



# COOLCHANGE

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## Department enforces disposable cylinder ban

An auto mechanic business has been fined after it was discovered it possessed 26 illegal disposable cylinders of HFC-134a.

### Infringement notices

The Department of the Environment and Energy has issued a Victorian auto mechanic two infringement notices for possessing refrigerant without a refrigerant trading authorisation and storing refrigerant in disposable cylinders, as these are offences under regulations 112(2) and 136(1) of the *Ozone Protection and Synthetic Greenhouse Gas Management Regulations 1995*. As a condition of their permits, refrigerant trading authorisation and refrigerant handling licence holders must use only refillable storage containers for the storage of refrigerant.

Use of disposable storage containers causes unnecessary emissions as a residual 'heel' of gas is left in these containers which is emitted to the atmosphere when they are disposed of.

Department inspectors executed a search warrant on the mechanic's business in April this year. During the search, inspectors identified and seized approximately \$2500 of HFC-134a, which has been forfeited to the Commonwealth for destruction. The mechanic has paid the infringement notices and has now obtained a refrigerant trading authorisation to possess scheduled substances for use in refrigeration equipment.

For further information refer to 'Mechanic fined for possessing synthetic greenhouse gas in disposable cylinders' <https://www.environment.gov.au/mediarelease/mechanic-fined-possessing-synthetic-greenhouse-gas-disposable-cylinders>



# Cold Hard Facts: RAC Industry is changing

The Department of the Environment and Energy has released the latest issue of the industry report Cold Hard Facts, which provides economic and technological assessments of the Australian refrigeration and air conditioning industry. Some of the main highlights include:

## R32 up

Small split system air conditioners containing R32 refrigerant made up 53 per cent of all pre-charged small air conditioning units imported (39 per cent in 2016).

## Split down

Sales of single split system air conditioners reduced in 2018 with total sales around 1,158,000 (1,258,000 in 2017).

## Bank rising

In 2018 the bank of high global warming potential refrigerants in Australia was 53,300 tonnes (50,800 tonnes in 2016). This increase was driven mainly by smaller split system air conditioners and small commercial systems.

## HFOs on the rise

Hydrofluoroolefin (HFO) refrigerants are starting to be used in some stationary equipment. For example, every major global chiller manufacturer now offers chiller models employing HFO-1234ze. However, HFOs are not yet being used in vehicles, as was initially expected.

## Cold food chain

Use of carbon dioxide, ammonia and hydrocarbon refrigerants in the refrigerated cold food chain fell from 14 per cent in 2016 to 13 per cent in 2018.

## Energy

The portion of total electricity consumed by RAC systems in 2018 was around 24 per cent of all Australian electricity generated.



To read the full report visit <https://www.environment.gov.au/protection/ozone/publications/cold-hard-facts-3>

## RAC industry – Environmental leaders

The refrigeration and air conditioning (RAC) industry has reduced emissions of synthetic greenhouse gases by 80-90 per cent since 1990\*, according to figures reported by Refrigerant Reclaim Australia (RRA).



The RAC industry is projected to reduce remaining emissions by a further 80 per cent by 2036. Licensed technicians play a vital role in contributing to Australia meeting its international obligations to reduce emissions of harmful gases.

These figures represent an amazing achievement and one industry should be proud of. Further data produced by RRA points to a reduction in leak rates in air conditioning systems and efforts by technicians to recover refrigerant as key drivers for this reduction in emissions.

RRA HAS DISPOSED OF

**7,500 TONNES**

OF REFRIGERANT – PRIMARILY DUE TO THE HARD WORK OF MANY TECHNICIANS RECLAIMING REFRIGERANT AT LESS THAN ONE KILOGRAM AT A TIME

LEAKAGE RATES FROM AIR CONDITIONING SYSTEMS INSTALLED IN AUSTRALIA HAVE DROPPED FROM 30 PER CENT IN 1990, TO **6% TODAY**



## REDUCED LEAKAGE

CAN BE ATTRIBUTED TO A RANGE OF FACTORS INCLUDING BETTER DESIGN, IMPROVED MAINTENANCE, GREATER AWARENESS AND TRAINING

IN 1990, 90 PER CENT OF EMISSIONS CAME FROM LEAKING

**R12** REFRIGERANT

TODAY, SPLIT SYSTEM AIR CONDITIONERS LEAK LESS THAN 1 PER CENT AND STATIONARY SYSTEMS LEAK LESS THAN 3-4 PER CENT

\*Data taken from the baseline studies into CFC and HCFC use by the Australian Government in the 1990's. Emissions from ODS totalled 90 million tonnes in the early 90's and is less than 8 million today.

# New 'retrofit' permit condition

Important regulatory change adds an extra condition to all existing and future permit holders.

Following the 2016 review of the Ozone Protection and Synthetic Greenhouse Gas Management Program, changes have been made to the *Ozone Protection and Synthetic Greenhouse Gas Management Regulations 1995*.

These come into force on 1 January 2020. The key changes affecting the refrigeration and air conditioning (RAC) industry permit scheme include:

- A new condition applies to all (existing and new) permit holders prohibiting charging of RAC equipment with a refrigerant with a higher global warming potential (GWP) than the equipment was originally designed to use. For example, replacing R-1234yf (with a GWP of 1) in the automotive industry with HFC-134a (with a GWP of 1,430)
- Allowing the refund of application fees, subject to certain conditions – refer to Refunds Guidance <https://arctick.org/information/refunds-guidance/>

For more information about the legislation, please visit [www.environment.gov.au/protection/ozone/legislation](http://www.environment.gov.au/protection/ozone/legislation)



## Annual indexation of refrigeration and air conditioning industry permit fees

The *Ozone Protection and Synthetic Greenhouse Gas Management Regulations 1995* allow for the annual indexation of permit application fees.

The annual indexation formula uses the Wage Price Index (WPI) figures published by the Australian Bureau of Statistics. Consistent with the WPI figures released in November 2019, refrigeration and air conditioning (RAC) industry permit application fees will increase by 2.231 per cent from 1 January 2020. The fees for 2019 and 2020 are:

RAC permit type	Duration	Application Fee 2019	Application Fee 2020
Refrigerant handling licence	2 years	\$150	\$154
	3 years	\$225	\$231
Restricted refrigerant handling licence	2 years	\$150	\$154
	3 years	\$225	\$231
Trainee refrigerant handling licence	1 year	\$32	\$33
Refrigerant trading authorisation	2 years	\$480	\$490
	3 years	\$720	\$735
Restricted refrigerant trading authorisation	2 years	\$150	\$154
	3 years	\$225	\$231

## 2019 Compliance Activities

In 2019, the Department of the Environment and Energy issued five infringement notices which in all cases were paid.

Infringement	Notices
Imports of equipment containing scheduled substances without a licence	2
Unlawful discharge of a scheduled substance into the atmosphere	1
Possessing refrigerant without a refrigerant trading authorisation	1
Storing refrigerant in disposable cylinders	1

In 2019, the ARC has conducted a number of compliance activities including:

Compliance Activity	Numbers
Permit condition checks	3028
Education visits	127
Investigations into potential breaches of the <i>Ozone Protection and Synthetic Greenhouse Gas Management Act 1989</i>	70
Refrigerant trading authorisation applications refused due to on-going non-compliance	76 (annual average)



## Trainee classroom licence applications made easier

For trainee licence 'classroom only' applications, a signed 'trainer declaration' form is no longer required.

A 'proof of enrolment' document is still required. This will have to include the name of the registered training organisation and the course code. There is no change to the documentary requirements for a trainee licence application – a supervisor declaration is still required.

# NEW Import legislative changes you need to know

In force 1 January 2020



## HFC annual import quota reduces from 1 January 2020

The first reduction in Australia's hydro-fluorocarbon (HFC) annual import quota limit will take place from 1 January 2020.

The Department of the Environment and Energy is implementing Australia's HFC phase-down by gradually reducing quota on the import of bulk HFCs. The import quota limit will reduce every two years.

The import quota will reduce from the 8 million CO<sub>2</sub>-e annual limit in place for calendar years 2018 and 2019, to 7.25 million tonnes CO<sub>2</sub>-e annually for 2020 and 2021. While the quota is reducing, it's expected sufficient HFC refrigerant will continue to be available as technology changes and demand for refrigerant for servicing reduces.

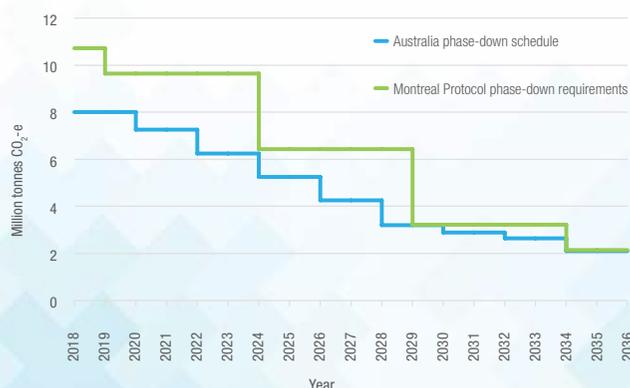
HFCs with a high global warming potential (GWP) are likely to be less attractive for importers due to the HFC phase-down. They may become harder or more expensive to buy as they take up more of an importer's quota per kilogram than lower GWP refrigerants, and alternate technologies using lower GWP refrigerants are becoming more widely available.

Given the success of regular, smaller step-downs for the phase out of HCFCs, the same approach is being taken for Australia's HFC phase-down. This approach should allow for business planning and provide certainty for industry. The aim of the HFC phase-down is to encourage industries to move to alternative lower GWP refrigerants. Businesses and technicians will be able to obtain HFCs to service equipment.

Technicians should keep up to date with alternative technologies available and be aware of any flammability or toxicity considerations for alternative gases.

More information at <http://environment.gov.au/protection/ozone/hfc-phase-down>

### Australia's HFC phase-down under the Montreal Protocol



## HCFC refrigerants and equipment

From 1 January 2020 the Department of the Environment and Energy is implementing new rules for the import and manufacture of HCFC refrigerant and HCFC equipment.

Hydrochlorofluorocarbons (HCFCs) are being phased out globally under the Montreal Protocol on Substances that Deplete the Ozone Layer. Australia adopted an accelerated phase out of HCFCs, with a current annual import and manufacture limit for bulk HCFCs of 2.5 ozone depleting tonnes, equal to around 45 tonnes of R22. Bulk imports of HCFCs will end entirely from 2030.

To support the phase out of HCFC bulk imports, HCFC equipment controls are tightening and restrictions on the use of new imported bulk HCFC are being introduced.

The import and manufacture of all types of HCFC equipment (including, for example, HCFC aerosols and HCFC fire protection equipment) will be banned from 1 January 2020, except in limited circumstances.

Any bulk HCFC imported into Australia from 1 January 2020 can only be used to service existing fire protection and refrigeration and air conditioning equipment. Existing equipment means equipment manufactured in or imported into Australia before 1 January 2020. HCFC refrigerant reclaimed from equipment can be used for servicing any HCFC equipment, as long as it meets the refrigerant manufacturer's specifications to ensure its quality.

There will be very little new HCFC equipment coming into Australia from 2020 as there are only limited circumstances where an import licence will be approved – for example, if the HCFC equipment is essential for a medical purpose and no alternative to the use of HCFC is available.

More information can be found at <http://environment.gov.au/protection/ozone/publications/quick-facts-hcfc-gas-equipment>





Hayley and the team at Auscool Commissioning Services



Auscool Commissioning Services



Hayley at work



# Hayley's keeping it cool

There is a growing group of women making a big difference in the refrigeration and air conditioning (RAC) industry. One of these champions is Hayley Ewert, a RAC technician with Auscool Commissioning Services in Melbourne, Victoria.

The ARC asked Hayley a few questions recently about her work and why she decided to become a RAC technician.

### How long have you worked in the RAC industry?

*Seven years. I'm 25 years old now and have been doing air conditioning work since I finished high school when I was 18.*

### What kind of services do you mainly perform?

*I started off installing air conditioners, now I mainly do maintenance work and repairing break-downs.*

### What attracted you to work in the RAC industry?

*My step-dad is a truck driver for Auscool Commissioning Services. He took me to his work one day and the team taught me about air conditioning and refrigeration systems which I really enjoyed. I then started working with their installation team and moved on to the service team.*

### What's the best part of the job?

*My favourite part of the job is meeting new people. Working with the boys doing installations and compressor changes are always good too.*

### What challenges do you face?

*Mostly heavy lifting, as I'm not as strong as the guys! Also, some people have rude comments from time to time, but I don't care! Other challenges relate to fault finding. I still have a lot to learn in this area but the team at Auscool help me out a lot. Working in the heat on 42-degree days is pretty hard too.*

### Do you have any advice for women considering working in the RAC industry?

*If any female wants to do a trade my advice is to just go for it. You'd be surprised what you can do!*

The ARC is keen to hear from other passionate women working in the RAC industry. If you'd like to share your story, please email the ARC at [enquire@arctick.org](mailto:enquire@arctick.org)



## Your Board, your views

Over the past 12 months the refrigeration and air conditioning (RAC) Industry Board has met with contractors and technicians at various Industry Roundtable events held around Australia.

The Board listened to feedback about how it can increase the ARC's value to industry and how it can better help contractors and businesses.

"There have been a number of common themes raised such as promotion of the industry, training quality and how the ARC can better help technicians and businesses," said ARC Chairperson, Michael Bennett.

"These discussions have been very valuable. Knowing more about what the industry wants will feed into what the ARC does in the future and how the ARC will look," Mr Bennett said.

Part of the discussions have focused on what the ARC is doing right now and how that is benefitting industry. In particular, the ARC's advertising campaigns which are driving consumers to use licensed technicians and authorised businesses, and the ARC's contributions to improvements in training quality.

The ARC encourages you to get involved as your views will help shape the work the ARC does with the Department of the Environment and Energy for the RAC industry permit scheme. To give your feedback, email the ARC at [feedback@arctick.org](mailto:feedback@arctick.org)

## 200,000 customers building your business

Last year, the Australian Refrigeration Council's (ARC) summer advertising campaign ran from 19 December 2018 to 31 March 2019 and resulted in over 200,000 people visiting [www.lookforthetick.com.au](http://www.lookforthetick.com.au) for the year.

The campaign targets people looking to buy, have installed, serviced or repaired, and dispose of air conditioners (domestic and automotive), refrigerators and freezers.

The campaign uses a variety of cost-effective marketing strategies including: search engine marketing, online advertising, Google AdWords and Facebook advertising. In doing this, the campaign alerts consumers to:

- The importance of using qualified licensed technicians and encourages consumers to connect with businesses through the refrigerant trading authorisation business directory <https://www.lookforthetick.com.au/business-search/>
- Differences between licence types and ensuring consumers use appropriately licensed technicians by using the refrigerant handling licence check facility <https://www.lookforthetick.com.au/licence-check/>
- The professionalism of skilled licence holders.



## Are your employees appropriately trained to use R32?

With the use of R32 on the rise and now used in 53 per cent of all pre-charged small imported<sup>^</sup> air conditioning units, it is important technicians are appropriately trained to handle this refrigerant.

R32 is classified A2L mildly flammable (Australian Standard AS NZS ISO 817:2016). A refrigerant handling licence is required to use R32 refrigerant, and a refrigerant trading authorisation is required to purchase and sell it.

It is a requirement under work health and safety obligations that employers must ensure only competent workers work on air conditioners and other refrigeration systems, particularly those containing flammable refrigerants. Workers must be provided with appropriate information and training on the hazards and safe use of the specific refrigerants to which they could be exposed when performing installation, commissioning, service, repair, maintenance and decommissioning of refrigeration and air conditioning equipment.

The current unit of competency for training in A2L refrigerants is VU22583 Handle A2/A2L Flammable Refrigerants. The following registered training organisations\* are providing training in this unit of competency (subject to demand):

- Superior Training Centre, Sydney NSW: **P** (02) 9618 6809 **E** [info@stc.nsw.edu.au](mailto:info@stc.nsw.edu.au)
- Box Hill TAFE, Melbourne VIC: **P** (03) 9286 9295 **E** [refrigeration@boxhill.edu.au](mailto:refrigeration@boxhill.edu.au)
- TAFE NSW, Port Macquarie College: **P** Cameron Fletcher 0487 194 392 **E** [cameron.fletcher8@tafensw.edu.au](mailto:cameron.fletcher8@tafensw.edu.au)

It is expected that when demand increases, the number of training providers delivering the training will increase.

For more information on how to handle flammable refrigerants, refer to the Flammable Refrigerants Safety Guide from the Australian Institute of Refrigeration, Air Conditioning and Heating (AIRAH) online at [www.pointsbuild.com.au/airah](http://www.pointsbuild.com.au/airah) under 'managing health and safety risks for flammable refrigerants'.

To find registered training organisations nearest to you, visit [www.training.gov.au](http://www.training.gov.au)

<sup>^</sup>Cold Hard Facts 3 – Review of the Refrigeration and Air Conditioning Industry in Australia. \*This list may not be exhaustive. It is based on responses received from Refrigeration and Air Conditioning Training Alliance members when asked if they deliver VU22583.