

Submission on IChEMS Consultation

23 October 2026

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Who We Are

Refrigerants Australia

Refrigerants Australia, formed in 1989, is the peak organisation representing the supply chain of refrigerants both in bulk and in equipment. Its members include bulk refrigerant importers representing over 95% of all refrigerants sold in Australia, AREMA (equipment importers and manufacturers), Australia Refrigerant Wholesalers Association, contractor organisations representing people on the tools using refrigerants (RACCA, AMCA and VASA), and Refrigerant Reclaim Australia, Australia's award winning refrigerant recovery organisation.

Refrigerants Australia is committed to:

- Reducing the environmental footprint of all refrigerants
- Improvements in energy efficiency in refrigeration and air conditioning equipment
- Safety of all refrigerants
- Preparing industry for a low emissions future
- Encouraging government regulation that delivers environmental benefits.

Air Conditioning and Refrigeration Equipment Manufacturers Association

Established in 1967, AREMA (Air-Conditioning & Refrigeration Equipment Manufacturers Association of Australia) represents the interests of air-conditioning and refrigeration equipment manufacturers active in the Australian market. We work with government and industry on policy formulation and regulation to achieve the best outcomes for our members and the wider community.

AREMA's aims are to:

- Help reduce the environmental footprint of air conditioning, heat pumps and refrigeration in Australia.
- Encourage members to design and manufacture energy efficient equipment.
- Encourage our members to deliver real energy savings to consumers.
- Reduce ozone depleting substances (ODS) and greenhouse gases in a safe and controlled manner.
- Work closely with government to ensure the safe implementation of standards that will benefit end users and product designers.
- Work with other local and global associations to ensure we adopt world's best practice.
- Provide a unified voice for representation to government and industry on key issues.
- Represent the air conditioning and refrigeration industry on key standards committees and, where possible, assist members to interpret these standards.

Purpose

To present AREMA and Refrigerants Australia's submission in response to the DCCEEW's IChEMS consultation.

Background and Overarching Points

Australian refrigerant policy has long roots and has been quite successful over the past 35 years. The *Ozone Protection and Synthetic Greenhouse Gas Management Act (Ozone Act)* has provided regulatory certainty to the three main pillars of refrigerant regulation: import restrictions, use control, and end-of-life requirements.

Since 2019, however, Refrigerants Australia and AREMA has urged the Australian Government to put GWP limits on refrigerants in new equipment. We accept that the *Ozone Act* has become unwieldy due to lack of appropriate resources, additional bureaucratic requirements related to setting regulations, and lack of government attention. We appreciate recognition of this by the Department and the aim to enable timely action by using the IChEMS legislation. We also understand – and are grateful for – the capacity for IChEMS to cover a broader range of issues than those defined under the ozone legislation.

Refrigerants Australia and AREMA does have two cautions relating to the use of the IChEMS as an approach for regulating refrigerants:

1. The Department and Government must recognise that IChEMS cannot replace the *Ozone Act*. It has a specific role in supporting import controls with refrigerant specific provisions but cannot replace the elements covered by the *Ozone Act*.
2. We also observe that the unparalleled success of the ozone protection regime in Australia is based on both strong consultation and engagement between Government and industry, as well as long term certainty about regulatory requirements. The ongoing use of IChEMS will require that DCCEEW assiduously pursues ongoing and effective consultation with industry and retains its strong commitment to the current co-regulatory model

Finally, the long delay in putting in place essential GWP limits has and will result in significant costs to industry and the community. Australian industry has already made great strides, reducing the amount of refrigerants imported in Australia (in carbon dioxide equivalent term) by over 60% between 2018 and 2026 off Australia's Montreal Protocol baseline. But, as a result of an incomplete and delayed transition to lower GWP refrigerants in new equipment – and a lack of Government action to require a transition as has happened in other developing countries - there are and will be increasing refrigerant shortages across the Australia community, causing both increased costs and we expect significant shortages over the period until at least 2030.

Attachment A is the executive summary of the “The Big Short”, which provides a recent assessment prepared by the Expert Group for Refrigerant Australia detailing the refrigerant shortage challenges facing Australia.

Refrigerants Australia and AREMA note the series of Cold Hard Facts reports has had a pause. We urge DCCEEW to recommence this essential work which underpins good policy and regulatory development and would provide further context and detail to, and extension of, the assessment in the “Big Short”.

Principles

Refrigerants Australia has already established its broad criteria for assessing and proposing an approach on refrigerant policy. These broad principles – which are all equally important – include:

- Moving Australia towards the lowest emissions future possible.
- Avoid prematurely stranded assets and industry disruption because of unreasonable, overly rapid and/or unexpected policy-regulatory change.
- Provide certainty to allow companies to continue to invest into the future with confidence.
- Provide consistency with the principles of technological neutrality.
- Be consistent with the waste hierarchy, with recycling and reclamation prioritized, except in cases where the refrigerant has a high GWP and should be destroyed.

These principles underpin the proposals in this submission. We would encourage the Australian Government and other stakeholders to adopt these principles.

Proposed GWP Limits

Basis for assessing GWPs

AREMA and Refrigerants Australia ask DCCEEW to confirm that the GWPs used in relation to specific refrigerants are those used by the Kigali Amendment to the Montreal Protocol – the 100 year GWP schedule from the AR4.

Table 1: Proposal for GWP limits for new equipment

Sector	GWP Limit	Date
HVAC and heat pump equipment, including split system air conditioners, packaged units, split and unitary hot water heat pumps and chillers	700	2030
Unitary HVAC equipment such as portable air conditioners, window air conditioners and dehumidifiers.	150	2030
Commercial Refrigeration	1500	2028-2030
Commercial Refrigeration	700	2030
Domestic Refrigeration and small display cabinet type units	150	2030
Mobile air conditioners, Large Mobile Air Conditioners and transport refrigeration	As proposed	

Explanation of the dates and GWP limits proposed

Refrigerants Australia and AREMA propose an implementation date of 2030, as opposed to 2028 because:

1. Many equipment importers have more than a year's stock present in Australia for sales and warranty claims. A 2028 commencement date without sufficient transitional arrangements would add significant costs as equipment would either need to be sold at very low prices immediately or exported. Alternatively, if already imported equipment, larger companies benefit. In any scenario, industry dislocation and higher prices will impact consumers over time.

2. Many companies have commercial arrangements with developers for existing equipment using current refrigerants that extend well beyond 2028. A 2028 implementation would cause significant cost to both buyers and sellers of equipment. Not only would contracts need renegotiation, but because equipment size, weight and requirements (often for safety) vary with new refrigerants this implementation date would force buildings to be redesigned. These factors all negatively impact on productivity and would cause significant economic disruption.¹
3. The RAC industry is well trained and professional. Yet, few of the ARC licensed cohort are qualified to manage flammable, toxic or high-pressure refrigerants – which represent a significant cohort of lower GWP refrigerants. The RAC industry needs significant retraining to ensure safe installation, maintenance, repair of new equipment. Additionally, failing to understand the safety requirements for new equipment and the potential for improperly considering risks to public safety. Quite simply, 12 months is far too short a timeframe to ensure the industry is appropriately trained – particularly in the absence of requirements for continuing professional development through ARC licensing and the lack of immediate Government funding support for upskilling.²

¹ For example, consider Variable Refrigerant Flow (VRF) equipment. The proposal would necessitate a significant transition from existing R410A platforms to lower-GWP alternatives, predominantly R32. The adoption of R32 introduces additional design considerations due to its A2L refrigerant classification and the associated refrigerant charge and concentration requirements under AS/NZS 5149, with refrigerant safety classifications defined by ISO 817. These requirements can materially influence mechanical system design, including refrigerant piping configurations, allowable charge limits, occupied-space requirements and the potential need for additional safety measures. Commercial building projects typically involve extended design, approval and construction timelines. Many projects currently being designed or already approved may not reach construction completion or equipment installation until 2029, or in some exceptional cases, 2030. Introducing the proposed restrictions before these projects are completed could necessitate substantial redesign of previously approved mechanical systems, resulting in additional engineering costs, project delays and potential impacts on overall building feasibility.

² To illustrate these two points, consider the estimated 20,100 remote condensing units (and a similar number of associated evaporators) that were supplied to the Australian market over the past year. Of this equipment, around 10% is estimated to use CO₂, while there is nil deployment of A2L refrigerants in this equipment category. The market remains predominantly reliant on A1 refrigerants. With the GWP limits proposed under IChEMS, this will change and industry will shift to A2L, A3, and B2L refrigerants. Time is needed to ensure industry (both equipment owners and the 100,000+ technicians) can adapt safely and efficiently.

4. Even if equipment meeting GWP limits is available overseas, it does not follow that it simply can be imported into Australia and launched in our market. In Australia – unlike other jurisdictions like the European Union – equipment needs to be tested to determine its energy efficiency performance as required for Minimum Energy Performance Standards as mandated by the *Greenhouse and Energy Minimum Standards Act* and, in many cases, its safety. There are limited laboratories available to conduct this work and to require industry to transition in a year is unachievable.
5. The issue for domestic manufacturers of equipment is even more profound. Not only do manufacturers need to design new equipment, changes in refrigerant classification, particularly to flammable refrigerants (an expected outcome), requires extensive changes to production lines. Estimates from two of the domestic manufacturers suggest these costs would be more than \$1,000,000 and it would be extremely difficult to implement transitions within a year. It could well cause these remaining manufacturers to consider if they can continue production in Australia. It would be appropriate to give these companies time to appropriately schedule how they can incorporate changes in their factory design into their forward planning.
6. An across-the-board GWP limit of 700, allows the continued use of lower GWP refrigerants like R513A, R32, and R454B. These gases are commonly used across HVAC and commercial refrigeration yet have a markedly lower GWP than refrigerants used today. Furthermore, having a consistent GWP limit across broad industry sectors minimises compliance challenges both for industry and Government.
7. In the absence of an across-the-board approach to the GWP limit as described in this submission, AREMA and Refrigerants Australia advise that the equipment descriptions in the proposal are inadequate for regulatory purposes. While the broad taxonomy used in Cold Hard Facts is perfectly appropriate for projections assessment, significant detailed work would need to be undertaken with industry and Government in close cooperation to define equipment classes with appropriate GWPs. The IChEMS proposal is not sufficiently detailed for industry's purposes and developing robust definition of equipment types based consistent with technical understandings is a non-trivial task that would take months and significant further consultation.

8. An interim target for commercial refrigeration installed during the period 2028-2030 is necessary as the continued introduction of equipment with R404A is causing significant industry disruption and for this equipment, unusually, there are alternative refrigerants available, particularly R448A and R449A.

Exemptions and further restrictions

Data Centres Given the rapid introduction of new data centres (and noting that some installations are using R410A), there may be greater disruptions to the refrigerant market soon. Noting that lower GWP options exist, Refrigerants Australia calls on the Government to require data centres use refrigerants with a GWP less than 700 immediately.

Exemptions There will be applications where there will need to be exemptions to allow the current generation of refrigerants to continue to be used. The reasons for these allowances should be either essential uses – primarily medical or defence applications – or safety in confined spaces including both control rooms and in transport refrigeration.

Consideration should be given to the allocation of non-grandfathered quota to support these specific needs. Refrigerants Australia can make specific proposals on the use of quota for these applications if useful, as well as work in developing a mechanism to assess claims of essential use.

Spare Parts VRF units have a single outdoor unit, extensive pipework designed for a specific refrigerant, and numerous indoor units. Given the potential for failure of an outdoor unit - including through natural events - a company or building owner would need to replace an entire system should the outdoor unit fail at very significant cost.

Similarly, commercial refrigeration systems for supermarkets, food processors, cold stores and other cold-chain businesses comprising rack systems or remote condensing units typically have multiple refrigerated display cabinets and cold room evaporators connected to a common refrigeration system. Failure of an individual component should not require the premature replacement of an otherwise serviceable system simply because a compatible replacement does not meet the GWP limit applying to new equipment.

AREMA and Refrigerants Australia therefore propose that replacement outdoor units, condensing units, evaporators and refrigerated display cabinets used to repair an existing system be treated as spare parts and not subject to the restrictions until 2038. This would be consistent with the proposed treatment of VRF systems and the previous approach to HCFC equipment. AREMA and Refrigerants would also propose that appropriate

restrictions would be needed to ensure there is a like-for-like replacement of a system installed before the start date, supported by appropriate evidence.

Future GWP limits

Refrigerants Australia and AREMA urges the Australian Government to not set GWP limits for any period in the 2030s at this time. There is no certainty regarding what technology will be available, at what price and with what consequences. Locking Australian industry into a transition to what may end up being an unachievable target is a poor approach to policy and is inconsistent with Refrigerants Australia and AREMA's call for a diligent commitment to detailed future consultation under IChEMS. While we appreciate other jurisdictions have taken this approach – particularly the European Union – they have done so on the assumption that global industry will meet their requirements. As noted above, there are many requirements in Australia that do not exist in the European Union and the Australian market is far too small to drive change in product innovation for international manufacturers. Instead, we would propose that the Australian Government initiate a review of GWP levels at a date to be agreed in full consultation with industry to see what is available to the Australian market at that stage.

HFOs and other non-Kigali substances

Refrigerants Australia and AREMA support the broad approach as outlined in the IChEMS consultation for HFOs.³ The aim of extending good lifecycle refrigerant management (LRM) to HFOs is a worthy endeavour, which we strongly support.

There is, however, a significant problem inherent in the proposal. In 2004, the Australian Government and industry led the world in extending requirements on ODS to HFCs. The basic argument, which was insightful, was that requirements for effective ODS and HFC management were identical. Further, the technicians who handled refrigerants and the equipment it contains, did not care whether it was R22 or R410A. LRM is the same regardless of the regulatory categorisations, including HFOs. The same approach was also extended to end-of-life requirements.

The current proposal for HFOs contains significant risks to industry. Making companies responsible for managing HFO refrigerants without any real tools to do so is an unreasonable unfunded mandate. It will be difficult and expensive for companies to meet their obligation.

Extending the established LRM approach – managing refrigerants through the supply chain, requiring technicians to be licensed and the current end-of-life refrigerant stewardship program to HFOs would build on a proven national system that industry already knows and trusts. It would reduce cost and risk to industry.

This proposal is not limited to HFOs. All refrigerants have environmental, safety and performance issues. The need to ensure they are well managed is vital to efficiency and environmental outcomes, as well as to keep both the public and workers safe.

Refrigerants Australia and AREMA propose that the DCCEE immediately begin policy/regulatory work to extend the Ozone Act to alternative refrigerants, including HFOs, hydrocarbon, carbon dioxide and ammonia. Specific recommendations and rationale for expanding the *Ozone Act* are listed below.

We note that DCCEE has suggested there are constitutional issues with such a reform. Accordingly, we approached a constitutional lawyer for advice. She advises that there is no constitutional impediment to covering HFOs and alternative refrigerants under the current legislation. That advice is at [Attachment B](#).

³ This submission follows the industry standard and refers to HCFOs and HFOs simply as HFOs.

Import and Reporting Requirements

Australia's achievements in managing refrigerants have been greatly facilitated by the collection of import data for the past 20 years. This data has proven essential to understanding our market and how it has changed over this period.

AREMA and Refrigerants Australia propose extending the current HFC import licensing and reporting requirements for both bulk HFO refrigerants and pre-charged equipment containing HFOs. The same data collected for HFCs today should be extended to HFOs.

Technician licensing & supply chain requirements

All refrigerants have environmental issues: HFCs, HFOs, hydrocarbons and CO₂ all impact the climate. Some HFCs and HFOs have been linked to PFAS. Hydrocarbons and carbon dioxide are associated with local air quality issues. Similarly, all refrigerants have safety issues including flammability, high pressure and toxicity.

Refrigerants Australia and AREMA propose that the current requirements on technicians – the ARC license structure – be extended to HFOs and other alternative refrigerants. This is consistent with the approach taken in 2003 and makes good sense to reduce complexity in industry and most efficiently deliver environmental and safety outcomes.

Additionally, we would propose that the requirements that refrigerants be controlled through the supply chain and only be accessed by licensed individuals and companies be extended to HFOs and other alternative refrigerants to ensure the best environmental and safety outcomes are achieved.

Disposable Cylinders

AREMA and Refrigerants Australia propose extending the existing ban on importing ODS and HFCs in non-refillable (disposable) cylinders to HFOs and alternative refrigerants. The reason the ban was initially put in place – according to the Australian Government – was that disposable cylinders cause refrigerant emissions. There remains remnant refrigerant in the cylinder that is released after disposal. These emissions are difficult to prevent. Further, allowing disposable cylinders facilitates refrigerants ending up in the hands of untrained individuals, making the likelihood of poor servicing and higher level of emissions greater. Disposable cylinders also make a reverse supply chain, needed for product stewardship, more difficult and expensive. A prohibition on disposable cylinders eliminates these issues.

End of Life Requirements

Refrigerants Australia and AREMA endorse Refrigerant Reclaim Australia's submission in response to this consultation.

We reiterate that regulatory requirements for HFO's should mirror those already in place for HFC's, including mandated participation in an approved product stewardship scheme to support both action and financial contributions to fund collection, further incentivise recovery, destruction or appropriate alternate treatment and operational requirements. We concur with RRA's proposal to put in place a requirement for importers of HFO refrigerants, both in bulk and in pre-charged equipment, to participate in an approved product stewardship scheme.

We support RRA's submission that extending its established refrigerant stewardship program to HFOs would, "build on a proven national system that industry already knows and trusts. RRA's industry-funded, not-for-profit model provides a convenient and cost-effective approach, with established collection networks, industry relationships and treatment arrangements. Incorporating HFOs through an appropriate mandatory framework would extend these existing arrangements to the next generation of refrigerants, supporting coordinated collection and treatment and the sharing of end-of-life costs, as already occurs for earlier generations of regulated refrigerants."

Reforms to the *Ozone Act*

In considering the 2003 amendments to the *Ozone Act*, Refrigerants Australia and AREMA note that there are several areas beyond what refrigerant are covered that would be useful areas for reform. An initial list for consideration includes:

- The requirements on 'users' should extend, as appropriate, to equipment owners, operators, maintenance contractors as well as licensed technicians.
- The refrigerant scheme should also cover systems containing refrigerants, as well as the refrigerants. This would enable maintenance requirements and maximise energy savings.
- Enabling continuing professional development requirements to the ARC licensing scheme to ensure technicians are trained in future refrigerants.
- Consider alternative licensing opportunities such as allowing a combined RTA/RHL license for splits and heat pumps and expanding the mobile licensing requirements to cover the refrigeration needs of electric vehicles.
- Enhancing compliance to provide right of entry to ARC auditors and to shift the onus of proof for correct behavior to license holders, as is consistent with State EPAs.

Next Steps

AREMA and Refrigerants Australia are ready to assist DCCEEW in further developing the IChEMS concept. We would propose that DCCEEW participate in a small meeting hosted by us with industry experts to detail issues and provide technical details underpinning the points made in this submission and answer any technical or policy questions you may have. We are also willing to provide any further advice or technical details that could assist.

Please feel free to contact Greg Picker to facilitate these opportunities, or for any other way we can be supportive.

Greg Picker: greg.picker@refrigerantsaustralia.org or 0403 741715

Attachment A

The Big Short: Australia's Refrigerant Supply Challenge - Executive Summary



NOVEMBER 2026

Australia is entering the most challenging stage of the HFC phase-down⁴

Australia's import quota on bulk hydrofluorocarbons (HFC) which is used for service and manufacturing will be reduced by 45% from 2025 to 2030. This reduction takes the quota from 5.25 million tonnes (Mt) of carbon dioxide equivalent (CO₂-e) in 2025 to 2.90 Mt in 2030. Over the same period, the market must continue to service a large installed-equipment bank that requires substantial quantities of HFC-404A, HFC-410A and HFC-134a. Phasing out this technology is slow and it will likely remain in operation for many years. Since the quota constrains imports on a CO₂-e basis, continuing demand for these higher global warming potential (GWP) refrigerants disproportionately consumes quota and reduces the physical tonnes of refrigerant that can be supplied in Australia.

Refrigerant shortages are now inevitable. The key uncertainty is when and where they will emerge, which refrigerants will be affected, and which applications will be most exposed. Australia will not simply “run out” of refrigerant at a national level. Shortages will emerge progressively, first affecting individual refrigerants, suppliers and regions, well before the aggregate national inventories are exhausted.

Supply is tightening faster than demand can adjust

The underlying challenge is the mismatch between the rate at which HFC supply is being constrained and the rate at which refrigerant demand can decline. **Under the Baseline scenario, aggregate bulk import volumes of HFC refrigerant decline by approximately 34% between 2025 and 2030, while refrigerant usage declines by only around 21%.** A progressively lower-GWP import mix allows more physical tonnes to be supplied within the available quota, while reclamation, recycling and re-use provide additional supply. However, these adjustments are not sufficient to fully offset continuing servicing demand from the installed equipment bank.

Industry feedback indicates that aggregate refrigerant inventories at the beginning of 2026 were unlikely to have exceeded 1,500 tonnes, equivalent to around five months of supply based on 2025 usage. This relatively limited opening inventory provides the buffer between declining bulk imports and continuing servicing demand. **Under the Baseline scenario, aggregate stock will fall to 950 tonnes by December 2026, recover modestly during 2027, then decline sharply following the next quota reduction in 2028 (refer Figure 1). Inventories will fall to approximately 216 tonnes by December 2028 and be effectively exhausted during late 2029.** The scenario is not a certainty but

⁴ Readers should refer to the full report for the detailed analysis, methodology, limitations, disclaimer and copyright information.

illustrates how quickly the available inventory buffer could be eroded if demand adjusts at the rate assumed in the Baseline scenario.

Importantly, industry feedback indicates that stocks of **some individual legacy refrigerants could become critically low during late 2026 or over the 2026-27 summer period**, well before aggregate national inventories are exhausted.

The pressure was already visible in 2025. Estimated HFC usage was approximately 3,598 tonnes compared with 2,846 tonnes of bulk imports. The difference of 752 tonnes was supplied from refrigerant that was already within the Australian market. Approximately 90% of this physical difference was attributable to HFC-410A and HFC-404A.

The risk is concentrated in the legacy refrigerant bank

As summarised in Table 1, HFC-404A and HFC-410A represent the principal near-term supply risks. Commercial refrigeration remains heavily dependent on HFC-404A and has relatively high refrigerant leak rates, creating substantial recurring servicing demand. Supply constraints have the potential to affect supermarkets, food retail, hospitality, cold storage and other critical temperature-controlled applications.

Stationary air conditioning presents a different challenge. Australia had an estimated 22,000 tonnes of HFC-410A in installed equipment in 2022, representing approximately 40% of the regulated refrigerant bank by mass (DCCEEW 2024a). Although new equipment is transitioning rapidly towards HFC-32 and other lower-GWP technologies, the existing HFC-410A fleet will require servicing for many years and there is no practical retrofit pathway for much of this equipment.

HFC-134a is less exposed in the immediate term because recent bulk imports have been more closely aligned with usage. However, supply pressure will increase from 2028 onwards, particularly if demand does not decline in response to tightening supply and higher prices. Mobile air conditioning is the principal exposure, with the Australian vehicle fleet continuing to generate substantial HFC-134a servicing demand.

National supply is not a national stockpile

The structure of Australia's refrigerant market increases the potential for shortages to emerge before aggregate national inventories are depleted. Importers operate independently, with different quota positions, refrigerant mixes, inventories and customer requirements. A supplier can therefore exhaust its stock of a particular refrigerant while another supplier continues to hold inventory. Commercial arrangements and established distribution channels can also limit the extent to which importers can redistribute refrigerant.

Australia's geographic scale adds another constraint. Refrigerant inventories are dispersed across more than 200 wholesale outlets and storage facilities and cannot be

regarded as a single readily interchangeable pool. The availability of certain refrigerants may therefore vary between suppliers, regions and individual branches, resulting in localised and supplier-specific shortages well before aggregate national stock approaches zero.

Supply pressure is also highly seasonal. The greatest pressure occurs during Q4 and early Q1, when refrigerant demand rises leading into summer, inventories have been progressively drawn down, and late-year imports reduce. A new quota period provides renewed capacity to import from January, but quota availability does not necessarily translate into immediate physical supply. Manufacturing, shipping and domestic distribution lead times mean shortages emerging in late Q4 may continue into the following year before replacement stock becomes available. This can be compounded by the Chinese New Year period, when manufacturing and logistics activity in China slows or temporarily ceases, potentially delaying Q1 production and shipments to Australia.

The speed of transition will determine the severity of the adjustment

Australia commenced its HFC phase-down in 2018 with time for equipment and refrigerant use to progressively transition towards lower-GWP alternatives. Almost a decade later, that transition remains incomplete in several major applications. Large installed banks of HFC-404A, HFC-410A and HFC-134a continue to generate servicing demand, while high-GWP refrigerants continue to enter the installed equipment bank in some applications even where lower-GWP technologies are available.

At the same time, parts of the market demonstrate that transition can occur with relatively limited disruption. Applications that have already moved to lower-GWP technologies, or where equipment can be readily replaced, have materially lower exposure. This includes domestic refrigeration, self-contained commercial refrigeration, small split-system air conditioning and several heat-pump applications.

The market is already responding to tightening supply and higher prices. HFC-404A usage began declining during the second half of 2025 as lower-GWP alternatives gained ground. This shift was aided by increasing refrigerant prices that strengthen the commercial incentive for substitution in addition to equipment replacement, improved containment and greater recovery and re-use of HFC-404A. This response will become increasingly important as the quota tightens, but the large installed bank means that market adjustment alone will take time to be effective.

Reducing servicing demand from the existing equipment bank will take many years, making it increasingly important to avoid adding further high-GWP equipment to that bank. Government action is also critical to the transition. The HFC quota constrains bulk refrigerant imports but does not prevent high-GWP refrigerants from continuing to enter

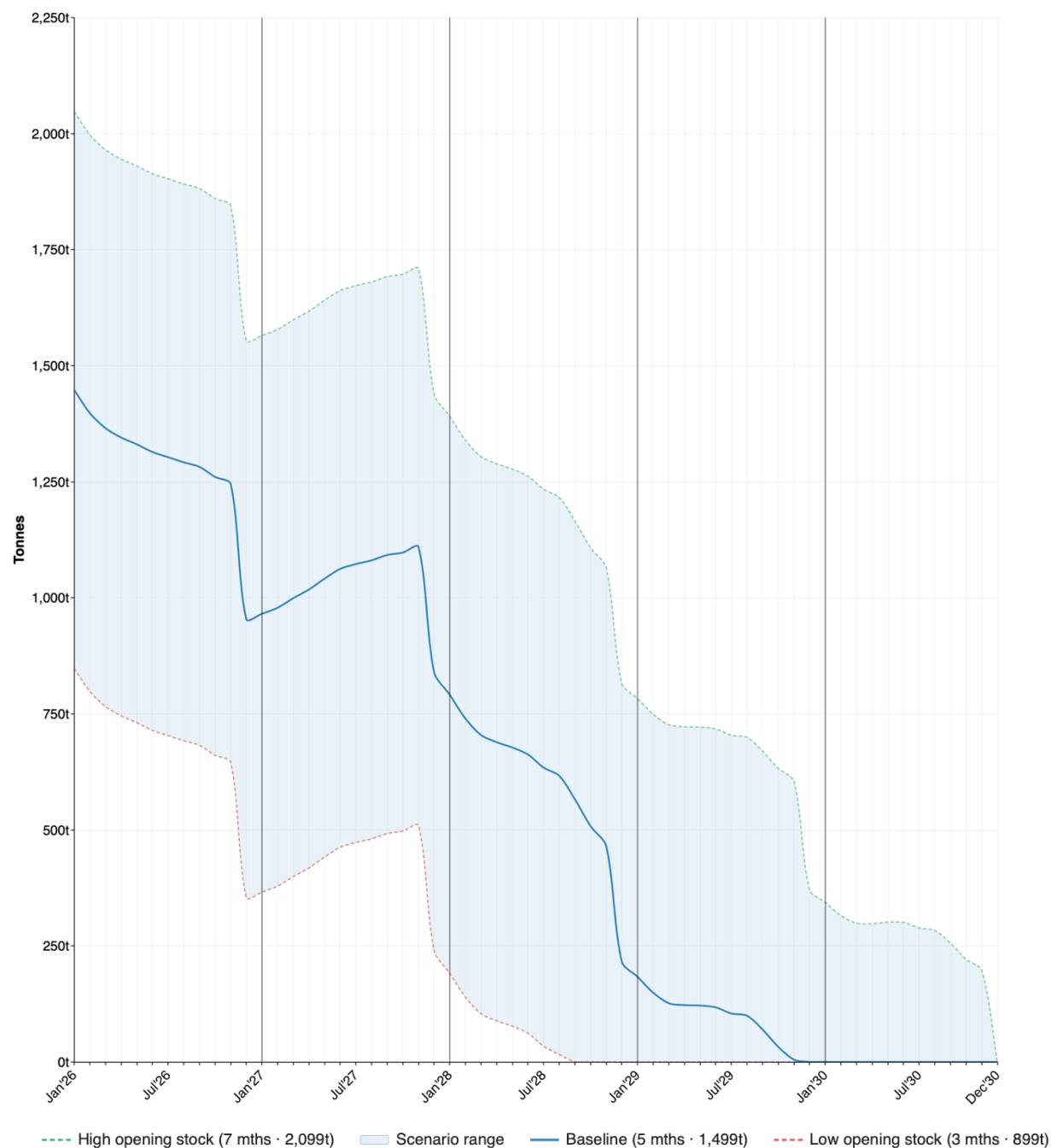
Australia in pre-charged equipment, which adds to the installed bank and increases future servicing demand. Accelerating equipment controls where proven lower-GWP technologies are available, particularly HFC-134a in mobile air conditioning, HFC-404A in commercial refrigeration and HFC-410A in larger stationary air conditioning, would reduce the growth of these legacy banks and relieve future pressure on the progressively tightening bulk HFC supply.

Refrigerant already within the Australian market will also become increasingly valuable. Under the Baseline scenario, reclamation will contribute 250 tonnes in 2026, increasing to 400 tonnes from 2029, while additional recycling and re-use increases refrigerant available from within the Australian market from 75 tonnes to 150 tonnes. The model assumes that recycling and re-use already occurs within the market; these quantities represent the additional, or incremental, volume expected to become available as supply tightens and the commercial incentive to recover and re-use refrigerant increases. Together, these sources provide an increasingly important buffer, although their contribution depends on recovery rates, commercial incentives, reclamation throughput and effective collection and return pathways.

The assessment therefore points to three factors that can materially influence the severity of the remaining transition: reducing future servicing demand through continued equipment transition; reducing refrigerant losses through improved containment; and making greater use of the refrigerant already within the Australian market through recovery, recycling, re-use and reclamation.

Supply pressure will intensify through the 2026-27 summer period, with shortages expected to become more evident across parts of the supply chain during 2027 and progressively more widespread through to 2030. The severity and duration of those constraints will depend increasingly on how quickly refrigerant demand adjusts to tightening supply.

Figure 1: Projected National Refrigerant Stock, 2026 to 2030



Source: (Expert Goup 2026a)

Note: Dark vertical lines indicate the commencement of each annual HFC quota allocation period. Where modelled national inventory reaches zero, this represents a temporary supply constraint under the assumptions modelled, not permanent exhaustion of refrigerant supply. A new quota allocation becomes available to importers at the beginning of each calendar year, allowing imports and inventories to be replenished. Inventory associated with subsequent quota years is not shown on the chart once modelled inventory reaches zero.

The immediate concern is the limited inventory buffer entering the 2026-27 summer period. Beyond this period, the severity and duration of supply constraints will depend increasingly on how quickly refrigerant usage adjusts to tightening supply and higher prices.

Table 1: Indicative Refrigerant Supply Risk by Species

Refrigerant	2026	2027	2028	2029	Principal Exposure
HFC-404A					Large commercial refrigeration bank; high servicing demand and high GWP; approved retrofits exist.
HFC-410A					Large stationary AC bank; substantial servicing demand; no practical retrofit pathway.
HFC-134a					Large installed bank, but current bulk imports broadly balance usage; approved retrofits exist.
Lower-GWP alternatives					Increasing demand as transition accelerates.
HFC-407C				×	Imports cease and remaining historical stocks are depleted; no practical retrofit pathway.
HFC-452A					Imports cease and remaining historical stocks are depleted.

● Low ● Moderate ● Critical × Unavailable

Low: Supply expected to meet demand. **Moderate:** Tightening supply with potential intermittent or localised shortages. **Critical:** Supply is insufficient to consistently meet demand, with shortages expected across parts of the supply chain during periods of peak demand. **Unavailable:** Bulk imports have been discontinued by suppliers and remaining historical stocks are projected to have been depleted.

Note: Supply risk reflects the availability of refrigerant to the Australian market, including bulk imports and reclaimed refrigerant.

Attachment B:

IN THE MATTER OF CERTAIN QUESTIONS RE COMMONWEALTH LEGISLATIVE POWER
TO REGULATE ALTERNATIVE REFRIGERANTS

IN THE MATTER OF CERTAIN QUESTIONS RE COMMONWEALTH LEGISLATIVE POWER TO REGULATE ALTERNATIVE REFRIGERANTS

A INTRODUCTION AND SUMMARY

- 1 Refrigerants Australia has sought my advice on questions concerning the ambit of the Commonwealth’s legislative power to regulate “alternative refrigerants” (i.e. refrigerants that are not ozone depleting substances (**ODS**) and have low, very low or zero 100-year global warming potential (**GWP**)).¹ Refrigerants with GWP below 150 are globally recognised as environmentally preferable alternatives to higher GWP refrigerants.²
- 2 The questions are designed to explore ways in which Commonwealth legislation could, within constitutional limits, regulate Australia’s management of alternative refrigerants through the *Ozone Protection and Synthetic Greenhouse Gas Management Act 1989* (Cth) (**Ozone Protection Act**) and associated regulations and instruments.
- 3 The questions upon which my advice is sought and my answers are as follows:
- (1) **Question 1:** *Can the Commonwealth, within constitutional limits, regulate (through primary and/or secondary legislation) to manage all refrigerants?*

Yes.

There may be many ways to design legislation that relies upon various constitutional heads of power to achieve this. For present purposes, I highlight that Australia’s international obligations to reduce GHG emissions and to phasedown HFCs and to phaseout ODS under the Vienna Convention, the Montreal Protocol (including the Kigali Amendment) and the UNFCCC, Kyoto Protocol and Paris Agreement provide the Commonwealth with significant latitude to enact laws supported by the treaty implementation limb of the external affairs power (under s 51(xxix) of the Constitution) to regulate the management of all refrigerants.

Relying on s 51(xxix), the Commonwealth Parliament can choose the means by which it gives effect to its international obligations provided that the means it chooses are “reasonably capable of being considered appropriate and adapted” to the purpose or

¹ The Ozone Protection Act specifies the “the 100-year global warming potential” of substances regulated by that Act by the applicable clauses in Schedule 1. The Montreal Protocol specifies the 100-year global warming potential of substances regulated under that Protocol.

² Department of Climate Change, Energy, the Environment and Water, Hydrofluorocarbons (HFCs) – Proposed Scheduling Decision, p. 3.

object of the treaty. The Commonwealth can also enact laws that are incidental to giving effect to these international obligations so long as the laws are appropriately directed to those ends or purposes.

- (2) **Question 2:** *Can the Commonwealth extend its current coverage of HFCs in the Ozone Protection Act to address the use and end-of-life requirements to other types of refrigerants, including “alternative refrigerants” like HFOs and hydrocarbons?*

Yes.

As currently drafted the Ozone Protection Act relies upon the treaty implementation limb of the external affairs power to regulate HFCs (as defined scheduled substances under that Act) in a manner consistent with the management of ODS. There is no constitutional impediment to amending the current legislation to extend the regime to other types of alternative refrigerants (including HFOs and hydrocarbons) on the assumption that the industries that use these refrigerants are doing so as alternatives to ODS and HFC refrigerants. Such amendments are likely to be supported by the treaty implementation limb of the external affairs power even to the extent the laws regulate substances that are not GHGs as their purpose is consistent with, and incidental to, Australia’s international obligations.

There are various ways in which the Ozone Protection Act could be amended to regulate alternative refrigerants within constitutional limits. The Act has operated to regulate scheduled HFC refrigerants since 2003 following amendments made to align the management and controls imposed on ODS refrigerants to HFC refrigerants. That domestic step was taken 13 years before the parties to the Montreal Protocol adopted the Kigali Amendment (under which the parties are now required to phasedown HFCs) and, thus, exceeded the requirements under the Montreal Protocol as then in force. Those 2003 amendments were expressly made for the purpose of giving effect to Australia’s international obligations under the UNFCCC, as well as the Vienna Convention and Montreal Protocol. The 2003 amendments could possibly serve as a model to extend the Ozone Protection Act to regulate alternative refrigerants.

B BACKGROUND

- 4 The Commonwealth currently regulates refrigerants through the Ozone Protection Act (and associated legislation, regulation and instruments). The government is proposing to use the Industrial Chemicals Environmental Management Standard (**IChEMS**) to implement

regulatory controls more quickly. I am instructed that there is an ongoing consultation about the use of IChEMS for this purpose.

- 5 Refrigerants Australia has instructed me to provide advice addressing how the Commonwealth could, within constitutional limits, extend the current requirements for ODS and HFC refrigerants under the Ozone Protection Act to substances not listed in the Schedule to that Act, including HFOs and hydrocarbons (being types of currently available “alternative refrigerants” to ODS and HFC refrigerants).
- 6 I am instructed that Refrigerants Australia and the Air-Conditioning & Refrigeration Equipment Manufacturers Association of Australia (**AREMA**) support imposing national requirements on alternative refrigerants, including HFOs and hydrocarbons. However, the Commonwealth government’s current proposal treats the regulation and management of HFO refrigerants differently to HFC refrigerants and that differential treatment presents significant risks to industry.
- 7 I understand Australian industry’s preferred model is to extend the current requirements on HFCs to alternative refrigerants, including:
 - 7.1 the reporting obligations on bulk refrigerant import and pre-charged equipment;
 - 7.2 the requirements on regulations covering end of use and end-of life; and
 - 7.3 The banning of the use of HFOs sold in disposable containers.

B.1 Properties and uses of alternative refrigerants

- 8 There are numerous types of substances that may be used as refrigerants. Each type has different properties that give rise to environmental and safety issues that must be managed.
- 9 I am instructed that alternative refrigerants (e.g. HFOs and hydrocarbons) are being used by industry (globally and in Australia) as replacement for HFCs to reduce and/or phasedown the use of HFCs, as these substances have low, very low to zero GWP.³ As noted above, refrigerants with GWP below 150 are globally recognised as environmentally preferable alternatives to higher GWP refrigerants.⁴

³ Department of Climate Change, Energy, the Environment and Water, Hydrofluoroolefins (HFOs) and hydrochlorofluoroolefins (HCFOs) – Proposed Scheduling Decision, p. 2.

⁴ Department of Climate Change, Energy, the Environment and Water, Hydrofluorocarbons (HFCs) – Proposed Scheduling Decision, p. 3.

- 10 In practice this means that the same people in the same industries are importing, consuming and disposing both HFCs and alternative refrigerants like HFOs. The practices used to manage and handle different types of refrigerants at various stages from installation, use (re-use), to decommission and destruction is substantially the same in many respects. The term often used to describe this process is “Lifecycle refrigerant management” (LRM).
- 11 HFCs are GHGs, with a GWP of between 675-4000. By comparison, I am instructed that other types of refrigerants have the following properties:
- 11.1 HFOs and HFC/HFO blends have a GWP of 0-700 (some are short-chained PFAS and some are mildly flammable);
- 11.2 Hydrocarbons have a GWP of 5-10 (and are highly flammable/explosive);
- 11.3 Carbon dioxide has a GWP of 1 (can be toxic in high concentrations and are explosive at high pressure); and
- 11.4 Ammonia has a GWP of 0 (toxic at reasonably low concentrations and mildly flammable).
- 12 Like HFCs, HFOs are imported into Australia.

C ANALYSIS

- 13 Before addressing the questions, it is convenient to highlight some general principles of constitutional law.

C.1 General principles concerning the ambit of constitutional heads of power

- 14 Sections 51 of the Constitution empowers the Commonwealth Parliament to enact laws “with respect to” 40 heads of power.⁵
- 15 To determine whether a law is validly authorised by any of the heads of power in s 51 it is necessary to characterise the law as one “with respect to” a head of power.⁶ The phrase “with respect to” has a very wide meaning and requires that there be a “sufficient connection” (one that is not “insubstantial, tenuous or distant”) between the practical and legal operation of

⁵ Section 52 confers legislative heads of power exclusive of that of State Parliaments.

⁶ *Grain Pool (WA) v Commonwealth* (2000) 202 CLR 479, [16] (Gleeson CJ, Gaudron, McHugh, Gummow, Hayne and Callinan JJ).

the law and the subject of the head of power.⁷ The legal and practical operation of a law is determined by considering the rights, duties, powers and privileges which it changes, regulates or prohibits.⁸ A law can be characterised as a law supported by more than one head of power, and, so long as the law can be characterised as one with respect to subject matter(s) within Commonwealth legislative power, it is irrelevant that the law can also be characterised as one with respect to another subject matter that is not within power.⁹ Often, Commonwealth legislation will expressly or impliedly rely upon multiple heads of power to support its constitutional validity.

- 16 Once a law has a sufficient connection to a head of power, it will be constitutionally supported by that head of power and, generally speaking, the means the law adopts to achieve the ends pursued are matters of legislative choice.¹⁰ The exception to this principle are heads of power that require a law made relying upon it to achieve a particular “purpose” (the treaty implementation limb of the external affairs power addressed in Section C.2 below is an example). To be a law with respect to a purposive head of power the law must be reasonably capable of being considered appropriate and adapted to the required purpose or object.¹¹
- 17 In addition, every head of power permits the Commonwealth to enact laws that are “incidental” to the subject matter of the power so long as the laws are appropriately directed to those ends or purposes.¹²

C.2 The ambit of the treaty implementation limb of the external affairs power

- 18 Section 51(xxix) of the Constitution give the Commonwealth the legislative power to make laws “with respect to” “external affairs”. One dimension of the external affairs power is a purposive head of power under which the Commonwealth has the power to make laws to implement a treaty. Importantly, relying on s 51(xxix), the Commonwealth Parliament can

⁷ *Grain Pool (WA) v Commonwealth* (2000) 202 CLR 479, [16] (Gleeson CJ, Gaudron, McHugh, Gummow, Hayne and Callinan JJ); *Spence v Queensland* (2019) 268 CLR 355, [57] (Kiefel CJ, Bell, Gageler and Keane JJ).

⁸ *Spence v Queensland* (2019) 268 CLR 355, [57] (Kiefel CJ, Bell, Gageler and Keane JJ).

⁹ *Commonwealth v Tasmania* (1983) 158 CLR 1, 150-152 (Mason J), 179-180 (Murphy J), 200 (Wilson J), 215 (Brennan J), 270 (Deane J); *New South Wales v Commonwealth* (2006) 229 CLR 1, [219]-[220] (Gleeson CJ, Gummow, Hayne, Heydon and Crennan JJ).

¹⁰ *Grain Pool (WA) v Commonwealth* (2000) 202 CLR 479, [16] (Gleeson CJ, Gaudron, McHugh, Gummow, Hayne and Callinan JJ).

¹¹ *Commonwealth v Tasmania* (1983) 158 CLR 1 at 130-132 (Mason J), 172 (Murphy J), 232 (Brennan J), 259-261 (Deane J); *Victoria v Commonwealth* (1996) 187 CLR 416 at 487-488 (Brennan CJ, Toohey, Gaudron, McHugh and Gummow JJ).

¹² *Spence v Queensland* (2019) 268 CLR 355, [59] (Kiefel CJ, Bell, Gageler and Keane JJ).

choose the means by which it gives effect to a treaty provided that the means it chooses are “reasonably capable of being considered appropriate and adapted” to the purpose or object of the treaty.¹³ The High Court has recognised this test does not mean that the obligation imposed by the treaty provides the “outer limits” of a law enacted to implement it.¹⁴ Put simply, a Commonwealth law can still be supported by the external affairs power if it goes further than the treaty obligation, if the law satisfies this purposive test. Further, a law can be validly supported by the external affairs power when it implements part, but not all, of the obligations of a treaty, so long as the legislation as a whole is not substantially inconsistent with Australia’s international obligations such that it can no longer be characterised a law implementing the international obligations.¹⁵

- 19 The fact that treaty obligations are reasonably broadly expressed and are capable of being implemented in a variety of ways, does not necessarily deprive them of sufficient content or certainty to support a law enacted relying on s 51(xxix) in this way.¹⁶

C.3 Australia’s international obligations to reduce GHG, phaseout consumption of ODS and phasedown HFCs

- 20 Australia has entered into various international agreements which impose obligations on the parties to them to phaseout ODS and to reduce GHG emissions generally (and to quantified levels in relation to certain GHGs, specifically HFCs). Consistent with the constitutional principles outlined above, the Commonwealth can enact a range of different laws for the purpose of giving effect to these obligations. I note in that regard that there are numerous

¹³ *Victoria v Commonwealth* (1996) 187 CLR 416 at 487-488 (Brennan CJ, Toohey, Gaudron, McHugh and Gummow JJ).

¹⁴ *Victoria v Commonwealth* (1996) 187 CLR 416 at 487 (Brennan CJ, Toohey, Gaudron, McHugh and Gummow JJ).

¹⁵ *Victoria v Commonwealth* (1996) 187 CLR 416 at 488-489 (Brennan CJ, Toohey, Gaudron, McHugh and Gummow JJ).

¹⁶ See, eg, the ILO Conventions relied upon in *Victoria v Commonwealth* (1996) 187 CLR 416.

Commonwealth laws that expressly rely for constitutional support upon Australia's international obligations to reduce GHGs to regulate various activities and persons.¹⁷

- 21 For present purposes, I draw attention to the following obligations (and note this summary of Australia's international obligations on climate change mitigation is not intended to be exhaustive).

C.3.1 Australia's international obligations to reduce GHG emissions

- 22 The climate change treaty framework comprises three mutually supportive legally binding instruments to address the problem of climate change caused by anthropogenic GHG emissions: the UNFCCC,¹⁸ the Kyoto Protocol,¹⁹ and the Paris Agreement.²⁰
- 23 ***UNFCCC:*** The UNFCCC provides a general framework for addressing anthropogenic GHG emissions, it addresses all GHGs, with the exception of those already controlled by the Montreal Protocol (summarised below).²¹ The ultimate objective of the Convention is to achieve "stabilization of [GHG] concentrations in the atmosphere that would prevent dangerous anthropogenic interference with the climate system" and to ensure that "[s]uch a level should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner."²²
- 24 Australia, as a developed country party, has additional obligations to "take the lead" in mitigating climate change, including by adopting national policies and measures to limit GHG emissions.²³ In that regard, Article 4, paragraph 2 (e)(ii) requires each party to "identify and periodically review its own policies and practices which encourage activities that lead to greater levels of anthropogenic emissions of [GHGs] not controlled by the Montreal Protocol than would otherwise occur".

¹⁷ See, eg, *Future Made in Australia (Guarantee of Origin) Act 2024* (Cth), s 3; *Social Security Act 1991* (Cth), ss 1062A, 1062B(1)(ha), (hb) and (hc); *New Vehicle Efficiency Standard Act 2024* (Cth), s 3, *Future Drought Fund Act 2019* (Cth), ss 21, 22, 26(d), (e) and (f).

¹⁸ United Nations Framework Convention on Climate Change done at New York on 9 May 1992.

¹⁹ Done at Kyoto on 11 December 1997.

²⁰ Done at Paris on 12 December 2015.

²¹ UNFCCC, Article 4.

²² UNFCCC, Article 2.

²³ UNFCCC, Articles 3 and 4 paragraph 2.

- 25 ***The Paris Agreement:*** the object of the Paris Agreement is to hold the increase in the global temperature to well below 2C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5C above pre-industrial levels (often referred to as the “temperature goal”).²⁴ The temperature goal is aimed at enhancing implementation with the UNFCCC.
- 26 Article 4 sets out the parties’ mitigation obligations to achieve the temperature goal. Under Article 4, parties collectively “aim to reach a global peaking of [GHG] emissions as soon as possible ... and to undertake rapid reductions thereafter to achieve net zero emissions by balancing anthropogenic GHG emissions and their removal by sinks by the second half of the century. Article 4, paragraph 2 which requires each State party to “prepare, communicate and maintain successive national determined contributions [NDCs] that it intended to achieve” and to “pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions”.²⁵ Each NDC must reflect a party’s “highest possible ambition”, reflecting its common but differentiated responsibility and respective capabilities.²⁶
- 27 ***Kyoto Protocol:*** I also briefly note the Kyoto Protocol to the UNFCCC. Under the Kyoto Protocol the parties commit to quantified GHG emissions reduction in accordance with agreed individual targets over specified commitment periods, the second such commitment period concluded in 2020.²⁷ In the absence of a further commitment period, the Kyoto Protocol remains in force and its provisions serve (inter alia) as (i) interpretive aid for the identified obligations under the climate change treaty framework and (ii) substantive provisions to assess whether States complied during the relevant commitment period with their emission reduction commitment.²⁸

C.3.2 Australia’s international obligations in relation to ODS

- 28 Under the **Vienna Convention** for the Protection of the Ozone Layer,²⁹ States are required to protect “human health and the environment against adverse effects resulting or likely to result from human activities which modify or are likely to modify the ozone layer”. To that

²⁴ Paris Agreement, Article 2 paragraph 1.

²⁵ UNFCCC, Article 4, paragraph 2.

²⁶ UNFCCC, Article 4 paragraph 3.

²⁷ Kyoto Protocol, Article 3.

²⁸ ICJ, *Obligations of States in respect of Climate Change: Advisory Opinion* at [221].

²⁹ Entered into force on 22 September 1988.

end, parties must “in accordance with the means at their disposal and their capabilities”, take measures to co-operate and “[a]dopt appropriate legislative or administrative measures”.³⁰

- 29 The Montreal Protocol to the Vienna Convention³¹ predominantly addresses stratospheric ozone depletion by establishing progressive and time-bound phase-out obligations for the production and consumption of all major ODS. The Protocol was amended in 2016 to impose phasedown requirements to certain GHGs used as replacements for ODS, being HFCs.³² Under the Kigali Amendment, Australia is required to phasedown its HFCs imports and consumption to 15% of the baseline level by 1 January 2036.³³

C.4 Constitutional support for the Ozone Protection Act

- 30 The current requirements on HFCs are imposed under a suite of primary legislation and associated regulations and instruments. Given this advice is addressed to the Commonwealth’s constitutional power to regulate alternative refrigerants it is sufficient to outline the legislative history to, and key requirements of, the Ozone Protection Act and the constitutional authority for that legislation.

C.4.1 *The Ozone Protection Act as enacted*

- 31 In 1989, following Australia’s ratification of the Montreal Protocol, the Commonwealth enacted the (then titled) *Ozone Protection Act 1989* (Cth). The objective of the Act, as made, was to give effect to Australia’s obligations under the Vienna Convention and Montreal Protocol.³⁴

C.4.2 *The 2003 Amendments*

- 32 In 2003, the Act was substantively amended (and re-titled) by the *Ozone Protection and Synthetic Greenhouse Gas Legislation Amendment Act 2003* (Cth). The extrinsic material records that those amendments introduced “new controls on substances that have detrimental environmental impacts upon the global atmosphere” being ODS and (statutorily defined) synthetic GHGs used as alternatives to ODS.³⁵ Those new controls were introduced “for the

³⁰ Vienna Convention, Article 2.

³¹ Entered into force on 1 January 1989.

³² See, eg, Montreal Protocol, Annex F, following the **Kigali Amendment** to the Montreal Protocol adopted on 15 October 2016 (ratified by Australia on 27 October 2017).

³³ Montreal Protocol, Article 2J.

³⁴ *Ozone Protection Act 1989* (Cth) (No 7 of 1989), s 3.

³⁵ Explanatory Memorandum to the Ozone Protection and Synthetic Greenhouse Gas Legislation Amendment Bill 2003, p. 3.

purposes of and incidental to, the implementation of Australia's obligations to minimise the consumption and emission of these substances" under the Vienna Convention, the Montreal Protocol and the UNFCCC.³⁶ The Act was amended to include a new objective "to provide controls on the manufacture, import, export and use of SGGs, for the purposes of giving effect to Australia's obligations under the Framework Convention on Climate Change".³⁷ The emphasised language (that substantially mirrors the language now used in s 3(d) of the Act) indicates the amendments rely upon the treaty implementation of the external affairs power for constitutional support.

- 33 The extrinsic material also records that these amendments followed a review of the effectiveness and appropriateness of the legislation. A theme of that review was the need for national consistency in ozone protection as inconsistencies in regulation across States and Territories provide "a confused picture to stakeholders, undermine compliance and enforcement efforts and may disadvantage companies and individuals seeking to operate businesses across jurisdictional boundaries."³⁸ One of the recommendations adopted in the legislation was to manage the (then available) synthetic GHGs used by the Montreal Protocol industries as alternatives to ODS consistently with the arrangements in place for ODS.³⁹
- 34 The 2003 amendments were expressly designed to "exceed" the Montreal Protocol's obligations (noting the amendments were made 13 years before the State parties to the Montreal Protocol adopted the Kigali Amendment being the first time the parties agreed to extend the Protocol to cover GHGs, specifically HFCs).⁴⁰ In that regard the extrinsic material explains that the phasing out of the use of ODS had caused the uptake of alternatives, primarily HFCs and PFCs and improved monitoring of those synthetic substances "will facilitate a move away from ODS and support policy making in relation to [GHG] issues as well as meeting Australia's international commitments under the UNFCCC".⁴¹

³⁶ Explanatory Memorandum to the Ozone Protection and Synthetic Greenhouse Gas Legislation Amendment Bill 2003, p. 3 (emphasis added).

³⁷ Ozone Protection Act, s 3(d) (as in force at 5 December 2003), subsequently amended to also refer to the Kyoto Protocol and the Paris Agreement.

³⁸ Explanatory Memorandum to the Ozone Protection and Synthetic Greenhouse Gas Legislation Amendment Bill 2003, p. 6.

³⁹ Explanatory Memorandum to the Ozone Protection and Synthetic Greenhouse Gas Legislation Amendment Bill 2003, p. 7.

⁴⁰ Explanatory Memorandum to the Ozone Protection and Synthetic Greenhouse Gas Legislation Amendment Bill 2003, p. 5.

⁴¹ Explanatory Memorandum to the Ozone Protection and Synthetic Greenhouse Gas Legislation Amendment Bill 2003, p. 7.

35 A similar approach was taken to the 2017 amendments following a review of the regime. As part of those amendments, the Commonwealth’s phasedown of HFC emissions started a year earlier than the global phase-down agreed by the parties under the Kigali Amendment.⁴²

C.4.3 Overview of the current legislation

36 In its current form the Act now has the following objectives (s 3):

- (a) to institute, for the purpose of giving effect to Australia’s obligations under the Vienna Convention and the Montreal Protocol, a system of controls on the manufacture, import and export of ozone depleting substances and SGGs; and
- (b) to institute, and to provide for the institution of, specific controls on the manufacture, import, export, distribution and use of equipment that contains such substances or uses such substances in its operation; and
- (c) to use the best endeavours to encourage Australian industry to:
 - (i) replace ozone depleting substances and SGGs; and
 - (ii) achieve a faster and greater reduction in the levels of production and use of ozone depleting substances and SGGs than are provided for in the Vienna Convention and the Montreal Protocol;to the extent that such replacements and achievements are reasonably possible within the limits imposed by the availability of suitable alternate substances, and appropriate technology and devices; and
- (d) to provide controls on the manufacture, import, export and use of SGGs, for the purposes of giving effect to Australia’s obligations under the Framework Convention on Climate Change, the Kyoto Protocol and the Paris Agreement; and
- (e) to promote the responsible management of scheduled substances so as to minimise their impact on the atmosphere.

37 The Act contains an express “saving” clause providing that the Act is intended not to affect the operation of a State or Territory law “that makes provision with respect to the protection of ozone in the atmosphere and is capable of operating concurrently” with the Act (s 4).

38 The Act achieves its objects by providing for controls on activities involving certain ODS and specified synthetic GHG (collectively referred to as **scheduled substances**). Scheduled substances are defined to mean a substance covered by a clause in Schedule 1, whether existing alone or in a mixture.⁴³

⁴² *Ozone Protection and Synthetic Greenhouse Gas Management Legislation Amendment Act 2017* (Cth). See, Department of Climate Change, Energy, the Environment and Water, Outcomes of the Review of the Ozone Protection and Synthetic Greenhouse Gas Management Program: Fact Sheet (2017).

⁴³ Ozone Protection Act, s 7.

- 39 Applicable controls of specified substances include preventing a person from carrying out specified activities unless the person holds a licence that allows the activity (subject to certain exceptions) (Pt III). The discharge of scheduled substances in specified circumstances is prohibited, and an offence.⁴⁴
- 40 The Act also makes provides for the making of regulations to prohibit or regulate (inter alia):⁴⁵
- 40.1 the distribution, purchase, acquisition or disposal of scheduled substances;
- 40.2 The storage, use or handling of scheduled substances; and
- 40.3 The recovery, recycling or destruction of scheduled substances.
- 41 Regulations so made must be “consistent with Australia’s international obligations”.⁴⁶
- 42 Part VII provides for reporting and record keeping requirements. A person has reporting obligations in relation to the manufacture, import or export of a schedule substance.⁴⁷
- 43 Part VIII establishes an enforcement, monitoring and investigation framework (complemented by the *Regulatory Powers (Standard Provisions) Act 2014* (Cth)).

D QUESTION 1

- 44 Consistent with the principles outlined in **Sections C.1-C.2** above, as matter of constitutional law, there may be a range of possible ways the Commonwealth could validly legislate (through primary and/or secondary legislation) to regulate all refrigerants.
- 45 Having regard to the principles outlined in **Section C.2** above, perhaps the most straightforward way for the Commonwealth to do this would be to enact laws (through the amendment of the current primary legislation) that rely upon the treaty implementation limb of the external affairs power.
- 46 The reason for this is that the international obligations outlined in **Section C.3** above, give the Commonwealth significant latitude to enact laws to regulate alternative refrigerants in

⁴⁴ Ozone Protection Act, s 45B.

⁴⁵ Ozone Protection Act, Pt VIA, s 45A. Presently contained in Part 6A of the *Ozone Protection and Synthetic Greenhouse Gas Management Regulations 1995* (Cth).

⁴⁶ Ozone Protection Act, s 45A(5).

⁴⁷ See, generally, Ozone Protection Act, Pt VII.

the same manner that the current legislation regulates HFCs to “give effect to”, or “for the purposes of” those obligations and/or to take actions “incidental to” those obligations. That is because there are (at least) reasonably good arguments that laws imposing regulations and controls on the importation, use and management of alternative refrigerants are reasonably capable of being considered appropriate and adapted to the purpose of those international obligations. There are several reasons for this:

- 46.1 *First*, the international obligations to reduce GHGs permit for a wide discretion in the ways in which an individual State achieves emission reductions. For the same reasons given in the extrinsic material to the 2003 amendments a law that mandates a consistent approach to the management of all refrigerants used by Montreal Protocol industries is (at least) consistent with these obligations.
- 46.2 *Second*, certain types of alternative refrigerants (e.g. HFOs and hydrocarbons) have a non-zero GWP: the emission of these substances releases GHGs into the atmosphere. This is expressly acknowledged in the current IChEMS consultation on the proposed HFOs standard that includes a measure to ensure no intentional release of these substances into the environment.⁴⁸ Thus, imposing requirements regulating these substances’ importation, consumption and end-of-life management may limit GHG emissions and is consistent with Australia’s international climate mitigation obligations.
- 46.3 *Third*, on the basis of my instructions, the uniform regulation of alternative refrigerants by the Commonwealth may encourage compliance with, and strengthen the efficacy of, the existing controls on ODS and HFCs, now imposed to give effect to Australia’s obligations under the Vienna Convention and Montreal Protocol (following the Kigali Amendment). Again, these efficacy considerations echo one of the rationales for the 2003 amendments as the same people in the same industries in all States and Territories are handling all types of refrigerants across their lifecycle.

I note for completeness that the fact that some alternative refrigerants are not GHGs does not affect my conclusion that the Commonwealth has the constitutional power to enact laws regulating these substances in various ways. Such laws are likely to be regarded as reasonably capable of being considered appropriate and adapted to the required purpose or object (broadly stated, to mitigate GHGs and phasedown HFCs). Further, and in any event, so long as the legislative scheme, construed as a whole, substantially implements the international

⁴⁸ Department of Climate Change, Energy, the Environment and Water, Hydrofluoroolefins (HFOs) and hydrochlorofluoroolefins (HCFOs) – Proposed Scheduling Decision, p. 2.

obligations in relation to GHGs and ODS such laws are likely to be considered to be incidental to, and not inconsistent with, Australia's international obligations and therefore validly supported by the external affairs power.

E QUESTION 2

47 It follows that it is open to the Commonwealth to amend the Ozone Protection Act to extend the regulatory regime to impose the same requirements on HFOs (and other alternative refrigerants) that are currently imposed on HFCs, including:

47.1 the reporting obligations on bulk refrigerant import and pre-charged equipment;

47.2 the requirements on regulations covering end of use and end-of life; and

47.3 the banning of the use of HFOs sold in disposable containers.

48 I note there are various ways in which those legislative amendments (through the primary and secondary legislation) may be done but the 2003 amendments could serve as a useful model.

22 October 2026



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