



# COOLCHANGE

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## National EPA on the way

The Minister for the Environment and Water, the Hon Tanya Plibersek MP, has released the Australian Government's response to the 2020 independent review of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) led by Professor Samuel AC (the Samuel Review).

This response, the 'Nature Positive Plan: better for the environment, better for business', signals the most comprehensive reform of Australia's national environmental law since the EPBC Act was first introduced. The Nature Positive Plan outlines the Government's commitment to establishing a national Environment Protection Agency to be known as Environment Protection Australia (EPA) to restore trust and transparency in Australia's national environmental protection laws. In support of this, the 2023-24 Budget provided \$121 million over 4 years from 2023-24 to establish EPA.

EPA will undertake regulatory and implementation functions under the EPBC Act (including wildlife trade) and other relevant Commonwealth laws. These will include laws regulating ozone protection and synthetic greenhouse gas management, sea dumping, hazardous waste, product emissions standards and recycling and waste reduction. As part of its work, EPA will undertake environmental assessments, approval and post approval functions under the new Nature Positive law and undertake compliance and enforcement.

EPA will be established as an independent statutory entity, with its own budget and a Chief Executive Officer (CEO) appointed under legislation. The CEO and decision makers in EPA will be required to make decisions consistently with the legislation including the new National Environmental Standards. The final design of EPA will be informed by consultation with stakeholders and partners, including states and territories. Public consultation on the package of environmental laws, including legislation to establish the EPA, will occur in late 2023.



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You can read the Nature Positive Plan at <https://www.dcceew.gov.au/environment/epbc/publications/nature-positive-plan>



# RAC workforce aged in its prime

Newly released ARC data show that the dominant age group in the industry is 30-39 years old.

A breakdown by age group of active refrigerant handling licence (RHL) holders shows that more than half of RHLs are under 40 years of age. Although in a sense any workforce will always be ageing, ARC's figures show a vibrant, relatively youthful workforce in the climate control sector.

Of the current licence holders, fully 30% are in the 30-39 age group, and a further 21% are under 30 – not even half way through their working lives. That means 51% of technicians are under 40, while 63% are under 50 – and most 50-year-olds would hardly consider themselves old.

At the same time, training licences account for 9% of all RHLs, which suggests that efforts by employers to recruit and retain new technicians are enjoying a level of success.

The figures are encouraging for an industry which is crucial to an energy-efficient Australia heading towards net zero carbon emissions. The challenge now is to deliver training for both new apprentices and mid-career upskilling to keep pace with new technology and remain relevant in a low energy future.

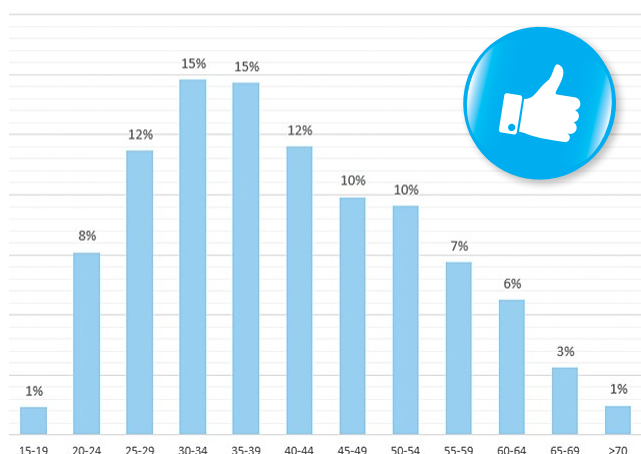


AUSTRALIAN REFRIGERATION COUNCIL

## 30-39

DOMINANT AGE GROUP

Active RHLs by Age Group



\*Data as of 31/03/2023

## Standards update

Standards Australia has advised of a change to a standard relevant to the climate control industry.

AS/NZS 60335.2.40:2019 Household and similar electrical appliances – Safety Particular requirements for electrical heat pumps, air-conditioners and dehumidifiers, has been superseded by AS/NZS 60335.2.40:2023 of the same name.



## Record keeping can be easier than you think

Record keeping can be a real bugbear for a small refrigeration business – in fact, it is the most common reason why some are non-compliant at audit – but it can be easier than expected if you use the available resources.

That's the advice of Alex Pacion, who runs Revy's Auto Electrical & Air Conditioning at Barrack Heights, south of Wollongong, with her partner Steven Riveiro. Steven has run Revy's for the past 14 years in his 25-year career as an automotive air conditioning and electrical technician who also has a Cert 4 mechanic's qualification. Alex joined the business full-time about four years ago, but the main things she learned about record keeping were when she was helping part-time while working full-time in nursing.

"At first it was overwhelming and I'd be panicking when we were coming up to being audited, but once I was told about the ARC templates, it was easy. The field officers are always helpful, and these days I look forward to audits so I can show off how well I've done my job," she said.

Refrigerant records are a critical tool in better understanding the pattern of refrigerant purchase, use and return, so record keeping can work for your business by supporting your overall refrigerant management. Alex believes the templates and the ARC support make it easy for any business to keep good records – and she has a helpful tip of her own.

"Every time I get a new gas bottle in, I make a little laminated card with all the information I will eventually need for an audit, and attach it to the bottle. It used to be tricky keeping track of bottles but now it's easy – I do the card as soon as the invoice comes in, and when it's time to complete the records, all the information is there," she said.

Alex and Steven and their team run a particularly well organised business, but Alex believes anyone can do it, even if their main skills are on the tools.

"Find the templates, and ask questions if you don't understand anything. Whenever I contact ARC for information or help, whether I phone or email or talk to a field officer, I can always get the information I need." she said.

You can access the templates at <https://www.arctick.org/refrigerant-trading-authorisation/business-reporting-templates-and-guides/>



# High GWP restrictions next year

The Minister for the Environment and Water, the Hon Tanya Plibersek MP, intends to implement restrictions on small air conditioning equipment with high global warming potential (GWP) refrigerant.

From 1 July 2024, Australia will ban the import and manufacture of small air conditioning equipment using refrigerant with a GWP over 750. This ban will apply to equipment with up to 2.6 kg refrigerant charge (per the compliance/ rating plate) for use in cooling, heating (or both heating and cooling) a stationary space primarily for human comfort. Equipment covered will include portable and window/wall units and non-ducted split systems (single and multi-head).

The ban will not apply to similar air conditioning equipment that is ducted, for mobile applications such as caravans and boats, or for use in electrical enclosures and computer rooms.

Existing equipment will not be affected, and equipment imported or manufactured before 1 July 2024 will be allowed to be sold after that date.

## Climate control is the career of the low energy future

Sydney commercial heating, ventilation, air conditioning and fire protection specialist Beaver Williams has been spreading the word about great climate control careers at every opportunity lately.



Most recently the company exhibited at the three-day Western Sydney Careers Expo at Sydney Showground, and CEO Juan Castro said it was a very worthwhile effort to make.

"This was a chance to inspire the next generation to embark on their journey into a career in the HVAC industry, and I would encourage other businesses to get involved," he said.

"What better way to learn than through the on-the-job training gained through an apprenticeship? There are many people who learn better through hands-on, practical examples, and an apprenticeship in air conditioning and refrigeration or electrotechnology is a pathway that can open so many long-term professional opportunities."

Beaver Williams has an extensive apprenticeship program to support the development of young tradespeople. It also works regularly with Youth Up Front, a northern Sydney-based youth charity, taking work placement students throughout the year in both HVAC Service and Maintenance and Fire Protection <https://youthupfront.org.au>.

### Show me the money

Recent research shows that apprentices can end up hundreds of thousands of dollars better off than their university friends over the course of their careers.

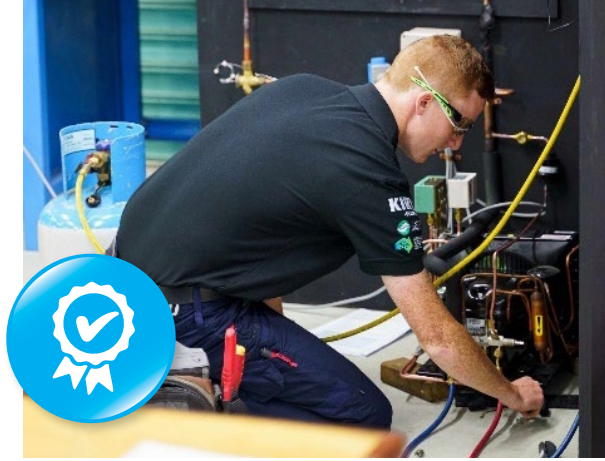
Figures published by Master Builders Australia show that a carpentry apprentice is more than \$198,000 ahead over the four years it takes to earn a built environment degree. With refrigeration technicians being even better paid than other trades, the potential difference is even greater.

It makes a compelling financial case for pursuing a challenging, rewarding and environmentally important career as a licensed climate control technician.

Apprenticeship	University
Earn while you learn (carpentry)	Pay to study (built environment)
Year 1: \$32,587 - \$57,526	Year 1: \$8,301 student fees
Year 2: \$33,517 - \$68,549	Year 2: \$8,301 student fees
Year 3: \$45,612 - \$88,641	Year 3: \$8,301 student fees
Year 4: \$53,213 - \$103,917	Year 4: \$8,301 student fees
<b>Total earning potential over four years:</b> \$164,931 - \$318,634	<b>Total student debt over four years:</b> \$33,204
The apprentice ends up between <b>\$198,135</b> and <b>\$351,838</b> financially ahead	
<b>Average graduate earnings:</b> \$63,900	<b>Average graduate earnings:</b> \$64,700



On the Beaver Williams expo stand, from left: marketing and communications manager Michelle Bridger, business development manager Matthew Lake, apprentice Corey Harland.



## Skills on show

WorldSkills Australia's 2023 National Championships in Melbourne will be the largest in the event's 42-year history, with more than 500 young competitors and 250 skilled experts taking part.

Scheduled for 17-19 August at the Melbourne Convention and Exhibition Centre, the competition will put apprentices and trainees to the test in a series of high-pressure events designed to showcase their skills. Refrigeration and air conditioning will be one of more than 55 skills at the event.

The Gold Medal winner of the refrigeration and air conditioning competition may be selected to represent Australia at the 2024 WorldSkills Competition in Lyon, France, in September 2024. They will have the support of Carl Balke from TAFE Qld as Australia's refrigeration and air conditioning Expert/Judge at the competition.

ARC's own technical and training manager, Noel Munkman, is the Skill Competition Manager responsible for designing the refrigeration and air conditioning competition, developing the marking scheme and managing the competition. Staged in conjunction with the championships will be the Victorian Careers and Employment Expo, where students and parents can chat to industry experts and training institutions, try a skill in a VR experience, and learn about career opportunities they may not have considered.

## New Jobs and Skills Council

A new Energy, Gas and Renewables Jobs and Skills Council has been established by the Australian Government to address current and future skills and workforce challenges.

It is one of 10 industry-led organisations that will bring together employers and unions to work in partnership with governments and the education and training sectors. ARC is advocating for strong climate control representation on the new JSC, including industry sector committees to advise on workforce planning, training product development and industry stewardship. The new JSCs will address skills challenges such as transforming the economy to achieve net zero emissions, where the climate control sector plays a critical role.

## future:gas highlights

'The perfect refrigerant? There is no such thing' – this was the challenging introduction to the future:gas industry seminars that presented the changing landscape of refrigerants.

Staged around Australasia, the seminars cover both stationary and automotive topics and reach throughout all states plus Vanuatu, Papua New Guinea and New Zealand.

This year's future:gas seminars explored the optimal balance of properties of the three main groups of refrigerants now available: low-GWP HFCs; industrial gases including CO<sub>2</sub>, ammonia and hydrocarbons; and HFOs and their blends. Sustainability and safety are the two largest drivers of change.

**HFC phasedown:** The HFC import phase-down began in 1 January 2018, with subsequent downward steps revised every 2 years. At present there are no specific GWP limits, so the market is free to choose the best HFC replacements.

**Flammability:** Examples of the different flammability classes include: A3 – propane; A2 – HFC R152a; A2L – HFC R32 and some HFO blends; B2L – Ammonia; and A1 – HFC R404A, some HFO blends and CO<sub>2</sub>.

**A2L Refrigerants:** A2L refrigerants feature slightly increased flammability. The AIRAH Flammable Refrigerants Safety Guide is available free at <https://www.airah.org.au/frsg>

**Safety:** Precautions for technicians include: know the refrigerant you are using and its risks; complete a risk assessment for new installations; never retrofit to a higher safety classification without a qualified redesign; take appropriate safety precautions; train for the refrigerants you are using; and talk to your suppliers if you are unsure.

**Total cost of ownership:** Life cycle of the equipment must be considered in assessing replacement v retrofit; choice of technology impacts price; safety mitigation impacts the cost; and energy efficiency is critical, as direct emissions are typically less than 5% of total emissions for ultra low GWP systems.

The seminars also looked at Australia's end-to-end HFC Management System, which combines import controls, in-use controls, and end-of-life management.

Australia moved early with in-use controls, starting in 2004, and combined HFCs and ODS in its approach. As permit holders know well, its focus is on ensuring refrigerants are handled only by licensed people. For the end of use, Refrigerant Reclaim Australia (RRA) was created nearly 30 years ago as an industry-led national program. Over the years the total amount of recovered refrigerant has grown from less than 50 tonnes to more than 600 tonnes recovered annually.

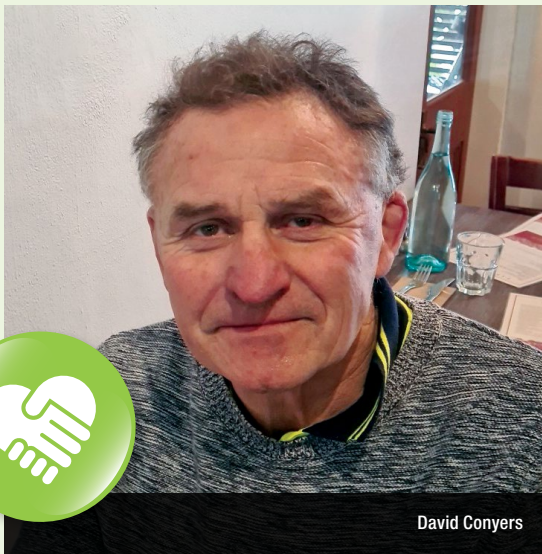
future:gas attracted large audiences at Port Moresby and Lae in Papua New Guinea.



# Heroic fridgies do their bit for Eugowra

This month marked the end of a remarkable effort by a team of volunteers to help revive the small central-west NSW town of Eugowra after it was devastated by massive floods last November.

Bathurst refrigeration and air conditioning technician and TAFE educator David Conyers inspired a team of fellow fridgies – and plenty of other generous supporters – to join him in what he called the ‘re-air conditioning of Eugowra’. Seven months later, he and his fellow volunteers had installed a remarkable 135 split systems and 4 ducted systems plus numerous ‘window rattlers’, domestic fridges and commercial fridges and freezers.



‘It all comes down to 62 days of my fridgy life in this town doing what I still love,’ he said in a social media post to mark the end of the project. ‘Heading out Friday to install the last 4 systems and pack up our site.’ He makes it sound the most natural thing in the world to knock on a stranger’s door and offer to replace an air conditioner destroyed by the flood – and to keep doing that over and over again as he worked his way through the devastated homes.

Although David makes light of his own contribution, he is generous in his thanks to everyone who contributed to helping bring the town of 780 people back to life, even ensuring the local butcher and supermarket had new coolrooms to get them back into business. Top of the list was Rotary District 9705 which contributed \$40,000 cash so David could take advantage of some very generous discounts. ‘Beijer Ref supplied \$60,000 worth of equipment at way discounted prices; Clews Refrigeration and Actrol supplied 10 brand new units and brackets; and Standard Supply Co gave \$5,000 worth of brackets and cover duct/fittings,’ he reports. ‘There were also dozens of individual and company donors of single units, plus the 33 trades and apprentices who contributed their time and travel.’

As you might expect, these conscientious fridgies made sure to raise all the new air conditioners above the flood line. David estimates an overall total of \$400,000 in donated goods and services, with the people and businesses of Bathurst being particularly generous. In addition to all the refrigeration donations there were also TVs and laundry appliances, furniture, 4 entire kitchens, and tonnes of plasterboard and building materials.

If that’s not enough, the fridgies even raised \$10,000 for a skills centre at a Ugandan orphanage by saving the scrap copper.

## Report non-refillable cylinders

Licensed refrigeration technicians can perform a front-line role in the ban on non-refillable cylinders by reporting them to the ARC if they see them for sale.

It is a breach of the *Ozone Protection and Synthetic Greenhouse Gas Management Act 1989* to use disposable, non-refillable cylinders in Australia, but there is still a risk that some are being ‘dumped’ into our market.

Non-refillable cylinders operate outside of Australia’s Refrigerant Management system. Because they are imported illegally, they are therefore likely to be sold to or used by unlicensed technicians, making them doubly illegal. Permit holders are among the people best placed to observe this if it is happening.

If you see non-refillable cylinders for sale or being used, you can report them to ARC using our ready-made form at <https://www.arctick.org/information/lodge-a-complaint/>



## AIRAH Diploma

Registrations are now open for the October 2023 intake of the AIRAH accredited Professional Diploma in Building Services – HVAC&R.



Designed for recent engineering graduates or as a pathway for those with an extensive trades background, the online program runs from 1 October 2023 to 30 June 2024. Intake closes 15 September or when spaces are filled. The program features competency-based assessment and, in addition to theory, takes students on a journey of designing an HVAC system over 12 assignments and includes feedback from experienced engineers at every step. Students undertake their own research to determine answers to design problems. Practical takeaways include reviewing a site, presenting design options to a client, calculating heat loads, selecting equipment, designing, compliance assessment, budgeting, energy reporting, and pulling together a tendering document. More than 435 students have undertaken the program since it was established in 2016.

Full details and application form are at [http://airahfiles.org.au/Education/PDBS/2023\\_October\\_AIRAH\\_PDBS.pdf](http://airahfiles.org.au/Education/PDBS/2023_October_AIRAH_PDBS.pdf)



# DID YOU KNOW RRA WILL PAY YOU FOR YOUR USED AND UNWANTED REFRIGERANT?



To recover refrigerant:



- STEP 1 Collect a recovery cylinder from your refrigerant gas supplier,
- STEP 2 Fill it with used, contaminated and unwanted refrigerant from systems you service, repair, or decommission.
- STEP 3 Return it to your refrigerant supplier and collect your rebate
- STEP 4 RRA will collect, safely destroy the recovered refrigerant and re-imburse the refrigerant supplier.



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