

AIRAH's position

1. AIRAH supports the transition to refrigerants with a low global warming potential (GWP) and the HFC phase-down legislated by the Department of Agriculture, Water and the Environment. AIRAH is technology neutral in its support of all low-GWP refrigerant solutions.
2. Beyond the HFC phase-down, AIRAH also supports Australia's commitment to achieve its 2030 Paris Agreement goals and a broader commitment to achieve net zero emissions by 2050. AIRAH will continue to promote the contribution that HVAC&R can make to achieving this goal.
3. AIRAH supports a nationally harmonised approach to licensing. This should be focused on the trade rather than specific refrigerants, and should establish refrigeration and air conditioning as a trade of its own, separate to electrical and plumbing. It should be based on minimum standards of competency and sector of operation and include a separate contractor/business licence if required. To be effective the scheme needs to be supported by ongoing activities to ensure compliance, including education, monitoring and enforcement of regulations.
4. AIRAH also notes that training and continuing education is a significant part of the compliance solution where a competent professional workforce can provide a safe and efficient HVAC&R infrastructure. With this in mind, AIRAH believes that a Certificate III course should be the minimum qualification for professionals installing, commissioning, maintaining and decommissioning HVAC&R systems.

AIRAH recognises that the HVAC&R industry is experiencing a skills shortage. For this reason, we support the development of a plan to bridge the skills gap for those without the above qualification. This would consist of pathways for HVAC&R professionals to reach and maintain the required level of competence, via:

- Rigorous processes for assessing relevant industry experience and officially recognising this in the form of AQF qualifications
 - Continuing professional development and a system for monitoring this to ensure that qualified professionals maintain their skills and competence with developments in the building industry
 - Mutual recognition arrangements of qualifications between states
 - Providing transition periods to the new system to avoid skills shortages.
5. AIRAH recognises the need for ongoing education and awareness raising, both among industry stakeholders and the general public, about enhancements to licensing and how these ties in with HVAC&R's ability to drive us towards a net-zero future. AIRAH will continue to raise awareness through all its activities.

6. Safety is a priority for AIRAH: safety of workers, of end-users, and more broadly of the general public and the environment through more sustainable HVAC&R. AIRAH will continue to provide awareness education and training to support a safe transition towards low-GWP refrigerants and more energy-efficient HVAC&R installations.

AIRAH is a member of the [Australian Refrigeration Council \(ARC\)](#) and is currently working with them to address many of these critical issues. Via this position statement, we encourage the ARC and other bodies to continue to advocate for further reform.

Background

As a signatory of the Paris Agreement, Australia has committed to reducing its emissions to 26–28 per cent below 2005 levels by 2030.

Almost a quarter of all electricity generated in Australia is used to power HVAC&R systems, and around 80 per cent of this electricity is generated using fossil fuels. Through its energy use, HVAC&R contributes significantly to the country's emissions.

As part of its climate strategy, the government has also signed the Kigali Amendment to the Montreal Protocol. Australia has committed to reduce the bulk import of hydrofluorocarbons (HFCs) – powerful global warming gases – by 85 per cent by 2036. This target is “tonnes of carbon dioxide equivalent” or “CO₂e” based. High global warming potential (GWP) HFCs will therefore disappear first. Refrigeration and air conditioning systems are by far the largest users of HFC gases.

HVAC&R will therefore play a vital role in achieving Australia's climate goals. However, there are opportunities for enhancing licensing for HVAC&R technicians that if not addressed will result in poorer outcomes while also creating safety risks, not only for technicians but also for homeowners and building occupants.

HVAC&R technicians in Australia are covered by two licensing regimes: the national ARC-hosted environmental scheme; and in addition state-based occupational licences in New South Wales, Queensland and Victoria.

The national licensing regime is administered by the Australian Refrigeration Council (ARC) to support regulations under the *Ozone Protection and Synthetic Greenhouse Gas Management Act 1989*, a responsibility of the Department of the Environment and Energy. There are currently around 100,000 licence holders. Licences are mandatory for purchasing, handling and working on systems that use synthetic (CFC/HCFC/HFC) gases. No ARC license is required, however, to work with natural refrigerants such as carbon dioxide, ammonia or hydrocarbons, or the new generation of synthetic refrigerants called hydrofluoroolefins (HFOs).

Today, about 90 per cent of refrigerants in use in Australia are covered by the ARC licences. But as we transition to alternative refrigerants through the HFC phase-down, this will decrease. By 2030, only around 70 per cent of the refrigerant bank will be covered by ARC licences. It is AIRAH's position that any scheme should cover all refrigerants, to limit both direct and indirect emissions.

Workers with a Certificate II qualification (360 hours of training as opposed to over 1,000 hours training for a Certificate III qualification¹) can obtain an ARC refrigerant handling licence. The Certificate II qualifications do not provide workers with the necessary technical and/or safety knowledge or skills to safely and effectively work on all HVAC&R systems. It should be noted that indirect emissions from generating the power to run HVAC&R systems is much greater than direct emissions from refrigerant leakage, so ensuring that only suitably trained staff install and maintain systems, to maintain maximum energy efficiency, must be a key aspect of licensing.

Although the limited ARC licence only allows workers to install certain systems, anecdotal evidence suggests that Certificate II workers are installing, commissioning and servicing equipment that they are not licensed to work on. This has a two-fold effect of increasing direct emissions (from leaked/vented refrigerant) and indirect emissions (from inefficient systems) as well as increasing safety issues.

At the state and territory level, licensing for HVAC&R technicians varies across the country. Some states, such as New South Wales, require all work to be done by Certificate III-qualified RAC technicians. All other states and the ARC-hosted scheme allow Certificate II-qualified trades to perform some tasks by way of a restricted licence commensurate with competency.

Finally, neither licensing regime requires technicians to undertake any ongoing or mandatory training, despite the fact the industry is constantly changing. Most of the refrigerant gas that licensed technicians have traditionally been trained on will be replaced soon, and the alternative refrigerants can create increased safety issues. They can be flammable (e.g. hydrocarbons and HFOs), or toxic (ammonia and certain HFOs and HFC/HFO blends), or operate at high pressures (carbon dioxide).

To achieve our national climate goal commitments and provide a safe and comfortable environment for all Australians, we need a skill-based, harmonised licensing system for HVAC&R technicians.

¹ <https://www.arctick.org/media/1179/coolchange-issue-40-april-2016.pdf>