



# COOLCHANGE

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## Understanding the scheme

The refrigeration and air conditioning (RAC) permit scheme is a successful partnership between industry, the Australian Refrigeration Council (ARC) and the Australian Government.

The roles of each stakeholder are equally important, helping Australia to implement its international obligations under the Vienna Convention for the Protection of the Ozone Layer and its Montreal Protocol on Substances that Deplete the Ozone Layer, and the United Nations Framework Convention on Climate Change and its Kyoto Protocol. They do this by:

- encouraging and carrying out responsible management of ozone depleting substances (ODS) and synthetic greenhouse gases (SGG); and
- placing end-use controls on ODS and SGG refrigerants under the *Ozone Protection and Synthetic Greenhouse Gas Management Act 1989* and its Regulations (OPSGG Act) to reduce the risk of individuals emitting into the atmosphere.

### RAC-LICENSED TECHNICIANS & BUSINESSES

(work practice – operational)

- Only technicians licensed under the OPSGG regulations can lawfully carry out work on RAC equipment containing fluorocarbon refrigerant
- Individuals or businesses that hold a refrigerant trading authorisation can acquire, possess and dispose of fluorocarbon refrigerants
- Ensure a well-trained, highly professional workforce

### THE AUSTRALIAN REFRIGERATION COUNCIL (ARC)

(administration – operational)

- Administer the RAC industry permit scheme assessing applications and issuing licences
- Conduct permit condition checks, education and awareness visits, and refer complaints of suspected offences against the OPSGG Act to the Department of Agriculture, Water and the Environment
- Communicate regulatory requirements and issues affecting RAC permit holders, industry, consumers and other stakeholders

### AUSTRALIAN GOVERNMENT

(Policy)

- Department of Agriculture, Water and the Environment puts into force the OPSGG Act and regulations, monitors the RAC industry permit scheme and inspects businesses and individuals suspected of committing offences under the Act and regulations
- The Department of Education, Skills and Employment oversees the review of qualifications and training requirements for licences – e.g. Certificate II and III
- The Australian Skills Quality Authority (ASQA) regulates training quality nationally

# Retailers supporting licensed technicians

Major air conditioning retailer Harvey Norman is advising consumers to use RAC-licensed technicians for installation of split system air conditioners on their website in a major boost for licensed technicians Australia-wide.

In addition, ARC has sent free in-store signage to over 3,000 retailers of air conditioning products in a bid to communicate the requirement of using RAC-licensed technicians to install split system air conditioners for consumers.

ARC's communication efforts aim to drive consumers to licensed technicians creating business, whilst ensuring consumers are safe, protect their warranty, ensure the split system is installed correctly to operate at optimum efficiency and avoid issues caused by incorrect installation by unlicensed individuals.

Placement of signage instore and clear instruction online allows messaging to be delivered at the point of purchase, ensuring customers are made aware of their legal obligations before purchasing and getting an air conditioner installed.

Retailers will continue to be a key target for ARC engagement efforts in the hopes of supporting licence holders and creating informed and satisfied consumers.



**Harvey Norman**<sup>®</sup>

## RAC industry sizzles on World Refrigeration Day

ARC Field Officers were onsite at various Kirby (formerly Heatcraft) branches across Australia this month serving up free sausages for technicians in celebration of World Refrigeration Day.

World Refrigeration Day is held annually on the 26 June and raises the profile of the important contribution that refrigeration and air conditioning makes globally across so many aspects of modern life.

With the help of Kirby, ARC was able to show our support and gratitude by providing free sausages and soft drinks at outlets around Australia. ARC Field Officers were also on hand to answer questions related to the refrigeration and air conditioning industry permit scheme and hand out a variety of free educational and promotional materials.

On behalf of everyone at the ARC, we wish every licensed technician a happy World Refrigeration Day – thank you for supporting the industry and reducing emissions.



# Short courses on the outer

With the help of industry, the ARC and the Australian Skills Quality Authority (ASQA), sub-standard refrigeration and air conditioning (RAC) training courses have been all but eliminated. 'Short courses' and dodgy trainers have no place in our industry. Appropriate qualifications are the cornerstone of the skills-based RAC industry permit scheme and ensure a level playing field for everyone.

A significant issue with 'short courses' revolved around the use of recognition of prior learning (RPL). If a person can demonstrate they have the relevant skills and/or experience, they can get a RPL assessment. However, RPL needs to be conducted with the same rigour as any other form of assessment, including a

comprehensive quality process that covers the content (skills and knowledge) of the qualification being assessed. The evidence used to make a decision about competence must be valid, sufficient, authentic and current. The RTO should have a system including policies and procedures to support the decision-making process.

ARC works with ASQA on investigations, providing technical support and guidance. We remain committed to ensuring that the qualifications associated with the RAC industry permit scheme are delivered appropriately for the credibility of the scheme and betterment of our industry.

# R32 'tech packs' a hit with techs

Earlier in the year, ARC and the Department of Agriculture, Water and the Environment posted out free 'tech-packs' on R32 refrigerant for appropriately licensed technicians and authorised businesses.

These tech packs included:

- **Education booklets for technicians:**  
A handy resource at work, or when you are working off-site.
- **Refrigerant safety service stickers:**  
These stickers will help technicians and future employees identify the refrigerant and its basic characteristics, before they work on the system.
- **Links to a dedicated webpage and video:**  
On the ARC website [www.arctick.org/information/r32/](http://www.arctick.org/information/r32/)

We were really excited to see that people appreciated the packs and felt they provided real value. Key results from the post-mailout survey found:

- **82%** of recipients thought the information was useful.
- **77%** of recipients feel they are more informed about R32 refrigerant after receiving the packs.

Another sign that we hit the mark is the large number of requests for more stock that we have received. Thank you so much for the support, we will make sure to get stock out to you as soon as possible. If you need more, please email the ARC at [enquire@arctick.org](mailto:enquire@arctick.org)







# We can't be too cool!

The joint winners of the high profile and exciting Global Cooling Prize were announced in April 2021 – Daikin and Gree Electric Appliances shared the US\$1 million prize money.

The purpose of the Global Cooling Prize was to encourage development of residential cooling systems that have five times less climate effect than a standard R22 room air conditioning system currently on the market in India. It was launched in 2018, with the support of various governments, institutes and philanthropic foundations to help drive innovation in cooling solutions for a growing global population. Eight finalists were announced in November 2019 and were provided with US\$200,000 each for prototype development. These were then evaluated in early 2021.

While we won't see these innovative RAC technologies appearing on the market any time soon, it is a sign of things to come and another indication that the Australian RAC market needs to be ready for new technologies when they start appearing in showrooms and at technology shows.

Japanese manufacturer Daikin partnered with Nikken Sekkei, an architecture and engineering design company, to develop an integrated two step approach to their cooling technology. First, a multi-split method is used to connect two indoor units with one outdoor unit. This method helps optimise refrigerant flow rate (HFC-1234ze(E)) for each of the two indoor units depending on the cooling load.

Second, evaporative cooling improves the system's efficiency by using the heat of vaporisation to lower the temperature of the air that the outdoor unit takes in.

Daikin India CEO Kanwaljeet Jawa indicated that while there were technological issues to be resolved (such as the size of the equipment needed for using the low-pressure refrigerant), Daikin was committed to carbon neutrality by 2050.

Chinese manufacturer Gree Electric Appliances, partnered with Tsinghua University, and proposed a hybrid solution using vapour compression refrigeration, direct evaporative cooling, and ventilation, automatically switching between modes, or operating the three modes in parallel depending on the outside weather conditions. The vapour compression refrigeration system adopts a parallel compression cycle with dual evaporation temperature. It uses a compressor with a low-GWP refrigerant (R-152a).

Gree Chair, Mr Dong Mingzhu, indicated Gree was committed to bring this new cooling technology to the residential AC market by 2025.

For more information visit [www.globalcoolingprize.org](http://www.globalcoolingprize.org)

## The sky's the limit for young fridgies with WorldSkills

WorldSkills is Australia's largest trades and skills competition, this year being held from the 26-28 August at the Perth Convention Centre and surrounding TAFEs. Among other trades, it will showcase the best refrigeration and air conditioning apprentices in the country.

The 2021 National Championships will give regional winners from across the nation an opportunity to put their talent to the test. Over 450 competitors will showcase and benchmark their skills on a national stage as they compete for gold and a chance to represent Australia at the International Competition in Shanghai 2022.



WorldSkills encourages the best in young technicians, promoting highly skilled individuals who will carry the flag for our industry into the future. ARC's Technical and Training Manager Noel Munkman supports WorldSkills competitors as the International Skills Competition Manager. To read more visit [www.worldskills.org.au](http://www.worldskills.org.au)

# Reporting a suspected offence? Use our online complaints portal

Reporting individuals or businesses doing the wrong thing assists the ARC and the Department of Agriculture, Water and the Environment in maintaining a fair and level playing field for everyone. ARC's online complaints portal provides a fast and simple way to report suspected offences.

Over the last quarter, there were 68 suspected offences reported to the ARC. Unfortunately, not all were able to be followed up due to a lack of evidence provided.

Please help us in pursuing complaints by providing the following information:

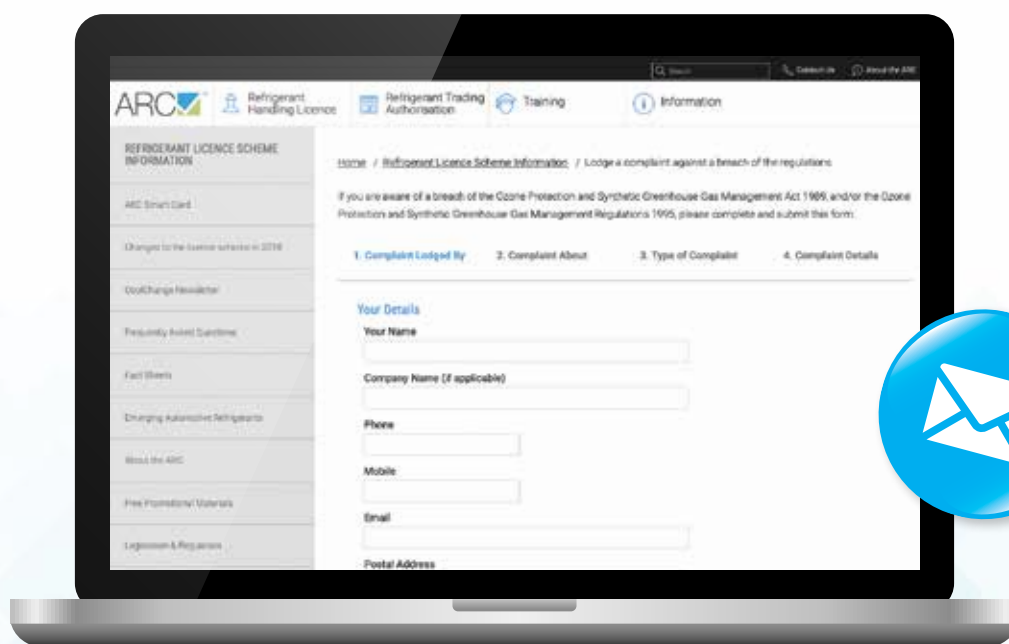
- As much information on the suspected individual as possible – name, business, and if possible, licence number (as displayed)
- Information outlining the suspected offence
- Photographic/video evidence of offence if possible

Under the *Ozone Protection and Synthetic Greenhouse Gas Management Act 1989* and the *Ozone Protection and Synthetic Greenhouse Gas Management Regulations 1995*, it is illegal to:

- Install, service or repair an air conditioner, fridge or freezer – or any other piece of refrigeration and air conditioning (RAC) equipment containing CFC, HFC or HCFC refrigerant – without an appropriate refrigerant handling licence (RHL) or work outside the scope of the RHL.
- Hold a refrigerant trading authorisation (RTA) and conduct activities outside the conditions of the RTA.
- Be a trainee RHL holder and undertake work on RAC equipment without the supervision of an appropriately licensed person.

- Buy/acquire, possess/store or dispose/sell bulk refrigerant without a RTA.
- Advertise refrigeration or air conditioning services without including a current RTA number.
- Deliberately leak refrigerant.
- Top up leaking equipment or vehicles – 'Topping up' means adding refrigerant to RAC systems before checking for, and fixing, any leaks.
- Recycle, dismantle or decommission RAC equipment without first recovering the refrigerant present in the system.
- Charge RAC equipment with a refrigerant that has a higher global warming potential (GWP) than the refrigerant the equipment was designed to use. For example, charging an automotive air conditioning system originally containing R1234yf (with a GWP of 1) with R134A (with a GWP of 1,430).
- Claim to have a permit when you do not.

ARC would like to thank everyone who has contacted us about suspected breaches of the Act and the Regulations.



[www.arctick.org/information/lodge-a-complaint/](http://www.arctick.org/information/lodge-a-complaint/)

# 18 years of keeping cars cool

Automotive air conditioning is a vital component of the refrigeration and air conditioning (RAC) permit scheme. Approximately half of the total permit holders in the scheme are from the automotive sector, which means qualified and licensed automotive air conditioning technicians play a vital role in ensuring refrigerants are handled safely and emissions are reduced.

One of these businesses is Brian Swain Automotive based out of Kippa-Ring, Queensland. The ARC asked Brian Swain and his daughter Casey a few questions recently about their work and their thoughts on automotive air conditioning.

## **How long has the business been operating for?**

25 years.

## **Tell us a bit about the profile of your business?**

We are a family business. Casey is a qualified mechanic and runs the office. We have six hoists and three qualified mechanics in total. On average, we work on 10 cars a day – some still under warranty and others which are 10+ years old. Although we are not an air conditioning dedicated shop, we do around 4-5 air conditioning jobs a month, however this increases over the summer months.

## **Has air conditioning been part of the service since day one?**

I have been doing air conditioning work for over 18 years as I was becoming unhappy with the level of service from the sub-contractors we were using at the time.



Brian Swain and daughter Casey.

## **What are the main air conditioning issues you see in people's vehicles?**

Generally, a lack of servicing and a tendency for air conditioners to be low on gas. In our experience, people tend to not do anything about their air conditioners until they stop completely.

## **How could the air conditioning side of the industry be improved?**

More regulation on mobile air conditioning 'services' and the '\$95 re-gas' advertising that we see.

## **Do you think the level of training is sufficient for the type of systems you are seeing in newer vehicles?**

Yes I do. If the automotive air conditioning business is a member of VASA (Vehicle Air Conditioning Specialists of Australia) they get access to all the training they need.

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

## US and China to phase-down use and production of HFCs

The United States and China have announced they will each implement the Kigali Amendment to phase-down hydrofluorocarbon (HFC) production and consumption

Agreed in 2016, the Kigali Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer is an international agreement to gradually reduce the consumption and production of HFCs. To date, 120 countries have ratified the Kigali.

The US and China joint announcement to also implement Kigali came after meetings between US Special Presidential Envoy for Climate John Kerry and China Special Envoy for Climate Change Xie Zhenhua in Shanghai in April 2021.

The announcement followed China's pledge to accept the Kigali Amendment during a virtual summit with the President of France and the Chancellor of Germany.

At this summit, President Xi mentioned China's intention to strengthen the control of non-CO2 greenhouse gases, including HFCs that are scheduled for phase-down, under the Kigali Amendment. In late 2020, China also set a target of net-zero emissions by 2060.

China and the US are the world's largest users and producers of HFCs and their announcement to implement the Kigali Amendment means that the phase-down of HFCs will be truly global. It also means that global production and use of HFC alternatives will accelerate, benefiting all countries like Australia which is largely dependent on technology developed in other countries for our phase-down.