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Department of Sustainability, Environment, Water, Population and Communities

CoolChange
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The Refrigeration and Air Conditioning industry sector and Australia's ozone success

The RAC industry is to be congratulated for its strong support for the Montreal Protocol. The industry has played a leading role in helping Australia to achieve and exceed its Montreal Protocol obligations.

In the years since the declaration of the Montreal Protocol the RAC industry has demonstrated leadership and innovation. The industry acted quickly to adopt new technologies and to devise plans to meet chlorofluorocarbon (CFC) and hydrochlorofluorocarbon (HCFC) phase out schedules, including working with the Australian Government to phase out HCFCs well ahead of the timeframe prescribed in the Montreal Protocol.

The industry has also worked hard to minimise refrigerant loss by embracing the RAC licensing scheme and by installing, servicing and maintaining RAC equipment in line with industry codes of practice and relevant standards.

Other highlights of the RAC industry's contribution to protecting the ozone layer include initiating processes for decommissioning end of service life equipment and establishing and participating in a product stewardship program for reclaimed refrigerant.

This product stewardship program has gained international respect for its innovative approach to collecting and destroying waste refrigerants. Countries such as the United States and Canada have based their collection and destruction schemes on the Australian model. Other nations have also begun to show interest in Australia's approach to managing refrigerants and other ozone depleting substances at the end of their working life, with Indonesia and some Pacific Island countries considering establishing similar schemes.

Since establishing the licensing and the product stewardship schemes, the RAC industry has recovered 3100 MT of ozone depleting substances from RAC equipment during servicing or at the end of its service life.

Central to the Montreal Protocol's success is its capacity to drive behavioural change. While governments have laid down the legal framework for action, the readiness by industry to transition to alternatives and reduce emissions has been a key success factor.

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The Montreal Protocol – 25 years of ozone protection

As the annual ozone hole forms over Antarctica this spring, it is worth reflecting on one of the international community's most significant environmental success stories – the Montreal Protocol on Substances that Deplete the Ozone Layer.

The story of the Montreal Protocol is one of science, governments and industry coming together to protect life on Earth from damaging ultraviolet (UV) rays from the Sun.

This year is particularly special as 16 September marks the 25th anniversary of the signing of this historic agreement which is on track to restore the ozone layer to 1980 levels by mid century.

The Montreal Protocol is widely acknowledged as the most successful multilateral agreement, with all 197 member countries of the UN accepting legally binding obligations to phase out the production and consumption of ozone-depleting substances.

The need for action was identified in the early 1970s, when it was established that certain synthetic chemicals contributed to the deterioration of the ozone layer. A decade later, further research confirmed the presence of an ozone hole over Antarctica and demonstrated the impact of UV radiation on human health.

This prompted a response from the international community. In 1987, 46 countries signed the Montreal Protocol on Substances that Deplete the Ozone Layer. Two years later, the Australian Government ratified the Montreal Protocol by passing the *Ozone Protection Act 1989*, laying the ground for Australia to play a leading role in ozone protection.

The success of Australia's contribution to the aims of the Montreal Protocol is based on the strong support by key Australian industry sectors, including the refrigeration and air conditioning industry. Without this support and positive approach, Australia would not be in our current position of meeting or exceeding all of our phase-out obligations. In doing so, Australia will use 60 per cent less HCFCs than permitted under the Montreal Protocol.

The 25th Anniversary of the Montreal Protocol shows what can be achieved when the international community works together to protect the planet. Great strides have been made, but we must all remain vigilant to ensure that all of this effort is not wasted.

Regulation amendment leads to new licence

On 14 July 2012 the Ozone Protection and Synthetic Greenhouse Gas Management Regulations 1995 were amended.

An unlicensed person can no longer recover refrigerant from decommissioned refrigeration and air conditioning (RAC) equipment under the supervision of an appropriately licensed person. Anyone recovering refrigerant must obtain a new two year Restricted Refrigerant Recoverer Licence (RRRL).

As a result of this amendment – and following industry consultation – the new RRRL licence has been introduced to replace the one year Transitional Refrigerant Recoverer Licence (TRRL).

To obtain the RRRL a person must complete specific training and assessment commissioned by the Department of Sustainability, Environment, Water, Population and Communities. Currently, training and assessment materials are available for free through the ARC website.

The refrigerant recoverer training is restricted to recovery of fluorocarbon refrigerant from the following types of RAC equipment:

- Household refrigerators and freezers.
- Household window and split system air conditioners.
- Vehicle air conditioning systems.

The training also covers identification of, and the hazards associated with, equipment containing 'natural' refrigerants.

The licence does not include servicing of:

- household refrigerators and freezers,
- window and split-system air conditioners;
- vehicle air conditioners; and
- installation of RAC equipment.

Current TRRL holders can continue to recover refrigerant until the expiry date of your licence. However, if you wish to recover refrigerant after your TRRL expires you will have to complete training and assessment for the RRRL.

Visit ***www.arctick.org/RRRL*** for more information.

Notify ARC of an alleged breach of the law

The ARC has launched a new online facility for people to report alleged breaches of the *Ozone Protection and Synthetic Greenhouse Gas Management Act 1989* and/or Ozone Protection and Synthetic Greenhouse Gas Management Regulations 1995.

The ARC treats notifications from people regarding alleged breaches seriously, and this new online facility will help to streamline the investigation and enforcement processes – making it more efficient and effective.

Some of the notifications we receive do not contain adequate information for the ARC to gather evidence, which in turn can limit the Government's capacity for further action.

This new online facility has specific fields to prompt people to provide all the information necessary for us to investigate a possible breach and to make sure that technicians and businesses are acting within the law.

Visit ***www.arctick.org/breach_law*** to read more.

Don't risk your business

A valid Authorisation issued by the ARC is required to purchase refrigerant. If you let your authorisation lapse you will be not be able to legally purchase refrigerant.

Authorisation expiry typically occurs for two reasons – people forget to renew, or there may be outstanding requirements from an audit.

Forgetting is no excuse for failing to renew your Authorisation. At least three reminder email/letters are sent to Authorisation holders well before the expiry date. And the date that it expires is just that – you will need to go through the application process for Authorisation again. There have been numerous examples of Authorisations expiring as a result of outstanding audit requirements. In this instance, some people are successful in obtaining a new Authorisation – but only after rectifying any audit issues. A number of people do not manage to get a new Authorisation.

Remember to act on any ARC renewal advice early and ensure that any deficiencies identified at audit are rectified as soon as possible. Authorisation and licence renewal is your responsibility.

The role of science in ozone protection

The science community has also played a key role in ozone protection, including discovering the link between certain synthetic chemicals and ozone depletion, confirming the damage to the ozone layer above Antarctica and demonstrating the harmful environmental and health impacts on life on Earth.

In 1974 Nobel Prize-winning scientific research established that some synthetic chemicals can destroy ozone in the stratosphere. In 1985, research indicating the presence of an 'ozone hole' over Antarctica, linked these synthetic chemicals to a possible environmental and human health catastrophe – the depletion of the fragile layer of ozone that protects us from harmful UV rays from the Sun.

The Antarctic ozone hole was a warning that something was wrong – thankfully, one that the international community has heeded.

Increased UV radiation would have caused a dramatic increase in the incidence of eye diseases like cataracts and in skin cancer and other skin diseases. Without action, the Antarctic ozone hole would have become a permanent fixture – bigger and deeper, and possibly moving over populated areas in the southern hemisphere.

Twenty five years on, concentrations of chlorine and bromine in the atmosphere (which destroy ozone) have peaked and are now reducing. Overall, emissions of ozone-depleting substances from human activities have decreased by more than 80 per cent since their peak in 1988.

Scientists now predict that the ozone layer above most of the globe will recover by around the middle of this century and by 2070 the ozone layer over Antarctica will recover. The phase out of ozone depleting substances also means we are avoiding greenhouse gas emissions of around the equivalent of 10 gigatonnes of carbon dioxide annually, as many ozone-depleting substances are also potent greenhouse gases.

Australia has always been at the forefront of efforts to protect the ozone layer. Our scientific institutions, including the CSIRO, Bureau of Meteorology and the Australian Antarctic Division continue to play key roles in ozone science, especially southern hemisphere ozone science. Australia is also represented on major international scientific and technical bodies that support the Montreal Protocol.

Licence entitlements – the key to promoting qualifications to customers

Holding an ARC licence enables technicians to promote to customers their 'qualified' skills to perform various different services – depending on the entitlements of their licence.

Licensing the handling of fluorocarbon gases means technicians must prove they are qualified and competent, before a licence is issued. This 'proof of competence' ensures the risk of refrigerant leakage is minimised. Importantly, each licence card lists the entitlements and services a technician can perform – when it comes to fluorocarbon refrigerant. This provides licence holders with evidence of qualifications, and goes a long way to giving customers confidence in their abilities.

For example, Full Refrigeration and Air Conditioning licence holders have demonstrated that they are qualified to handle refrigerant for any work in the refrigeration and air conditioning industry, other than the automotive industry.

There are eleven different refrigerant handling licences issued by the ARC, so it is very important that licence holders work within the scope of their licence and communicate to consumers what they are entitled to do. It is an offence under the Ozone Protection and Synthetic Greenhouse Gas Management Regulations 1995, to perform services outside the scope of a licence.

This could result in loss of licence and, consequently, an inability to legally provide these services.

ARC communications encourage consumers to check licence entitlements before they commit to a licensed technician; and our compliance division gathers evidence and investigates allegations of non-compliance – including services provided outside of licence entitlements.

The following table sets out the entitlements for the *Restricted Heat Pump (Split System) Installation and Decommissioning licence* **and the** *Restricted Domestic Refrigeration and Air conditioning Appliance licence*, as per the Ozone Protection and Synthetic Greenhouse Gas Management Regulations 1995.

Licence Name	Entitlement of licence	Important to note:
Restricted heat pump (split system) installation and decommissioning licence (2 years)	To handle a refrigerant for the installation and decommissioning of any of the following: • A single-head split system air conditioner of less than 18kW; • A 2-part hot water heat pump of less than 18kW; • A 2-part swimming pool heat pump of less than 18kW.	This licence ***does not*** entitle a holder to: • Service / and or maintain a heat pump (split system) which involves handling refrigerant.
Restricted Domestic Refrigeration and Air conditioning Appliance Licence (2 years)	To handle a refrigerant for either or both of the following:	The Regulations outline specific definitions for domestic refrigeration or air conditioning equipment; and commercial stand-alone refrigeration equipment:
	Any work on ***domestic*** refrigeration or air conditioning equipment;	***domestic refrigeration or air conditioning equipment*** means refrigeration or air conditioning equipment that: (a) is designed primarily for household use; and (b) is designed not to be permanently connected to the power supply of the premises where it is installed; and (c) Does not require the installation of pipework to enable the movement of refrigerant. Note: This definition does not cover split system air conditioners.
	Any work on ***commercial*** stand-alone refrigeration equipment.	***commercial stand-alone refrigeration equipment*** means refrigeration equipment that: (a) is designed primarily for commercial use; and (b) is designed not to be permanently connected to the power supply of the premises where it is installed; and (c) Does not require the installation of pipework to enable the movement of refrigerant.

Have you changed address?

To help the ARC keep you up-to-date with all licence-related information, please visit the Online Application & Change of details section of **www.arctick.org** and update your details if you have changed address or phone/email.

Prefer email?

If you would prefer to receive CoolChange via email, please email your details to **coolchange@arctick.org**