.⁷⁷

One submitter noted that:

- compliance costs will be minimised by building on existing qualification standards and training, and the PSO should support building competency across the industry.⁷⁸

⁷⁶ Anonymous business.

⁷⁷ Dave Nicholls.

⁷⁸ The Trust for the Destruction of Synthetic Refrigerants.

What we heard: Scheme design and implementation

The consultation was on proposed regulations to support a product stewardship scheme for synthetic refrigerants and not the scheme design. However, the proposed scheme design was provided as an appendix to the consultation document as context for submitters because some proposed regulations would give effect to aspects of the scheme design.

Subsequently, some submitters have provided feedback on scheme design and implementation, including points that apply generically to product stewardship schemes and others specific to a scheme for refrigerants and F-gases.

Only one submitter disagreed with the proposed scheme design, noting that, in their view, frameworks and take-back services that match the scheme's ambitions already existed.⁷⁹

Qualification frameworks

Five submitters made comments about the proposed qualification frameworks. A range of views was expressed about who should be responsible for this framework and what this involves.

- One business suggested a focus on basic worker safety and best practice, due to the replacement of F-gases with flammable hydrocarbons.⁸⁰
- One business supported a comprehensive framework managed by the Government for all products containing F-gases.⁸¹
- Another business commented that certain aspects of qualification frameworks, such as licensing, should be conducted by a separate entity and not the PSO.⁸²

Reporting requirements

Three submitters commented on the proposed reporting requirements.

- One local government submitter commented that it is good practice to report regularly on the amount of refrigerant purchased by an entity for the refill of equipment.⁸³
- One individual suggested that the PSO should obtain permits for all participants' activities related to refrigerants and F-gases and report to the Government on these.
- One industry member recommended a built-in process for review and adjustment of the scheme's design.⁸⁴

⁷⁹ Anonymous business.

⁸⁰ Anonymous business.

⁸¹ Anonymous business.

⁸² Anonymous business.

⁸³ Auckland Council.

⁸⁴ Anonymous business.

Governance and transparency

Four submitters raised concerns over the proposed scheme's governance and whether the PSO would adequately represent sector interests.

- One industry member commented that the co-design process neglected the viewpoints of some major stakeholders.⁸⁵
- One industry member commented that it was important for the scheme's success that the "industry-led representative body [PSO] can effectively meet the necessary criteria and has strong governance".⁸⁶
- Two submitters did not support the proposed scheme's PSO, due to its governance structure.⁸⁷

Some individuals, industry members and local government submitters suggested greater transparency for different aspects of the scheme design.

- One business commented that there was a lack of transparency regarding the PSO's governance.⁸⁸
- One local government submitter commented there could be greater "transparency around how the [Synthetic Greenhouse Gas] Levy is spent [to fund the scheme], as this is not clear to industry".⁸⁹
- One industry member commented that it is important for the PSO to be accountable to the industry and stakeholders.⁹⁰

Scope of the scheme

Some individuals, industry members and local government submitters made comments about expanding or reducing the scope of the scheme.

Submissions suggesting an expanded scope

- One industry member suggested that equipment owners must be included in the scheme design to "avoid the establishment of an informal sector that acquires refrigerants from existing equipment".⁹¹
- One local government submitter commented that roadside dumping and demolition of buildings containing heating, ventilation, air-conditioning and refrigeration equipment are two examples of refrigerant and F-gas leakage that are not captured by the scheme.⁹²

⁸⁵ Anonymous business.

⁸⁶ Daikin Air Conditioning New Zealand Limited.

⁸⁷ IRHACE, CCCANZ, RLNZ, RRNZ and RRO (the industry associations); anonymous business.

⁸⁸ Anonymous business.

⁸⁹ Auckland Council.

⁹⁰ Anonymous business.

⁹¹ Anonymous business.

⁹² Auckland Council.

What we heard: Prohibitions

Twenty-one submitters provided feedback on the proposed prohibitions targeting the import and use of equipment pre-charged with HFC refrigerants.

Four submitters were supportive of the entire schedule of prohibitions, with some of them even recommending some prohibitions should be enacted sooner.

The remaining submitters showed varying degrees of agreement, either showing support or opposition (or both) for certain prohibitions but not all.

General issues that need consideration

Many submitters raised general issues that they felt should be considered when determining prohibition dates.

Five submitters felt too much uncertainty existed in the industry and that prohibitions for 2028 and 2032 were not practical. Three of these submitters suggested that prohibitions beyond 2025 be reviewed at a future point when more information is available.

- Two submitters felt that the 2025 dates were achievable, but the 2028 and 2032 prohibitions would be more difficult, especially in areas where technician licensing is required.
- One organisation stated that “there are several barriers like [polyfluorinated alkyl substances] and safety standards that the industry will need to overcome to clearly predict what will be the global direction in refrigerant developments”.⁹³
- One industry member, referring to an organisation’s contribution to its submission, noted “the general feedback was – agree the targets for 2025, then review”.⁹⁴

Three submitters commented on the need for appropriate lead-in times for manufacturers.

- One industry member said that “meeting [the] requirement by 2025 across all small commercial air conditioning products will not be possible due to suitable components and design, test lab and manufacture lead times”.⁹⁵
- One industry submitter stated that “model planning and prototyping has already happened for 2026 models” and “model cycles are 4 to 5 years as all parts have to be designed, prototyped, made to production standard and then tested for prolonged periods, crash tested and possibly redesigned all over again prior to actual use in any production vehicle”.⁹⁶
- One industry organisation said that “the development of new equipment could take 3–4 years (from the time the ideal refrigerant is identified)”.⁹⁷

⁹³ Anonymous business.

⁹⁴ The Trust for the Destruction of Synthetic Refrigerants.

⁹⁵ Anonymous business.

⁹⁶ Motor Industry Association.

⁹⁷ Anonymous business.

Four submitters thought the proposed prohibitions needed to recognise energy efficiency issues.

- One industry submitter stated that, “for household and small commercial air conditioning these products are currently regulated by Minimum Energy Performance Standards” and “mandating a refrigerant with a GWP of less than 150 will increase energy consumption for this product category”.⁹⁸
- One industry submitter noted that “for refrigerant under GWP of 150, the alternatives are flammable refrigerant only and it has less efficiency on both heating and cooling”.⁹⁹
- Another industry submitter saw the decarbonisation of air conditioning as an important issue, stating that “heat pumps are projected to be instrumental in driving emissions down as the transition from gas occurs globally and the electricity grid is decarbonised”.¹⁰⁰

Five submitters had concerns about the safety of alternative refrigerants.

- In terms of air conditioners, one industry member stated that the “current and immediate future appliance safety standards limit application of highly flammable refrigerants to all but small air conditioners”.¹⁰¹
- One industry submitter, in reference to a prohibition targeting passenger vehicles, said that “[the] dangers of flammable gas in populated enclosed space is significant and it is unlikely that any manufacturer will proceed in this timeframe”.¹⁰²
- One individual compared the current transition away from HFCs to the previous move from ozone-depleting refrigerants. They noted that the previous transition was less complex because the two refrigerant types had the same safety classification, which allowed for “drop-in” substitution in some cases.
- One submitter discussed the environmental concern of hydrofluoroolefins, noting that recent studies have suggested they degrade into polyfluorinated alkyl substances.

Specific prohibition timeline changes

Thirteen submitters were opposed to at least one aspect of the prohibition timeframe. Many provided comments on specific products and prohibitions.

The prohibition proposed on household refrigeration received no specific negative comments, and one industry organisation stated that “the targets for domestic refrigeration should be able to be fully met, given that the majority of quality household refrigeration units are already using <150 GWP refrigerant”.¹⁰³

Household air conditioning was a topic that attracted a lot of comments. Submitters were generally in favour of the proposed 2025 prohibition (750 GWP), with the stipulation that the category should be defined as “systems under 12kW capacity”.

⁹⁸ Anonymous business.

⁹⁹ Anonymous business.

¹⁰⁰ Anonymous business.

¹⁰¹ Anonymous business.

¹⁰² Anonymous business.

¹⁰³ The Trust for the Destruction of Synthetic Refrigerants.

- One industry organisation stated that “for comfort cooling R32 (GWP 677) provides the most energy efficient outcome”.¹⁰⁴
- One industry organisation agreed with the proposed 2025 prohibition on household air conditioners, but suggested “precision [is] needed on size. Suggest it applies to systems 12kw or smaller (this is consistent with the Australian Government)”.¹⁰⁵
- Conversely, one industry organisation said that meeting the requirements by 2025 across all small commercial air-conditioning products would be difficult due to the lead-in time issue mentioned above.

Several submitters disagreed with prohibitions on larger air-conditioning equipment.

- One individual felt the 750 GWP limit would be difficult to achieve by the 2025 date proposed.
- One industry submitter thought that safety standards may now allow a prohibition in this category.

Two industry organisations mentioned that there is no prospective low-GWP refrigerant for use in dehumidifiers.

- One industry organisation commented that “the dehumidifier market is insignificant in New Zealand. They may not be able to meet the <150GWP 2025 subject to manufacturing/technology restraints”.¹⁰⁶
- One industry submitter provided similar feedback, stating “there are no current plans to change refrigerant in dehumidifiers – a very small sector – [we] suggest delaying limits to 2025 to see approach followed”.¹⁰⁷

Vehicle air conditioning was also a topic of notable interest.

- One industry submitter felt that 2025 was too late for a 150 GWP limit on vehicle air conditioning, because “the technology exists and has been deployed internationally”.¹⁰⁸

However, other industry organisations disagreed strongly with the proposed prohibitions on vehicle air conditioners.

- One industry organisation said that vehicle source markets have only moved away from F-gas refrigerants recently and “a ban on importing products charged with F-gases in the proposed time frame will have a huge impact on the New Zealand consumer with consumers being unable to afford the later model vehicles.” They further stated that a prohibition “will not make a difference in the effort to reduce greenhouse gases, as other markets will take the vehicles that New Zealand (Inc) has banned”.¹⁰⁹

¹⁰⁴ Anonymous business.

¹⁰⁵ Anonymous business.

¹⁰⁶ Trust for the Destruction of Synthetic Refrigerants.

¹⁰⁷ Anonymous business.

¹⁰⁸ Anonymous business.

¹⁰⁹ Anonymous business.

- Another industry submitter shared similar views, stating that “while Japan is banning F-gases in automotive air conditioning from 2023, this only applies to vehicles manufactured for the domestic market, and not those built for some other markets, and indeed many Japanese models are not even made in Japan”.¹¹⁰
- The same submitter also noted that, not only is Aotearoa New Zealand’s car market small globally, “the vast majority of new vehicles – a little over 80% by volume – that land in New Zealand are built to Australian Design Rules (ADR) standards for the Australian market”.¹¹¹

Other prohibition timeline changes

Many submitters thought the category descriptions lacked definition.

- Six submitters felt the use of the terms ‘small’ and ‘heavy’ was not descriptive enough.
- Three submitters felt that, in some circumstances, ‘household’, ‘commercial’ and ‘industrial’ were not useful terms.
- Three submitters suggested that the wattage of equipment should be used in some cases.

Some submitters also described other products that they would like prohibited.

- Three submitters mentioned electrical switchgear containing SF₆.
- Two submitters mentioned the opportunity to ban non-refillable refrigerant cylinders.
- One submitter suggested a ‘catch-all’ category to ensure all equipment would eventually be targeted.

Prohibition on equipment containing ozone-depleting substances

Nineteen submitters provided feedback on whether a prohibition on equipment pre-charged with ozone-depleting refrigerants would affect consumers or the industry.

- Eight submitters stated there would be an impact, but most did not elaborate on what that impact would be.
- Nine submitters believed there would be no impact.
- Two submitters were unsure if there would be an effect.

Two submitters also mentioned the need for exclusions from a ban on ozone-depleting refrigerants.

- One individual mentioned exemption for goods intended for Pacific Island nations that might still be reliant on HFC refrigerant technology.
- One industry association stated that some classic cars still contain R12 refrigerant and may need to be excluded from a potential prohibition in a similar manner to their exclusion from other environmental regulations.

¹¹⁰ Motor Industry Association.

¹¹¹ Motor Industry Association.

Controls

Thirteen submitters answered questions on what penalties they think should be in place when breaches occur of product prohibitions. The answers are summarised in figure 10.

Figure 10: Refrigerants – responses on proposed penalties for breaches of product prohibitions

