

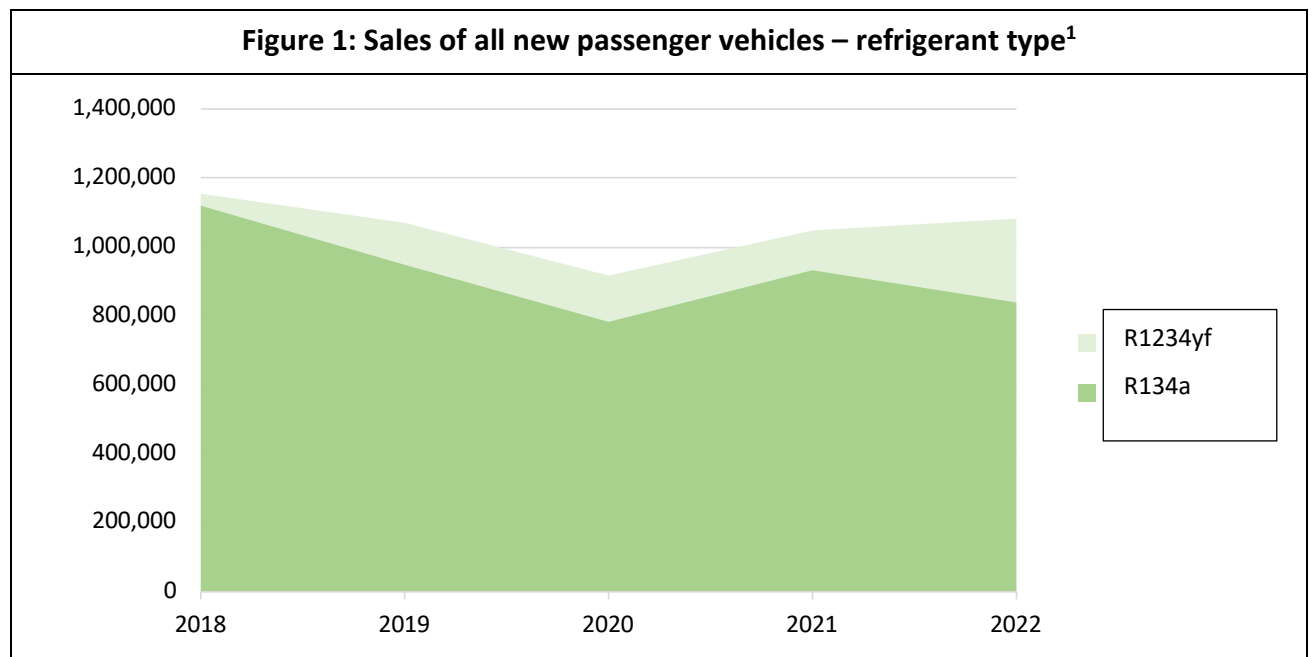
**SUBMISSION ON AUSTRALIAN DESIGN RULES**  
December 2024

**Proposal**

That refrigerants used in air conditioners and refrigerated systems in electric vehicles be required to have a global warming potential of less than 150.

**Issues**

- Numerous electric car manufacturers continue to send vehicles to Australia with refrigerant R134a, which has a high global warming potential (GWP) of 1430, although a replacement with a GWP of less than 1 has been available for over a decade.

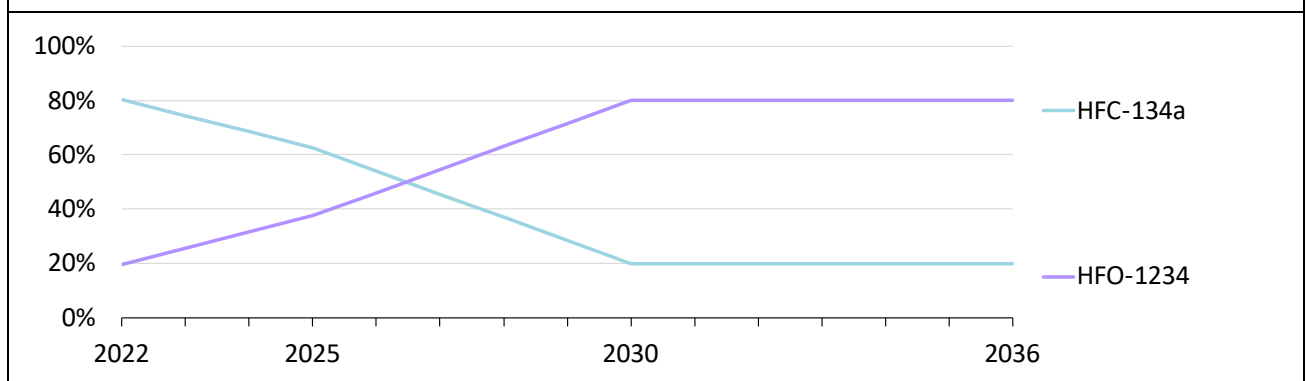


- The cumulative impact of emissions from air conditioners in cars remains sizeable in Australia with emissions equivalent to nearly 1.5 million tonnes of carbon dioxide in 2022.

<sup>1</sup> Cold Hard Facts 4, Peter Brodribb, Michael McCann, Graeme Dewerson, Jelena Franjić and Graham Anderson, report prepared for the Department of Climate Change, Energy, the Environment and Water, Canberra. CC BY 4.0. This publication is available at [www.dcceew.gov.au/environment/protection/ozone/publications](http://www.dcceew.gov.au/environment/protection/ozone/publications).

- The average charge size of EVs is larger than the average charge of air conditioners used in fuel powered vehicles, as the AC system in EVs provides thermal management for the battery pack as well as comfort heating and cooling. Ensuring low GWP refrigerants are used in EVs is particularly important, particularly given the significance they are expected to play in Australia’s future vehicle fleet.
- All the major markets - Europe, USA and Japan - have introduced regulatory instruments aimed at reducing emissions from air conditioning systems fitted to passenger cars and have mandated that vehicles subject to the regulation must use a refrigerant gas with a GWP of 150 or less. As a result, the very large majority of EVs supplied to these markets have systems charged with HFO-1234yf as compared to the Australian market where EVs remain charged with HFC-134a.
- Refrigerants Australia believes that regulation is required to bring new lower GWP refrigerant technology to Australia, as we have seen very slow uptake due to the higher costs of something less than USD \$25/car. This analysis is the same as that undertaken for DCCEEW in its publication Cold Hard Facts 4. We suggest this regulation is based on that applied in the European Union and Japan.

**Figure 2: New sales mix projection by units for passenger vehicles from 2022 to 2036<sup>2</sup>**



### 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, several contractor organisations representing people on the tools using refrigerants, 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.

<sup>2</sup> Cold Hard Facts 4.

**Further Contact**

Please contact us if we can be any further assistance:

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