Australian Government

Department of Climate Change, Energy, the Environment and Water

AUSTRALIAN REFRIGERATION COUNCIL

ANNUAL REPORT 2023/2024

OPSGG Management Permit Scheme

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Purpose of Annual Report

This annual report outlines key activities and outcomes of the Ozone Protection and Synthetic Greenhouse Gas (OPSGG) Management Refrigeration and Air-conditioning Permit Scheme (the permit scheme).

The objective of the scheme is to minimise preventable emissions of refrigerant defined in the OPSGG Management Act as ozone depleting or synthetic greenhouse gases as they contribute to global warming.

The permit scheme is administered by the Australian Refrigeration Council Ltd on behalf of and in partnership with the Department of Climate Change, Energy, the Environment and Water. ARC has administered the program for 19 years since its inception.

It relates specifically to regulating the purchase, use and handling of prescribed refrigerant.

On a broader note, the scheme is part of an overall environmental stewardship scheme involving imports, use/sale/handling and reclamation/destruction. The former is administered directly by the Department of Climate Change, Energy, the Environment and Water and the latter by Refrigerant Reclaim Australia.

Wholesalers play a critical role in the scheme, regulating refrigerant purchase and returns. This is a key factor in ensuing only licensed persons can purchase prescribed refrigerant.

The annual report highlights the activities and achievements of the ARC and the permit scheme over the FY23/24.

Executive Summary

The Australian Refrigeration Council (ARC) is the national licensing body for the climate control industry. It administers the Permit Scheme in partnership with the Department of Climate Change, Energy, the Environment and Water (DCCEEW). ARC has administered the program for 19 years since its inception.

Born of the Montreal Protocol, the objective of the scheme – known as the ARCtick permit scheme – is to minimise preventable emissions of refrigerant defined in the OPSGG Management Act as ozone depleting or a synthetic greenhouse gas that contributes to global warming. The refrigeration and air conditioning (RAC) sector is by far the greatest user of ozone depleting substances and synthetic greenhouse gases, and thus its importance to the continuation of environmental protection is paramount.

The ARC licenses 150,000 technicians and businesses to handle refrigerant gases prescribed under the Act, and to work on equipment containing these gases. The ARCtick permit scheme is competency based and ensures that emissions are prevented as far as practical through a combination of skills/knowledge and behaviours of licensed technicians. It controls the purchase, handling, and use of refrigerants as part of a product stewardship program that includes import controls administered by central government and destruction undertaken by Refrigerant Reclaim Australia (RRA).

The RAC Industry Board is grateful that the department has entrusted the ARC with the responsibility of administering the Permit Scheme to help facilitate a compliant industry when it comes to the use of scheduled refrigerants.

In addition to administering the permit scheme, the ARC delivers leadership and service to the climate control sector including providing technical advice on:

- issues resolution,
- training requirements for the sector and
- the impact on future technologies.

We also promote careers in climate control and connect customers to ARCtick-licensed businesses and provide business support for licence holders.

Initiatives include information-rich industry newsletters, websites, media releases on industry issues and award-winning campaigns to build consumer awareness. All of these contribute to a growing awareness of the essential work undertaken by ARCtick licensed technicians and businesses. Beyond that, with the Green Scheme Accreditation program we are looking to the needs of a low-carbon future.

The ARC contributes to continuing improvement of standards within the RAC sector through collaboration with federal and state government agencies and departments, advisory groups, technical committees, training forums and industry groups. It also

advocates for industry support from government, serving as a primary contact on issues such as regulatory standards and licensing. Beyond Australia, the ARC shares its world-renowned licensing and technical expertise through its connections with the United Nations Environment Program, particularly in assisting its Pacific neighbours with training and licensing activities.

The ARC card conveys identity, trust and purpose – with a significant number of technicians maintaining it well beyond retirement age.

The ARC continues to make improvements to how the permit scheme operates. Processing times are low, with 72% of refrigerant handling licence (RHL) applications and 74% of refrigerant trading authorisations (RTA) applications undertaken within 7 days. In addition, as part of ARC's commitment to customer service excellence, during the year AI has been deployed to automate RHL renewals so they are instantaneous.

This year our education and engagement activities have expanded, with additional field work undertaken by the ARC. Permit condition checks, commonly known as audits, are conducted on a third of all RTA holders each year with the intention for every RTA holder to receive a permit check every 3 years.

The number of complaints investigated by the ARC has increased, particularly those lodged by consumers, which suggests that ARC's consumer campaigns are increasing consumer awareness of the permit scheme and its requirements. Through complaints about unlicensed work, the ARC reviews reports of non-compliance, and also identifies and engages with entities who do not hold the relevant permit required by the permit scheme for the work they are doing. Where non-compliance is identified, this is referred to the department for investigation.

Engagement activities include improving Permit holders' understanding of permit conditions, and providing targeted support and assistance to permit holders to meet their obligations for handling, trading and/or disposing of ODS and SGG in accordance with permit conditions.

New RTAs are now visited by an ARC field officer within their first 12 months to welcome them to the scheme and assist them with compliance. Permit condition checks are educational in the first instance, with 99% of RTAs being compliant within 30 days of the initial audit visit.

More than 5,540 audits were undertaken in FY23/24 with 67.1% being compliant at first audit. Invariably, some companies remain non-compliant, and their RTA is not renewed – these numbered 87 in FY23/24.

Chair Introduction (Industry Landscape and ARC)

I am pleased to be able to present the Chair's Report for 2023 and 2024. While I have just been Chair for a few months, I am pleased to report to all of our stakeholders and members that the Australian Refrigeration Council (ARC) is performing well and delivering for the environment, for the community and for industry.

Clearly, of the tasks that the ARC undertakes, the most significant is the delivery of the contract for the Australian Government for licensing and permitting of Refrigerant Handling Licences and Refrigerant Trading Authorisations. I am happy to report that ARC is delivering these functions more efficiently than ever before and to ever increasing numbers of individuals and companies.

With customer service excellence as a hallmark, our service is getting better with the development and deployment of AI to support instantaneous generation of licence renewals.

We are also one of the most vital touchpoints with the refrigeration and air conditioning industry. Through our regular contact with licence holders and the companies they run and work for, we get a real sense of what changes are occurring. Increasingly, we have made improvements in collecting and analysing evidence about and from industry. Some of this material has started to come out from ARC and more will be released over the coming months and years. Knowing what is happening based on real-life evidence will allow ARC and the government to better target initiatives that will improve the performance of our industry.

That spirit of government and industry partnership is central to ARC and our delivery model. It is through close and open communications that we can work through ongoing issues and improve what we do. ARC exists to make a genuine and positive difference to the world. We are doing that hand in glove with the department.

Of all the initiatives we have undertaken with the government, one of the ones where I am most proud is our combined efforts to recognise those people in industry that deliver quality service and takes the steps necessary to protect the environment while they serve their customers. To be fair, our steps to recognise the performance of quality individuals both at ARBS and at the Wire & Gas conference are just first, tentative strides. But they are important steps. We plan on and hope to see ARC able to better recognise and publicly acknowledge those in our industry who do the right things.

In summary, ARC has had a year of new areas of focus and development. There remains work to be done, but we are in a good place to continue to succeed and deliver the programs and activities to enable the industry to meet the challenges we face together.

Key Outcomes of the Permit Scheme

The ozone layer protects life on Earth by absorbing ultraviolet (UV) radiation from the sun. UV radiation causes many problems, from skin cancer and cataracts in people to damaged farm crops. Australia is already substantially arid and cannot afford to lose more productive land. The ozone layer is like sunscreen for the Earth – it reduces sunburn.

Ozone depleting substances (ODS) which predominantly occur as refrigerants in the refrigeration and air conditioning (RAC) sector damage the ozone layer when released into the atmosphere, allowing more UV radiation from the sun to pass through and causing harm to our health.

Synthetic greenhouse gases (SGG) are often used to replace ozone depleting substances in refrigeration. They do not damage the ozone layer, but just as greenhouse gases, they contribute to climate change through global warming.

The Ozone Protection and Synthetic Greenhouse Gas (OPSGG) Management Program is born of Australia's commitment to the Montreal Protocol and applies to the manufacture, import, export, use and disposal of ozone depleting substances and synthetic greenhouse gases.

The *Ozone Protection and Synthetic Greenhouse Gas Management Act 1989* and related Acts protect the environment by reducing preventable emissions of ozone depleting substances and synthetic greenhouse gases in the RAC sector. The Act supports the Ozone Protection and Synthetic Greenhouse Gas Management Regulations 1995 which control the major end users of ODS and SGG, a major element being through the permit scheme.

Through the Australian Refrigeration Council (ARC) the refrigeration and air conditioning (RAC) sector is brought together so that the objectives of the Permit Scheme are realised in a collaborative manner. ARC member organisations represent the diverse segments of the climate control (refrigeration and air conditioning) sectors. The government-appointed Refrigeration & Air Conditioning (RAC) Industry Board, which administers the ARCtick permit scheme, comes from the ARC member organisations and is therefore representative of the RAC industry. It consists of three directors responsible for the stationary sector and three directors responsible for the automotive sector. The ARC CEO is the executive director.

ARC has successfully implemented and managed the operational aspects of the permit scheme for 19 years. Our board members share a passion for the continued growth and success of our industry. They give generously and volunteer their time, providing valuable insights and direction to support ARC's growing significance in the sector.

The partnership between the ARC and the Department of Climate Change, Energy, the Environment and Water is pivotal to the success of the scheme. The Council of Australian

Governments (COAG) has recognised the success of the co-regulatory partnership in its Regulatory Impact Statement on National Licensing.

Better management of hydrochlorofluorocarbon (HCFC), chlorofluorocarbon (CFC) and hydrofluorocarbon (HFC) refrigerants minimises the negative impact on the ozone layer and limits global warming. It is for this reason, that RAC technicians in preventing emissions are the real heroes of preventing climate change.

Licensing and Permitting

Licensing and permitting is the backbone of the Ozone Protection and Synthetic Greenhouse Gas Management Permit Scheme. It is a competency-based scheme which ensures individuals are knowledgeable and skilled to minimise preventable emissions, and businesses have the appropriate equipment and skilled personnel.

The broad objective of licensing and permitting is twofold:

- To maximise licence and permit numbers – thereby improving emissions control and preventing emissions into the atmosphere; and
- To work collaboratively with the sector to ensure that the permit scheme remains fit for purpose where technical advice informs its operation.

The combination of the two elements of the strategy is aimed at increasing the regulated community to ensure that preventable emissions are minimised. The ARC administers the issuing of refrigerant handling licences (RHLs) to technicians and refrigerant trading authorisations (RTAs) to businesses, and its field officers conduct permit condition checks of RTAs to ensure they are complying with the obligations of their permits.

Whilst the scheme has a primary environmental policy driver, it also has secondary benefits such as consumer protection through improved installation standards, improved safety standards due to required competencies, and protection of the industry through established qualification benchmarks.

The data associated with licensing and permitting provides a snapshot of industry health. Breaking the information into licence/industry types allows for a general insight into the specialisations within the industry so areas of growth and decline can be identified and approached appropriately. Breaking the data into states/territories also allows for a general overview of workforce development. It is an indicator of refrigerant type use – especially important in the transition to less environmentally damaging refrigerants not covered by the scheme, which are not ozone depleting and have a lower Global Warming Potential (GWP). The table below indicates a healthy appetite in the RAC sector for the use of controlled refrigerants as we transition to lower-GWP refrigerants where licensing is not a requirement.

Number of RHLs by State/Territory

State/Territory	Number of RHLs
NSW	19,745
VIC	14,635
QLD	24,721
WA	15,706
SA	6,596
TAS	1,752

ACT	938
NT	1,715
International	30
Total	**85,838**

Provided above is a snapshot of Refrigerant Handling Licences by state as of 1/07/2024.

The state/territory with the most RHLs is Queensland, with 24,721 licences, followed by New South Wales with 19,745. There are several likely reasons for the higher number of RHLs in QLD. Factors such as higher population density and urbanization significantly influence the need for air conditioning and refrigeration services, particularly in states like New South Wales, Victoria, and Queensland, which feature densely populated urban centers. Queensland's notably warmer climate further amplifies this demand. Moreover, states that host robust commercial and industrial activities, which depend extensively on refrigeration and air conditioning, also see a corresponding increase in the number of issued licenses.

Number of RHLs by Licence Type

Licence Type	Number of RHLs
AAC02 - Automotive Air Conditioning Licence	33,092
RAC01 - Full Refrigeration and Air Conditioning Licence	26,745
RSS03 - Restricted Heat Pump (Split System) Installation and Decommissioning Licence	15,342
TL000 - Trainee Refrigeration and Air Conditioning Licence	4,485
CL000 - Trainee (Classroom Only) Licence	3,266
TL000 - Trainee Automotive Air Conditioning Licence	1,405
ATL05 - Restricted Aviation Licence	398
RDR04 - Restricted Domestic Refrigeration and Air Conditioning Appliance Licence	285
TRT07 - Restricted Transport Refrigeration	144
RHTL09 - Restricted Refrigerant Handler	126
RRR12 - Restricted Refrigerant Recoverer Licence (RAC Only)	112
MTL06 - Restricted Marine Licence	104
TL000 - Trainee Restricted Heat Pump (Split System) Installation and Decommissioning Licence	104
RRR10 - Restricted Refrigerant Recoverer Licence (RAC & AUTO)	98
RRR11 - Restricted Refrigerant Recoverer Licence (AUTO Only)	42
TL000 - Trainee Restricted Refrigerant Recoverer Licence	41
TL000 - Trainee Restricted Domestic Refrigeration and Air Conditioning Appliance Licence	24
QRL11 - Queensland Rail & Aurizon Rolling Stock Restricted Licence	15
F16 - Maintenance & Repair Australian Antarctic Division	10
Total	**85,838**

Provided above is a snapshot of the industry licence type landscape as of 1/07/2024.

The licence type with the most RHLs is the Automotive Air Conditioning Licence (AAC02), with a total of 33,092 licences. There is a multitude of plausible reasons for this. These reasons include the fact that almost every vehicle on the road today has an air conditioning system, and the number of cars on the road in Australia is constantly rising. Another factor is that for existing mechanics with qualifications, the AAC02 licence is a desirable option for upskilling as it allows for a larger range of services they can provide from a course that is relatively shorter when compared to a RAC01 licence.

Number of RTAs by State/Territory

State/Territory	Number of RTAs
QLD	5,834
NSW	5,764
VIC	4,199
WA	3,002
SA	1,557
NT	403
TAS	286
ACT	191
Total	**21,236**

Provided above is a snapshot of Refrigerant Trading Authorisations by state/territory as of 1/07/2024.

The state/territory with the most RTAs is Queensland, with 5,834 authorisations, followed closely by New South Wales with 5,764. There are several likely reasons for the higher number of RTAs in Queensland. These reasons include population density and urbanisation, as states like New South Wales, Victoria, and Queensland have higher densities and more urban areas. Additionally, and in particular for Queensland, warmer climates increase the need for air conditioning and refrigeration services. Finally, any state with heavy commercial and industrial sectors that rely heavily on refrigeration and air conditioning systems will contribute to the higher number of authorisations.

Number of RTAs by Sector

Industry	Number of RTAs
Automotive Air Conditioning	10,939
Stationary RAC	5,414
Split Systems A/C Installation	3,581
Domestic RAC	804
Refrigerant Wholesaler	146
Transport Refrigeration	94
Manufacturer	51
Aviation	49

Marine	43
Restricted Split Systems A/C Installation - No Purchase	38
Restricted Automotive Parts Recycler	29
Restricted Waste Management	20
Restricted Metal Recycler	15
Restricted Refrigerant Recoverer	9
Department of Defence	1
Foreign Flagged Vessels	1
Non RAC Use	1
Restricted Non Fluorocarbon Refrigerants	1
Total	**21,236**

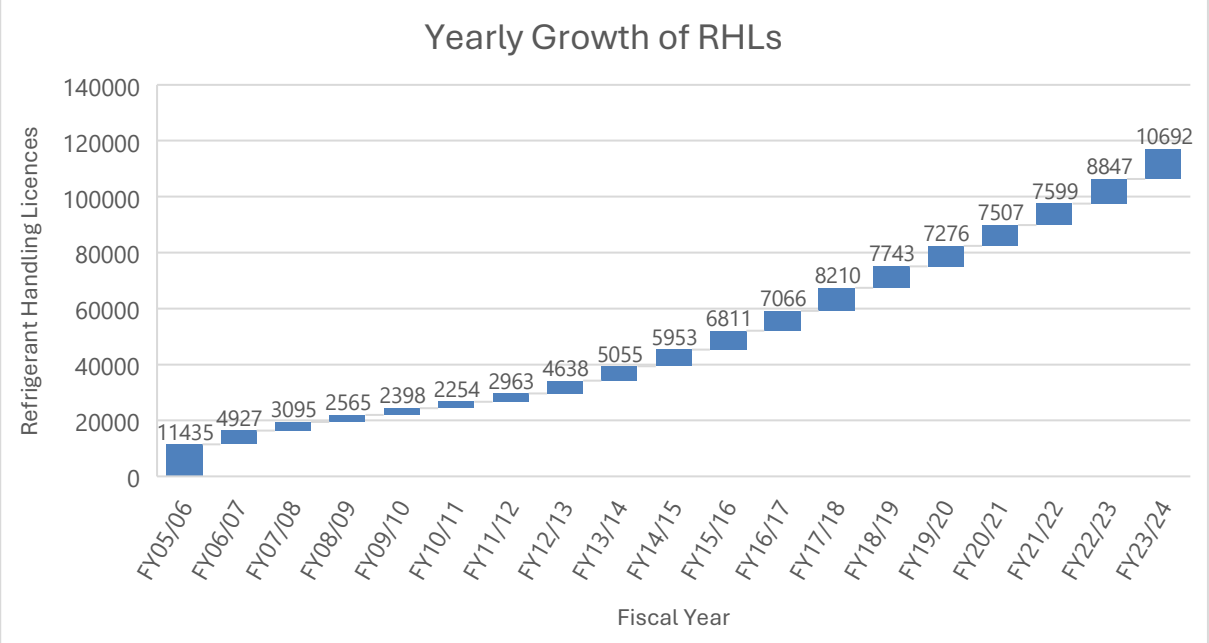
Provided above is a snapshot of Refrigerant Trading Authorisations by industry sector as of 1/07/2024.

The industry sector with the most RTAs is the Automotive Air Conditioning industry sector, with a total of 10,939 authorisations. There are several plausible reasons for this. Firstly, almost every vehicle on the road today has an air conditioning system, and the number of cars on the road in Australia is constantly rising. Additionally, for existing mechanics with qualifications, the Automotive industry sector is a desirable option for upskilling as it allows for a larger range of services they can provide to consumers.

Growth

The growth of the scheme is a key indicator of success. Even with the transition to lower-GWP refrigerants for which technicians do not require permits. The FY23/24 saw some of the highest growth numbers the industry has experienced.

Yearly Growth of RHLs



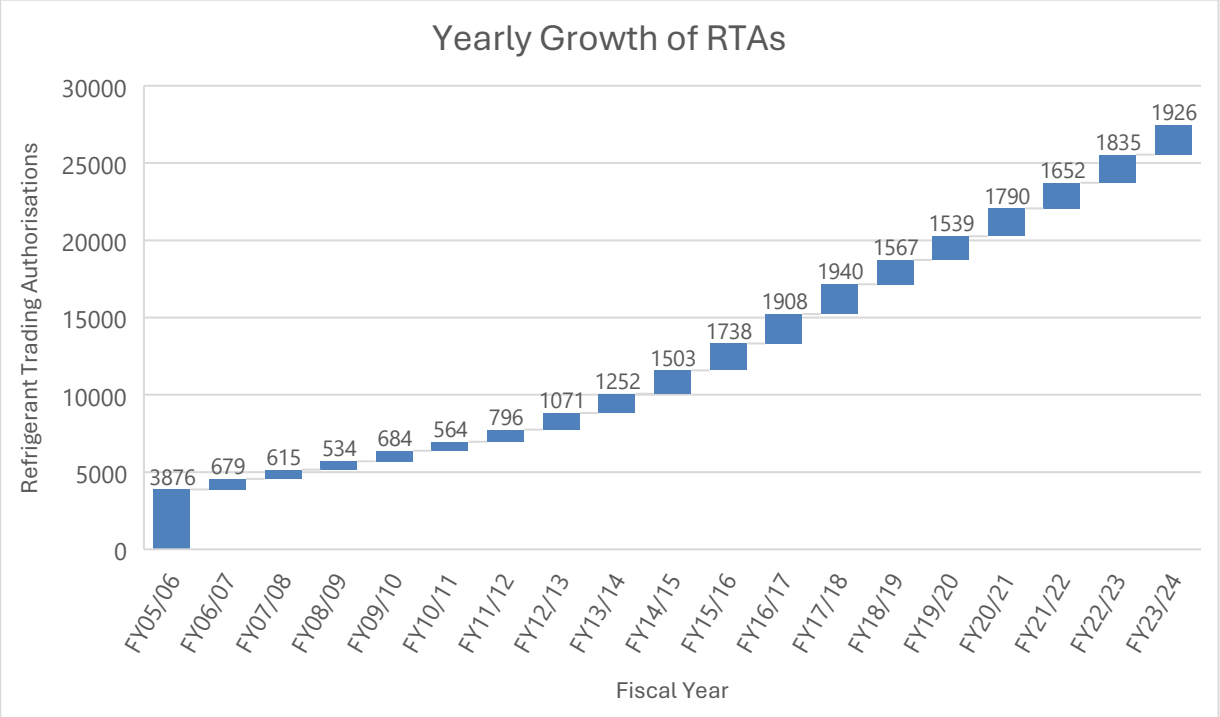
The graph above plainly shows a large increase in the last year in RHLs, the largest jump since the permit scheme's commencement. In FY2023/24 alone, there were 10,692 new licence holders, representing an approximately 10% increase over the previous year. This increase is virtually on par with the scheme's first year, which saw 11,435 new licences upon commencement. Furthermore, starting FY15/16, there has been an annual rise of 6,000 to 8,000 licences.

This trend highlights long-term efforts and investments in building a strong foundation in the industry through communications and training initiatives which are now generating significant returns.

Communications initiatives include direct communication with high school careers advisers and a major presence in various media promoting the appeal of being a licensed refrigeration and air conditioning technician as a career of first choice.

ARC also supports the CCN magazine 'NextGen' features and the WorldSkills Competition to encourage young people to pursue their career success in the RAC sector. Its presence at industry shows such as the Australian Automotive Aftermarket Expo (AAAE) and the Air Conditioning, Refrigeration, Building Services Exhibition (ARBS) actively encourages people to become licensed so they can pursue their career and business ambitions. All these long-term initiatives have an incremental impact on growing the number of licensed individuals and businesses and therefore growing the sector workforce.

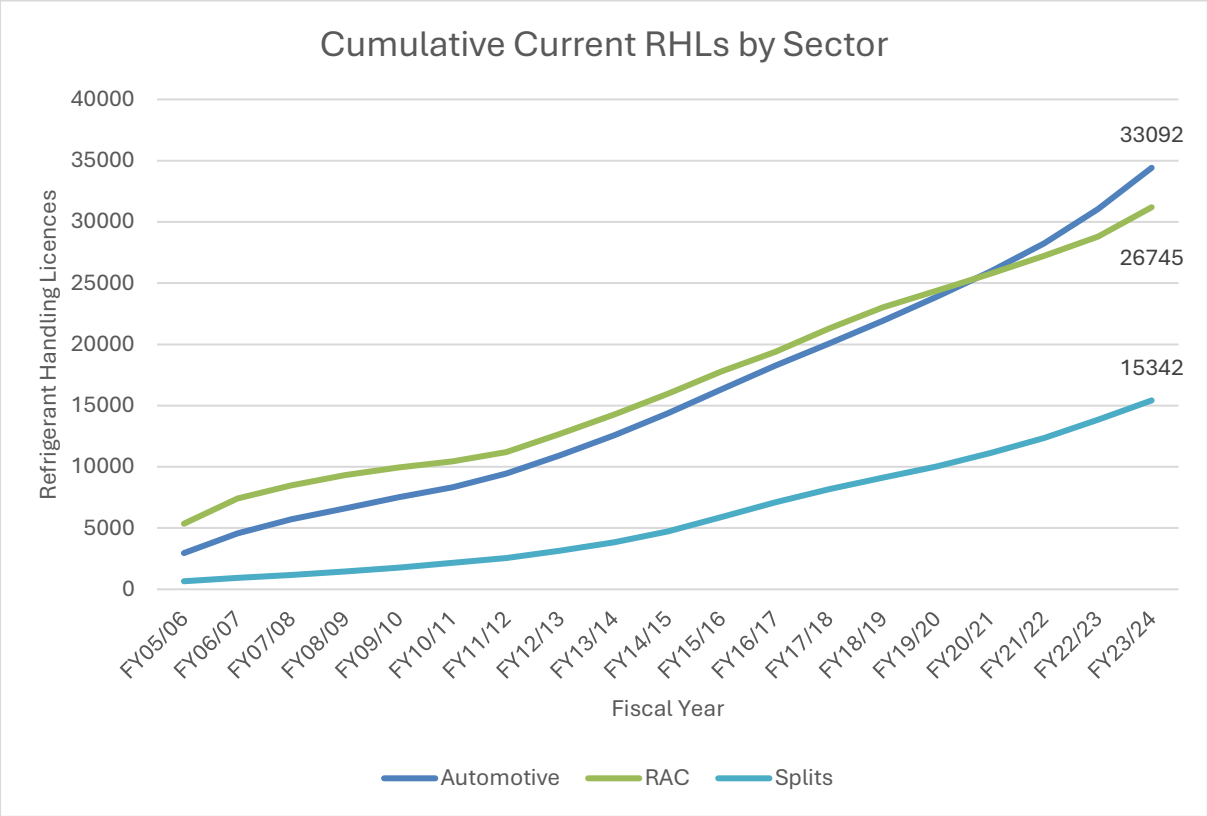
Yearly Growth of RTAs



The pattern for Refrigerant Trading Authorisations is similar to that of Refrigerant Handling Licences. RTAs also experienced a very solid year of growth, increasing by 1,926 or nearly 7.5% over the previous year, one of the largest raw number increases on record. It is worth noting that of the 1,926 RTAs that entered last year, 1,077 were Automotive Air Conditioning, 440 were Restricted Split Systems A/C Installation, and 282 were RAC, suggesting that Automotive is by far the highest grossing sector both in current and joining RTAs.

Refrigerant Handling Licence (RHL)

Cumulative Current Refrigerant Handling Licences by Sector

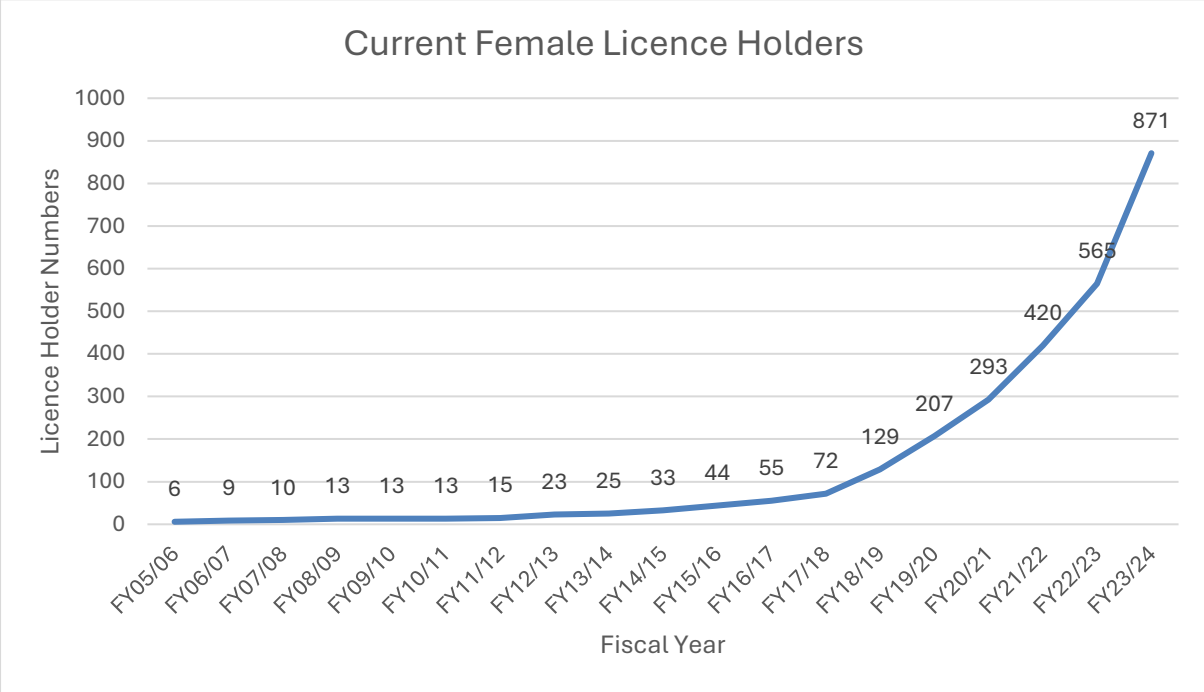


Of the 3 most popular licence categories, the automotive licence type has grown at the fastest rate, finally passing RAC in FY20/21 by just 192 licences, after tracking along similar lines for a number of years. Over the previous 3 years, each category has grown at a significant rate.

Interestingly, this growth has occurred despite the transition to new, lower-GWP refrigerants and highlights the level of ozone depleting substances and synthetic greenhouse gas refrigerants still in the bank.

In the past 10 years, restricted heat pump (split system) installation and decommissioning licences have also grown in popularity. These licences are most commonly obtained by qualified plumbers and electricians who have undertaken further study, and permit the handling of refrigerants for the installation or decommissioning of single-head split system air conditioners or 2-part hot water or swimming pool heat pumps, each with a capacity of less than 18kW. This growth has been consistent and has accelerated in recent years. This is in part due to the move to more energy efficient heating found in split system heat pumps which often sell more than 1 million units per year within Australia.

Current Female Licence Holders



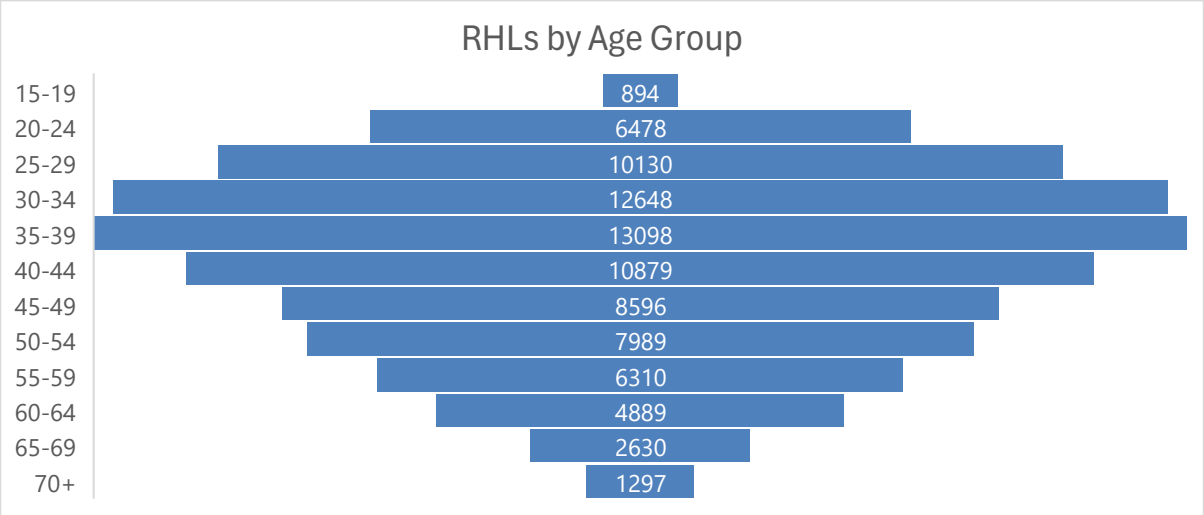
Understanding the gender balance in licence numbers is critical for identification of potential barriers to entry into the scheme and into the RAC industry.

Looking specifically at the growth of female licence holders, we can clearly see that the increase has been significant in the last 6 years. From the start of the current trend, FY 17/18, where there were 72 female licence holders, it has grown to 871 in FY23/24. That's an increase of 1100%. Even in the last financial year, the increase was around 50%. This would likely be due to a few reasons, most of all being a mix between the barriers to female participation in trades being slowly removed, as well as cultural norms shifting from trades being masculine centred occupations to being considered without the constraints of gender biases.

ARC has contributed significantly to these observed positive trends by actively promoting gender diversity in the industry through its communication channels. It includes gender-diverse depiction of technicians in its career promotion materials, industry videos and consumer marketing campaign creative assets, and promotes female success stories both on the tools and in business management in the *CoolChange* newsletter.

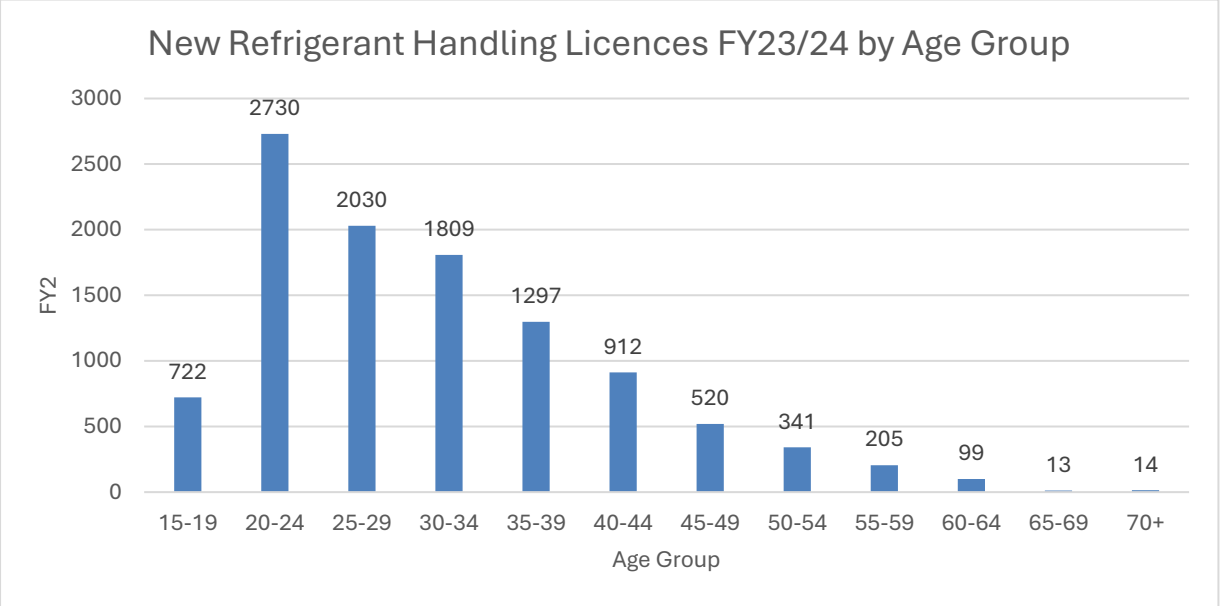
RHL by Age

RHLs by Age Group



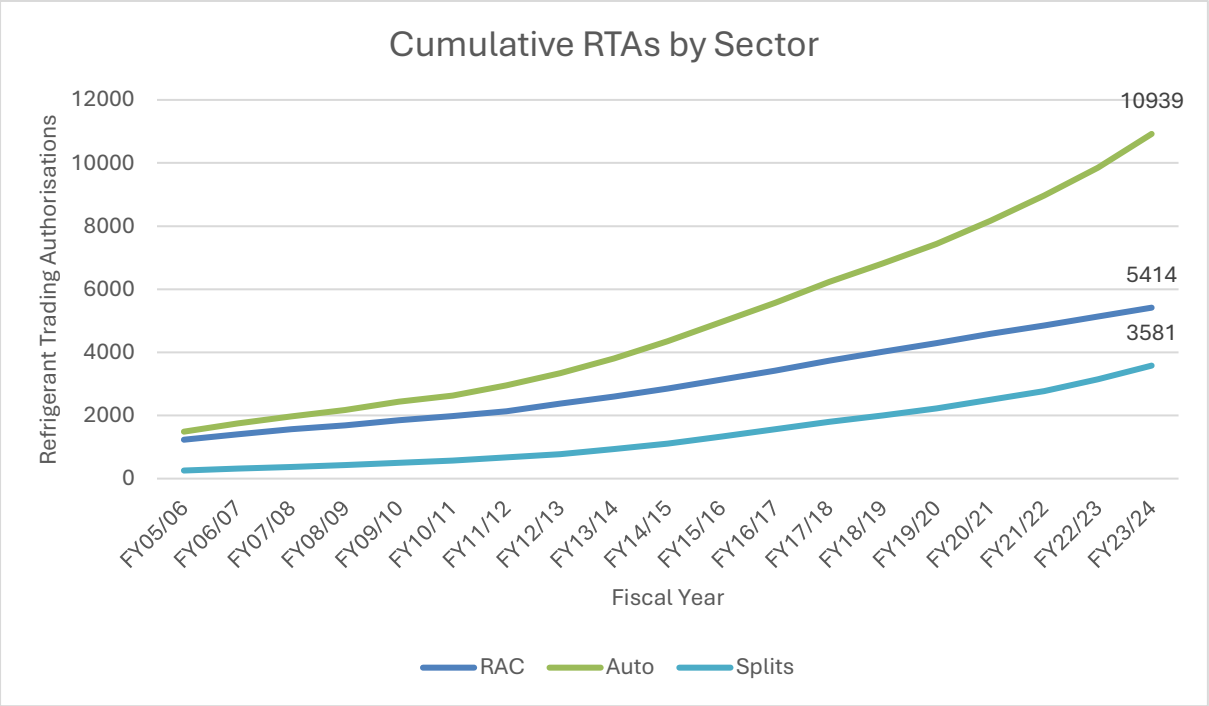
Looking at RHL age statistics, we can see that the dominant ages are between 30 and 39. With 30% in this age group and a further 21% under 30, more than half of licence holders are under the age of 40 – a much more youthful workforce in the climate control sector than many people think. Training licences account for 9% of all RHLs, which suggests that efforts by employers to recruit and retain new technicians are enjoying a level of success.

New Refrigerant Handling Licences FY23/24 by Age Group



Refrigerant Trading Authorisation (RTA)

Cumulative Refrigerant Trading Authorisations by Sector



As seen in the graph above, since the start of the permit scheme, RAC RTAs have seen consistent growth throughout the years, normally growing by around 200-300 RTAs annually. This is contrasted with the trend in Automotive RTAs, who had a similar growth rate until FY10/11. However, from then onwards the number joining each year started to increase, to the point where in the last few years, Automotive RTAs growth rate has

increased to around a thousand every year. This is more than the growth of RAC and Splits combined, indicating that Automotive RTAs have a solid place in the industry.

If the recent growth rate of RAC (~300 a year) remains similar and Split System RTAs (~400 a year) continues to increase its current growth rate, we could see the Split System RTAs overtake RAC RTAs within the next 10 years.

Accessibility to RAC services is critical to promote licensed services. More RTAs are available per person when the number is lower, which may indicate better service coverage and shorter wait times, or the average size of RTAs being larger in different states.

Refrigerant Trading Authorisations by Population and State

State	Population	Current RTAs (Including Branches)	Population Per RTA
New South Wales	8,434,800.0	6,409	1,316.1
Victoria	6,906,000.0	4,689	1,472.8
Queensland	5,528,300.0	6,584	839.7
South Australia	1,866,300.0	1,776	1,050.8
Western Australia	2,927,900.0	3,498	837.0
Tasmania	574,700.0	362	1,587.6
Northern Territory	253,600.0	462	548.9
Australian Capital Territory	470,200.0	235	2,000.9
Australia	**26,966,800.0**[1]	**2,4015**	**1,122.9**

The table above compares ABS data with the ARC's data to conclude what the population per RTA is. This in turn provides a picture of likely activity and accessibility per RTA.

Based on this data, we can see that the Northern Territory has a lower population per RTA, which suggests a higher number of RTAs serving a smaller population, while the Australian Capital Territory has the largest population per RTA, indicating fewer RTAs serving a larger population.

[1] Source: Australian Bureau of Statistics, National, state and territory population December 2023

When compared to other states and territory, the population per RTA ratio in the Australian Capital Territory is noticeably higher. This could indicate that more RTAs are required in this region to increase service accessibility.

Compared to the more populous states, Tasmania and Victoria have higher population per RTA ratios, despite disparities in total population. This could be the result of fluctuations in the demand for RTA services.

Processing

The ARC processes hundreds of thousands of enquiries every year from the industry and consumers. These include permit applications, phone calls, emails and occasionally letters, and can range from a simple change of address to assessing complex applications involving hundreds of locations.

A notable advancement in the ARC's processing capabilities was the development of an automated renewal system for Refrigerant Handling Licences (RHLs). This system, deployed at the beginning of FY24/25, will provide instantaneous licence renewals for RHL holders, significantly enhancing the speed and convenience of the renewal process. This innovation underscores ARC's dedication to leveraging technology to improve customer service and operational efficiency.

RHL and RTA Applications Received FY23/24

RHL	RTA	Total
48,620	11,541	60,161

ARC received a total of 60,161 applications in FY23/24. 48,620 (or 81%) of these applications, were for Refrigerant Handling Licences. 37,928 of these applications were renewal applications.

The other 11,541 (or 19%) were for Refrigerant Trading Authorisations (RTAs). 10,025 of these were renewal applications.

RHL and RTA Assessed

RHL	RTA	Total
43,370	9,597	52,967

ARC assessed a total of 52,967 applications during FY23/24. Many of these assessments (82%) related to RHL holders. Throughout the year, 72% of these RHL assessments were done in 0-7 days.

The remaining 9,595 application assessments were for RTAs for which the time to assessment was similar to the RHLs, with 74% assessed in 0-7 days.

RHL and RTA Application/Reapplication Approvals

	RHL	RTA	Total
2023-2024	48,433	10,133	58,566

Of the 48,620 RHL applications received, 48,433 (or 99%) were approved.

The approval rate for RTA applications was significantly lower than for RHLs. Of the 11,541 RTA applications received, 10,133 (or 87%) were approved. This lower approval rate is largely due to the more complex requirements of an RTA application, including equipment, qualified staff and up-to-date risk management plans.

Over the period of FY23/24 AI has been utilised to develop an automated RHL renewals system providing instantaneous licence renewals. This system will be deployed at the beginning of FY24/25, as part of ARC's commitment to customer service excellence.

Emails and Phone Calls

	Phone Calls	Emails	Total
2023-2024	54,493	37,037	91,530

The ARC answered a total of 91,530 queries from RHL holders, RTA holders, industry-based stakeholders and consumers. Of these, 54,493 queries were made over the phone to licensing staff, and 37,037 were made via email.

ARC is an information hub to industry. This promotes knowledge on good industry practice and contributes to a better-informed regulated community to the benefit of consumers.

Requests for Further Information

RHL	RTA	Total
14,852	6,238	21,090

Requests for further information are sent to applicants when not enough information is provided at the time of application. This could include proof of enrolments, statements of results, risk management plans and so forth.

In FY23/24, there were 21,090 requests for further information total, with 14,852 (70%) being related to RHLs, and 6,238 (30%) being related to RTAs. This shows that RTAs have a higher rate of requests for further information, as they only make up 19% of applications received. This is an indicator of the complexity of RTA applications, which require more information than RHL applications, such as equipment, risk management plans and employee information.

Education and Engagement Activities

The veracity of any licence or permit scheme is dependent on the sanction activities – compliance and enforcement. Whilst responsibility for investigation and enforcement sits with the Department of Climate Change, Energy, the Environment and Water, the education and engagement activities undertaken by ARC are vital to the success of the program.

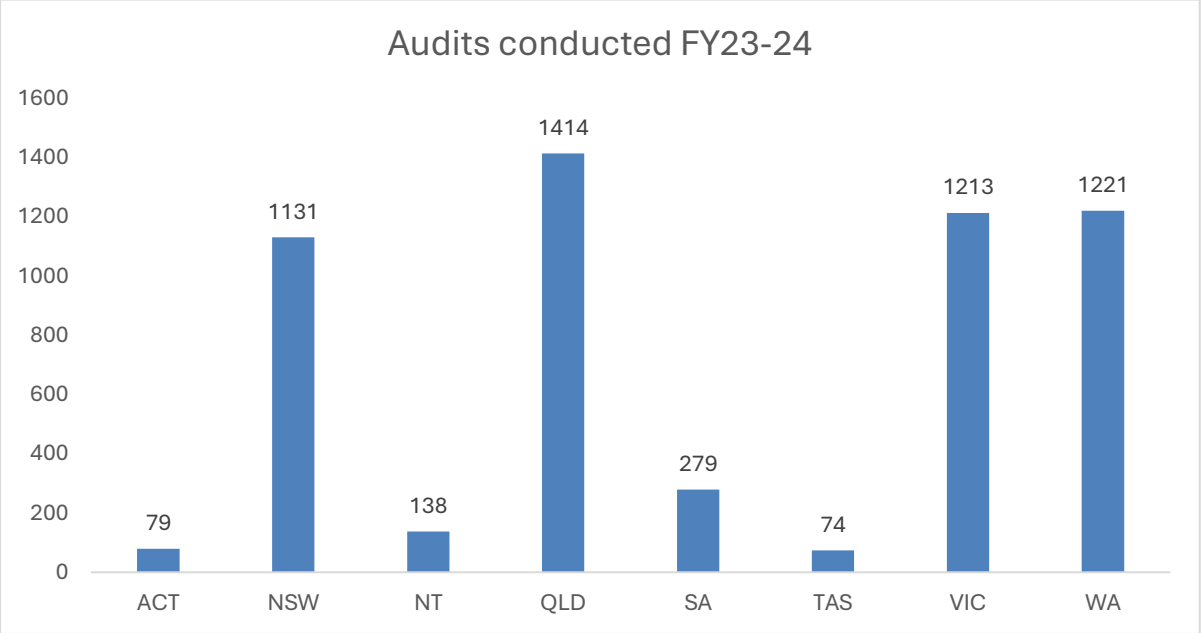
ARC delivers an engagement program supported by a national team of field officers that engage with permit holders, consumers and industry stakeholders. In the first instance engagement activities are educationally focused. However, if non-compliance is identified and not rectified in a timely manner, then matters are formally referred to the department. Typically, 99% of permit holders who are initially found non-compliant during a routine audit achieve compliance within 90 days and do not require escalation. ARC's engagement strategy is based on a combination of risk, geographic distribution, and industry sector considerations.

Audits

With the implementation of the new contract in November 2023, the ARC's RTA audit program has undergone significant enhancements. This includes the addition of 6 new field officers across Australia, expanding the field engagement program and ensuring all RTA holders are visited within each 3-year period. In addition, the ARC has committed to ensuring that all new RTA holders receive a visit within 12 months of joining the permit scheme.

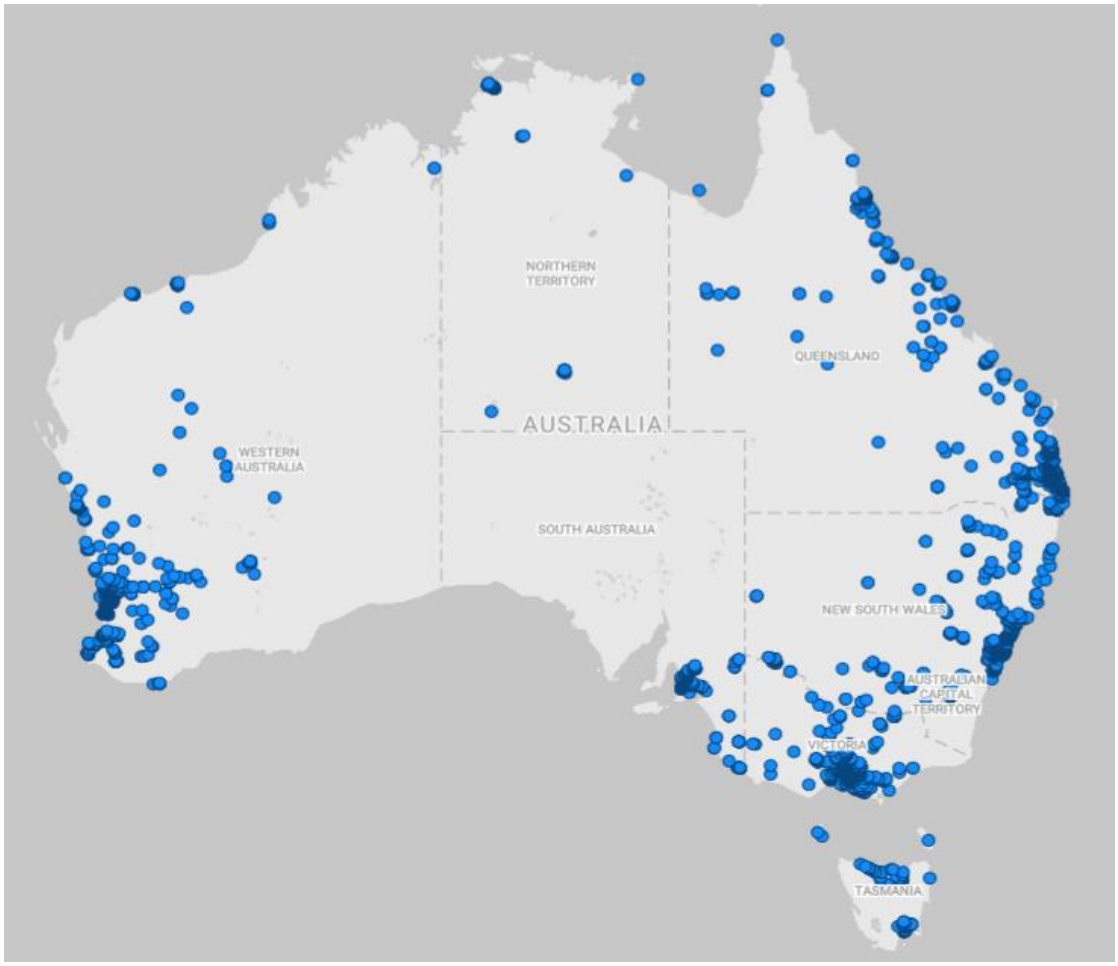
During FY23/24, ARC field officers conducted 5,549 permit condition checks on holders of a Refrigerant Trading Authorisation, covering 23% of all current permit holders. Permit condition checks were carried out nationwide across all states and territories, with priority given to permit holders new to the scheme or who had not previously received a field engagement visit.

Audits Conducted FY 23-24



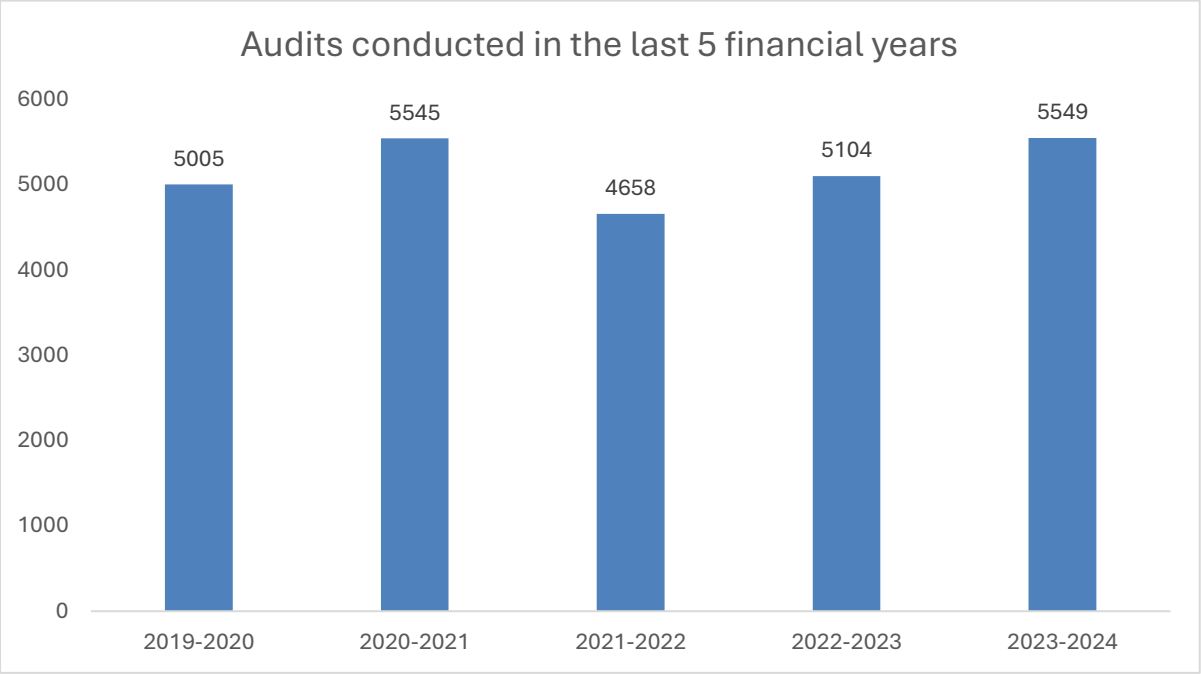
Total number of audits for FY23/24 is 5,549.

Audits mapped by Latitude/Longitude



Map representation of audits conducted in FY23/24.

Audits conducted in the last 5 financial years



Total number of audits for the last 5 years is 25,861.

Compliance rate

During FY23/24, 3,723 permit holders were found compliant in meeting the conditions on their authorisations at the time of first audit, representing 67.1% of all permit holders who received a permit condition check.

Audit numbers by outcome and Financial Year

Audit numbers by outcome and Financial Year				
FY	**Compliant**	**Non-compliant**	**Total**	**Compliance rate**
19/20	2,937	2,068	5,005	**58.7%**
20/21	3,388	2,157	5,545	**61.1%**
21/22	3,334	1,324	4,658	**71.6%**
22/23	3,583	1,521	5,104	**70.2%**
23/24	3,723	1,826	5,549	**67.1%**

Non-compliance

During FY23/24, 1,826 permit holders were found non-compliant in meeting the conditions of their authorisation at the time of first audit, representing 32.9% of all permit condition checks.

Non-compliance percentage by State/Territory and Financial Year

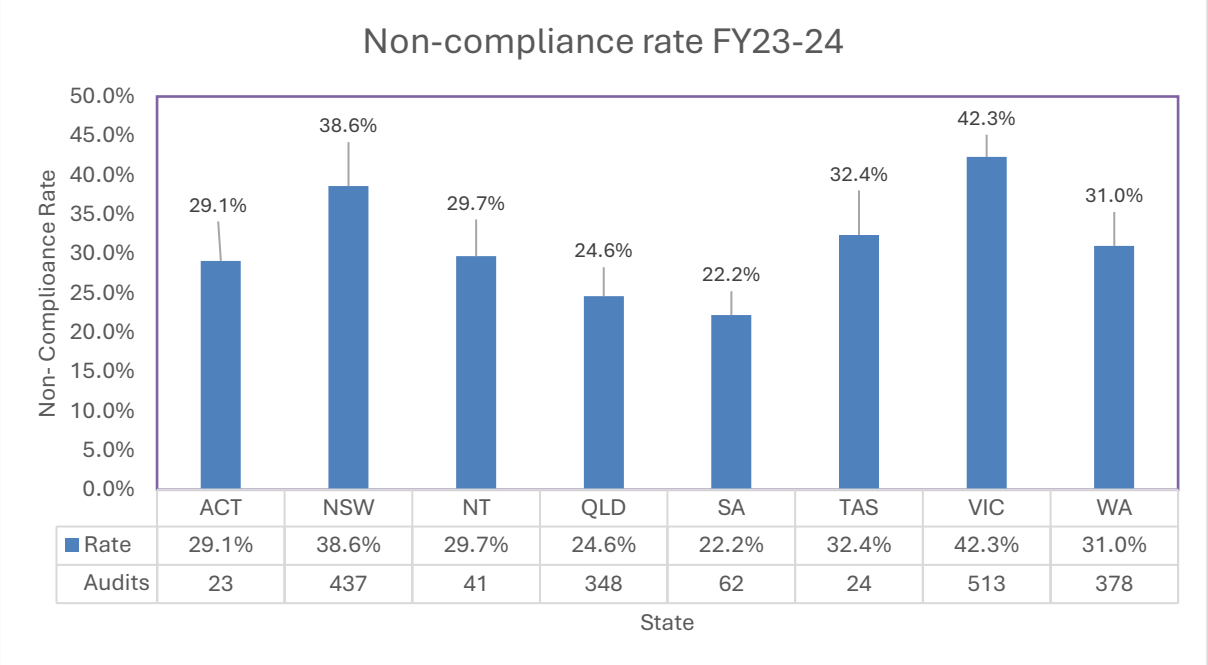
Non-compliance percentage by Financial Year and State/Territory									
FY	**ACT**	**NSW**	**NT**	**QLD**	**SA**	**TAS**	**VIC**	**WA**	**Total**
19/20	0.0%	47.0%	9.6%	41.8%	21.4%	38.9%	43.0%	51.3%	**41.4%**
20/21	28.6%	45.4%	34.8%	34.3%	21.7%	47.9%	33.2%	54.2%	**38.9%**
21/22	26.3%	29.5%	26.8%	24.4%	15.9%	25.7%	34.1%	35.3%	**28.4%**
22/23	66.7%	27.5%	29.1%	26.6%	16.7%	50.0%	42.5%	24.7%	**29.8%**
23/24	29.1%	38.6%	29.7%	24.6%	22.2%	32.4%	42.3%	31.0%	**32.9%**

Approximately 99% of RTAs audited are completely compliant by the time of the 4th audit.

Any non-compliance at the time of renewal of an RTA is considered as being potentially not 'fit and proper'. In FY23/24 there were 87 RTAs not renewed due to ongoing non-compliance. In a sector with more than 20,000 authorisation holders, these figures reflect a low rate of participants found to be not 'fit and proper'.

All cases of non-compliance are reviewed by the department with serious matters formally investigated and compliance action taken.

Non-compliance rate FY23/24



Among industry sectors that had a minimum of 100 audits conducted, the Split Systems A/C Installation sector returned the highest rate of non-compliance at 40%.

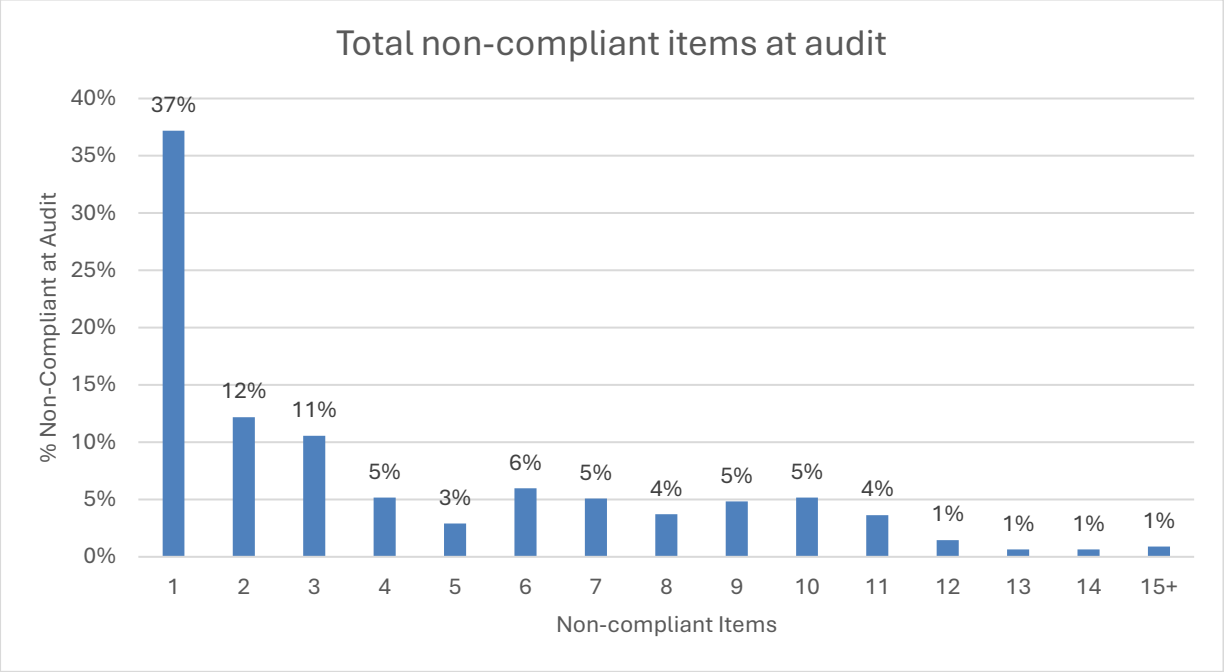
Compliance Rate by Industry Sector

Compliance Rate by Industry Sector			
Industry Sector	Compliant	Non-compliant	Non-compliance Rate
Automotive	1940	1001	34%
Stationary RAC	778	348	31%
Split Systems A/C Installation	545	360	40%
Refrigerant Wholesaler	254	24	9%
Domestic RAC	140	58	29%
Transport Refrigeration	19	14	42%
Marine	9	7	44%
Aviation	9	3	25%
Manufacturer	6	6	50%
Restricted Automotive Parts Recycler	5	2	29%
Restricted Waste Management	5	2	29%
Restricted Split Systems A/C Installation - No Purchase	5	1	17%
Restricted Metal Recycler	4	0	0%
Restricted Refrigerant Recoverer	4	0	0%

Of the permit holders found non-compliant at audit, 74% were non-compliant on 6 or less regulatory requirements.

This information is fed into targeted communication for each state/territory which identifies key non-compliance issues which the communications strategy addresses.

Total non-compliant items at audit



Non-Compliance based on audit items

Non- Compliance based on audit items	
Audit Item	**% of non-compliant audits**
Has records of equipment maintenance for the last two quarters	43%
Has cylinder leak test records for the last two quarters	43%
Has include RTA number on all stationery, invoices, etc.	38%
Has leak tested all cylinders in the last two quarters	35%
Has included RTA number on all advertising	31%
Has bulk purchase records for the last two quarters	29%
Has bulk recovery records for the last two quarters	28%
Has bulk sales record for the last two quarters	26%
Has a properly operating leak detector	24%
Has a properly operating refrigerant recovery unit	22%
Has a properly operating vacuum pump	20%
Has refrigerant cylinders that are in their test date	19%
Has records of refrigerant handling staff for the last two quarters	19%
Has put into effect a risk management plan	17%
All staff handling refrigerant are licensed	5%
Has a leak detector	4%
Has a refrigerant recovery unit	3%
Has a vacuum pump	2%
All trainee and/or transitional licence holders handling refrigerant are supervised	2%
Does not have disposable cylinders in their possession	1%

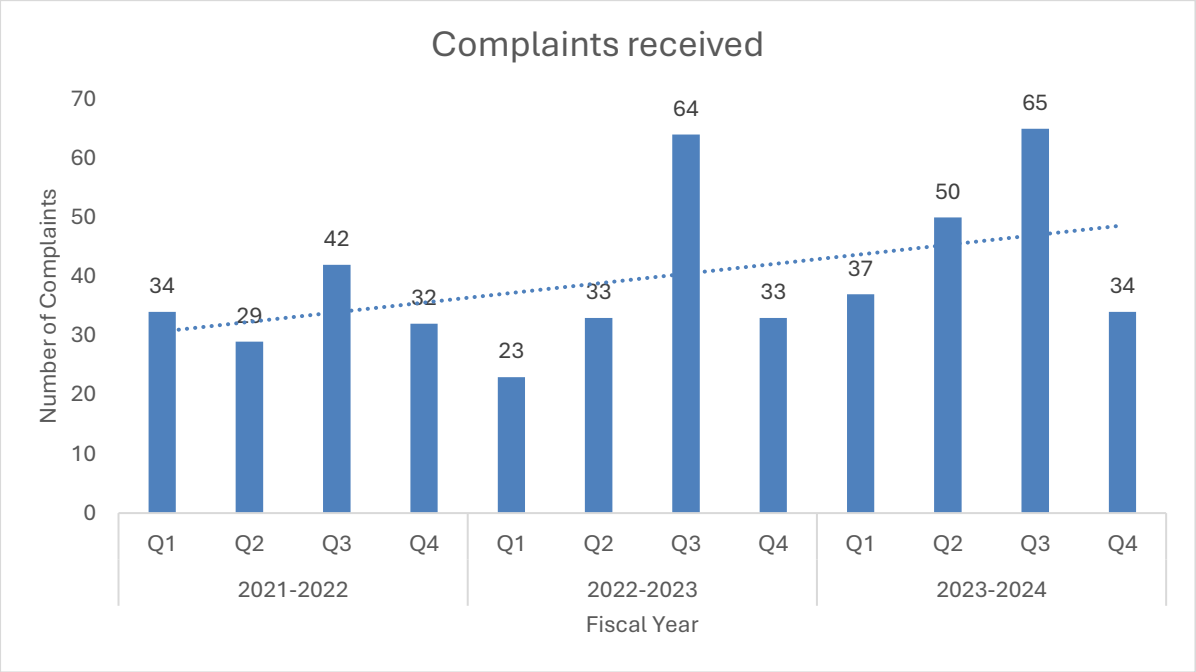
Current status of non-compliant audits

Current status of non-compliant audits				
FY	**Compliant**	**Non-compliant**	**Brought into compliance**	**Still non-compliant**
21/22	1238	85	94%	6%
22/23	1447	74	95%	5%
23/24	1689	137	92%	8%
		Average	**94%**	**6%**

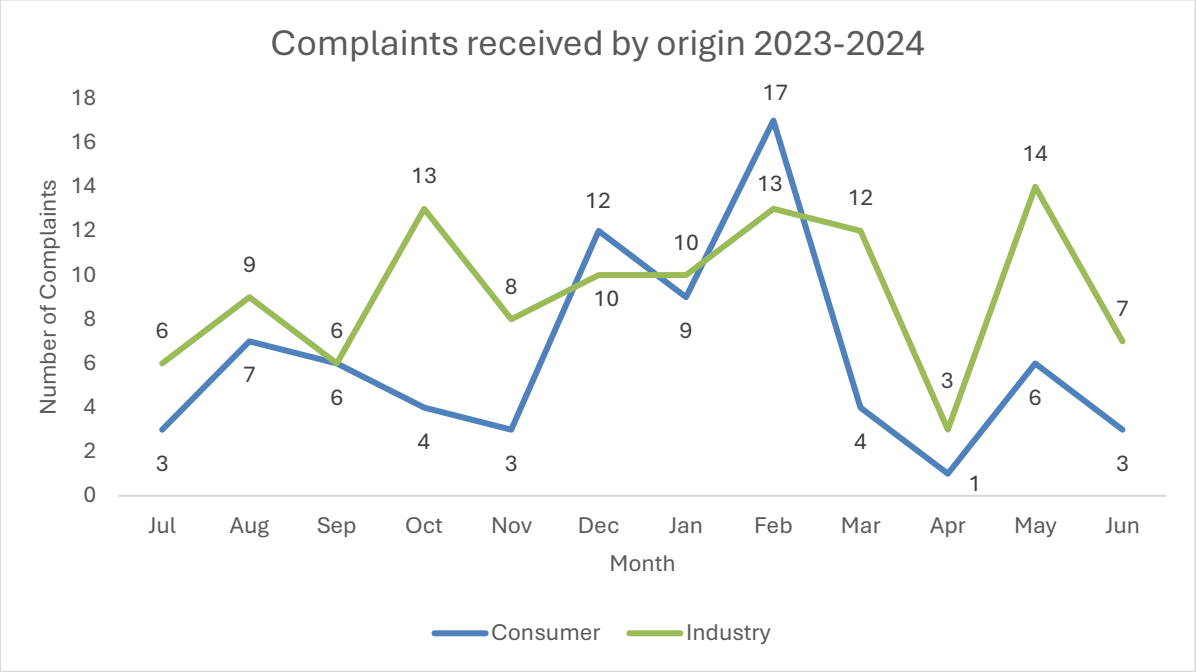
These outcomes represent a whole of industry approach to meeting the challenges facing the country and community in reducing the effect of these harmful substances impacting the environment and our way of life. This is further reflected by the high rate of RTAs with our assistance returning to compliance in a short space of time.

Complaints

Complaints Received by Fiscal Year and Quarter



Complaints received by origin FY23/24



Complaints received during FY23/24 totalled 186, the highest recorded number since commencement of the permit scheme. Of these 186, 60% originated from within the industry, while the remaining 40% were from consumers.

Complaints are shown to be on an overall upward trend, an indicator of the success of broader communications activities, the improved profile of the industry and of ARC.

The alignment of complaint numbers broadly matches key communications activities, demonstrating their successful impact.

Training

Training quality associated with qualifications is the foundation upon which the permit scheme is built.

As part of the ARC constitution and as co-regulator to the RAC industry, ARC's role in training is to provide technical advice to training regulators to support fit for purpose competencies. This includes ensuring they align with the Australian Government's permit scheme which we administer on the government's behalf.

The strategy of working with the training sector is intended to Support the RAC workforce receives high quality and industry relevant training that maximises environmental outcomes.

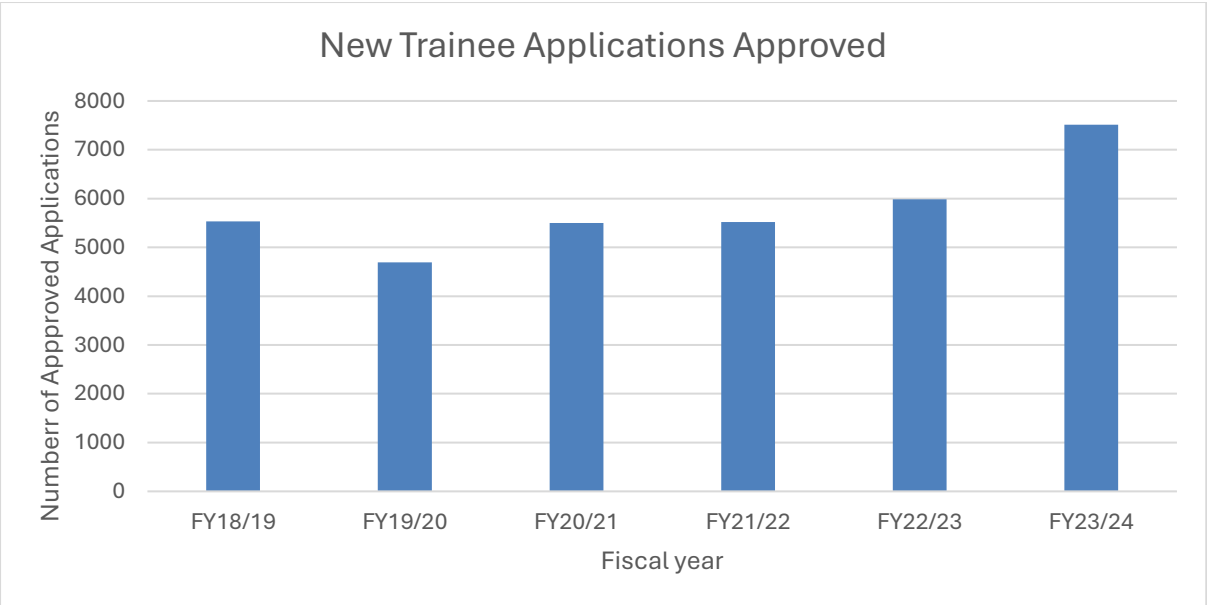
During this financial year, 2023 RTOs were visited across the 2 main industry sectors, stationary and mobile. A key part of the ARC engagement is to provide technical advice as part of a review of the qualifications to ensure that training is consistent with the operational needs of the permit scheme. This includes resource material that includes the scheme primarily, and also the importance of the current code of practice and industry standards that are pivotal for positive outcomes when applied. A chance introduction with early-stage learners is encouraged to promote the importance of the 'why'.

Our ongoing work with Jobs and Skills Councils for both the stationary and mobile sectors continues at various levels from Technical Advisory Groups to Strategic Groups. Our focus on Net Zero and energy efficiency has progressed in collaboration with these Councils towards building a training package fit for purpose and job ready – a training package that creates pathways for upskilling current workers and new learners entering the climate control industry. Ultimately, improvements in training minimise direct emissions and indirect emissions through installation quality reducing electrical demand (especially peak load).

The ARC also works proactively and in partnership with ASQA by providing technical advice on RTOs which are attempting to deliver substandard courses, usually. Evidence is gathered and provided to the appointed regulator for their escalation, ensuring training quality remains a critical element of any competency/qualification-based scheme.

Importantly, the increase in training numbers is a lead indicator for the health of the RAC industry. Workforce supply responding to demand.

New trainee applications approved



The positive growth in trainee numbers in recent years is an indicator of two (2) things;

- Improved understanding of trainee requirements
- Increased profile of the RAC industry

Importantly, due to the permit scheme, non-compliance rates of apprenticeships are particularly low – typically around 10%, considerably lower than in other trades.

These figures reflect a workforce sector that is growing – driven at least in part through a combination of the scheme requirements and through the broader promotional activities of the ARC in identifying and promoting the RAC industry as a career of first choice for students.

Communications

Effective communication is essential to the success of the Ozone Protection and Synthetic Greenhouse Gas Management Permit Scheme. The success of the communications is maximised by the co-regulatory partnership . The ARC industry board and ARC member organisations facilitate access to effective, credible industry and consumer pathways through the communication channels of their various organisations.

The Communications strategy has three (3) key components:

- Consumers – encourage the use of licensed persons
- Licensed persons – clarify the value-add benefits of the permit scheme
- Non-licensed persons – clarify the value-add benefits of the permit scheme and consequences for working without a licence.

These objectives are achieved for the most part through broader promotion of the RAC industry, the permit scheme, and through the promotion of the 'why' of the permit scheme to both industry and consumers.

- Consumer theme of 'Look for the Tick' – this is central to all consumer messaging and is also cross-promoted to permit holders to encourage their use of the ARCtick logo, thereby increasing public awareness of the permit scheme and the individual permit holder's commitment to it.
- Career of first choice – this is a consistent theme used in communications aimed at high school students, their parents and their careers advisers. It is central to ARC's support for *CCN* magazine's 'NextGen' program.
- Government and industry partnership – another element of fundamental messaging, this reinforces the fact that licensed technicians and the businesses that employ them are all part of a combined effort by government and industry to

prevent avoidable emissions of ozone depleting substances and synthetic greenhouse gases.

- The value of individual contributions – in addition to characterising permit holders as 'hands-on heroes of environmental protection', ARC reinforces the value of individual contributions by both consumers and people in the industry to protecting the planet.

Specific messaging will continue to be tailored to address topical themes and to take available opportunities to weave the refrigeration industry and its world-leading permit scheme into a wider public narrative.

ARC communications with the industry, consumers and the wider population all share the common objective of educating the broader population about the significance of refrigeration and air conditioning to modern society, the negative environmental consequences of refrigerants if they are not properly handled, and the importance of a well-regulated industry of licensed technicians.

The communication channels are:

- ARC licensing website www.arctick.org
- ARC consumer website www.lookforthetick.com.au
- ARC quarterly newsletter *CoolChange*
- Exhibiting at major biennial industry shows and conferences including ARBS, AAA Expo, VASA Wire & Gas
- Presentations at conferences and industry events run by related bodies including AIRAH, VACC, RWTA and FMA
- A suite of promotional and information materials in both digital and hard copy form including:
- Fact Sheets on technical and regulatory topics
- Information booklets, sheets and posters on issues such as leak prevention in various industry sectors
- Career information booklets for students
- Consumer information on air conditioning and refrigeration in both the stationary and automotive/mobile sectors
- Annual consumer marketing campaign promoting licensed technicians and businesses through Google, Facebook, YouTube and Connected TV.
- Regular media releases and feature stories promoting licensing and environmental themes through industry and related media, including *CCN* (Climate Control News), AIRAH *HVAC&R News*, VASA *SightGlass*, e-News services by organisations such as RWTA and FMA, and specialist media in the building and automotive sectors.

Each year the ARC pursues growth targets for the effectiveness of its communication activities. For the licensing website these targets are in line with growth in permit holder numbers, while there are 5% growth targets for readership of the *CoolChange* newsletter and engagement by the digital marketing campaign.

All collateral and assets are subject to on-going monitoring for accuracy, style and currency, and digital assets are checked monthly, including checking of links.

ARC's websites are a primary communication channel: www.arctick.org for permit holders and the industry in general; and www.lookforthetick.com.au for consumers. These websites are referenced in numerous links from the ARC's other communication channels, and in turn link to outside sites such as DCCEEW web pages and other safe sources of accurate information.

Visitor numbers for these websites show a consistently upward trend, overlaid by seasonal factors – a key indicator of RAC industry and the scheme profile. For licensing there are certain times of year when a concentration of renewal activity increases visits to information pages about licence applications, while consumer site visits are massively driven by the digital marketing campaign that runs from October to March inclusive.

www.arctick.org Top webpages visited in 2023-24

Webpage	Q1	Q2	Q3	Q4
Homepage	30,422	30,614	30,498	31,694
RHL Renewal	19,724	21,760	19,827	20,984
RHL New Application	20,817	19,351	16,267	11,512
Licence Types	18,182	18,759	7,732	10,805
RHL information	9,259	13,694	13,863	14,916
Contact Us	6,070	6,219	5,390	4,771
RTA Renewal	5,718	7,616	5,464	3,674
Trainee licence	6,704	5,336	3,295	3,138
RTA Information	4,376	5,637	3,903	1,854
RTA Templates and Guides	5,245	5,552	3.237	2,728

Page visits for www.lookforthetick.com.au illustrate the powerful impact of the digital consumer marketing campaign conducted each summer from October to March inclusive. For example, business search peaked at 32,659 in Q2 and was only 7,541 in Q4. An exception relates to the visitor rates for checking RHLs, which remain high throughout the year.

www.lookforthetick.com.au Top webpage views in 2023-24

Webpage	Q1	Q2	Q3	Q4
Business search	9,569	32,659	25,465	7,541
Homepage	3,412	7,039	4,595	3,287
Licence check	23,850	31,164	26,037	30,659
Air con guide (info page)	585	26,745	8,043	413
FAQ Home air con	609	1,954	871	39
FAQ – Car air con	258	3,357	994	83
FAQ page	326	1,064	183	223
FAQ Fridges and Freezers	122	992	240	59
FAQ – How do I check an ARC licence?	786	582	1,599	2,840
About	350	1,128	217	169

CoolChange newsletter

ARC's quarterly *CoolChange* newsletter remains the main communication channel for permit holders and stakeholders. *CoolChange* is issued at the end of January, April, July, and October, and distributed to approximately 100,000 email recipients and in 25,000 hard copies. It is the most widely read publication in the refrigeration and air conditioning industry.

The most-read stories are generally those about enforcement activity and technical information, while stories on compliance and RTA record keeping are regular features which are well received. Key stories in *CoolChange* and their readership are highlighted as follows:

CoolChange #69 – July 2023

- Record keeping can be easier than you think - 2,321
- New EPA on the way - 2,289
- RAC workforce aged in its prime -1,309
- Standards update - 989
- High GWP restrictions next year - 986

CoolChange #70 – October 2023

- ARCtick trainee licences essential - 3,056
- Record keeping leads to theft conviction - 2,147
- Heat pumps pose end-of-life challenge - 2,043
- Summer Campaign takes it up a notch - 1,999
- Are you sure of what you're handling? - 1,247

CoolChange #71 – January 2024

- Annual increase in ARCtick fees frozen for 2024 - 3,128
- New funding gets more boots on the ground - 2,678

- Don’t miss out on ARBS - 976
- New VETASSESS website - 786
- ARCtick Award honours top fridgies – 574

CoolChange #72 – April 2024

- Tradie to Trainer - 6,025
- The importance of refrigerant analysers -2,740
- ARC welcomes strengthening of ASQA - 1,343
- Antarctic fridgie role suits the adventurous - 1,209
- FROM THE FIELD: Essential equipment for splits - 811

The successful delivery of 99.53% of the emails sent reflects the excellent performance of the Vision6 bulk email marketing platform (which was adopted in place of the under-performing Sendgrid platform in March 2024), while the figures for 61.37% unique opens and 15.37% initial page views are very strong in terms of industry standards for readership of unsolicited emails from a known sender.

***CoolChange* Average – Email delivery metrics**		
Sent – the total number of email addresses on our sending list	98,690	100%
Delivered – the number that appeared in recipients’ inboxes	98,229	99.53%
Unique opens – the number of people who opened the email	60,569	61.37%
Total initial page views – total of all click-throughs from the email to whichever story a reader chooses to view first	15,164	15.37%

Conference Engagement and Industry Events

The ARC attends industry events and conferences in both the RAC and automotive sectors throughout the year. At many of these, the ARC managers deliver presentations on licensing and compliance topics relevant to the individual event. Its presence at industry shows includes:

Exhibiting at major biennial industry shows and conferences including Australian Automotive Aftermarket Expo (AAAE), Air Conditioning, Refrigeration, Building Services Exhibition (ARBS), and VASA Wire & Gas

Presentations at conferences and industry events run by related bodies including AIRAH, VACC, and FMA

Conference Engagement and Industry Events Timeline

Timeline summary	Date	Comments
AIRAH industry night	20/02/2024	RAC industry event – attended by ARC
VACC member roadshow – Warrnambool	22/02/2024	Automotive industry event – presentation given by ARC
FMA Expo	22/02/2024	RAC industry event – attended by ARC
VACC member roadshow – Bendigo	14/03/2024	Automotive industry event – presentation given by ARC
AAA Expo, Melbourne	11/04/2024 - 13/04/2024	National industry event – attended by ARC
VACC member roadshow – Traralgon	02/05/2024	Automotive industry event – presentation given by ARC
ARBS 2024, Sydney	28/05/2024 – 30/05/2024	National industry event – ARC attended and exhibited
ARBS 2024 seminar program	28/05/2024	National conference presentation on licensing by ARC
RACTA meeting at ARBS	28/05/2024	National industry meeting – Licensing presentation by ARC
RACTA meeting at ARBS	28/05/2024	National industry meeting – Net zero presentation by ARC
VACC member roadshow – Mildura	20/06/2024	Automotive industry event – presentation given by ARC

Media contribution

ARC is achieving an increasingly high media profile for licensing and compliance through a combination of targeted media releases and feature stories, all promoting the importance of licensing in protecting the environment. Media releases and features include both the RAC and automotive industry media.

Media Releases and Feature Stories FY23/24

Release / Feature story	Date
Media release: Pair coil survey seeks industry input	16/08/2023
Media release: Ozone-depleting refrigerants less than ever	15/09/2023
Media release: Greg Picker elected as ARC Chair	01/12/2023
Media release: Freeze on fee increase	17/01/2024
Media release: ARC welcomes strengthening of ASQA	09/02/2024
Media release: Licence fees frozen	03/01/2024
Media release: ARC welcomes strengthening of ASQA	09/02/2024
Media release: The importance of refrigerant analysers	26/03/2024
Feature story: 'ARC Insights' in VASA *SightGlass*	01/04/2024
Media release: Fridgie on the move	09/04/2024
Feature story: *CCN* Nextgen introductory message	09/04/2024
Feature story: AAA Expo exhibitor listing	11/04/2024

Video release for *CCN*: Nextgen message	18/04/2024
Feature story: ARC licensing for *CCN* ARBS preview	01/05/2024
Feature story: 'ARC Insights' in VASA *SightGlass*	05/06/2024

ARC's releases result in a very high publication rate in industry media, with virtually all published in *CCN* (Climate Control News) and in AIRAH's *HVAC&R News*, both online and in print. In addition, industry bodies such as FMA and RWTA publish releases when the subject is relevant to their members, and various automotive publications also run the releases when the subject matter is within their editorial scope.

Digital consumer marketing campaign ('Summer Campaign')

The ARC conducts a major digital consumer marketing campaign from October to March inclusive, often referred to as the Summer Campaign.

For 2023-24 the campaign was developed with updated creative and the same general media mix as the previous year, combining Facebook and Google marketing plus video commercials on YouTube and the successful Connected TV initiative.

The campaign was recognised by being a finalist at the 2024 Banksia Awards.

The 5 key metrics showed strong growth and all achieved their growth targets, with Facebook downloads achieving the 5% growth target and the other metrics achieving much higher than 5% growth. As the table below shows, the highest percentage growth was for use of the business search and licence check functions.

'Summer Campaign' year-on-year % growth over the last 5 years

'Summer Campaign' year-on-year % growth over the last 5 years					
Metrics	2019-20	2020-21	2021-22	2022-23	2023-24
Use of Business Search Directory	4,844	4,820	10,243	10,983	16,811
y-on-y % increase		*0%*	*112%*	*7%*	*53%*
Use of Licence Check Facility	1,871	1,947	2,962	4,796	7,789
y-on-y % increase		*4%*	*52%*	*61%*	*62%*
Download: Home Air Con Guide	483	763	2,250	2,886	4,106
y-on-y % increase		*57%*	*194%*	*28%*	*42%*
Download: Auto Air Con Guide	75	90	281	1,274	1,502
y-on-y % increase		*20%*	*212%*	*353%*	*18%*
Guide download: Facebook leads	3,547	3,798	4,662	5,658	5,963
y-on-y % increase		*7%*	*22%*	*21%*	*5%*
Total Guide Downloads	4,105	4,651	7,193	9,818	11,319
y-on-y % increase		*13%*	*54%*	*36%*	*15%*
Website Visits	42,905	52,530	78,648	121,469	83,675
y-on-y % increase		*22%*	*49%*	*54%*	*-31%*

The communications strategy has seen overwhelming growth in engagement with both industry and consumers. This in turn has seen the profile of the RAC Industry and the scheme increase over time. Such figures demonstrate the success of the communications strategy.

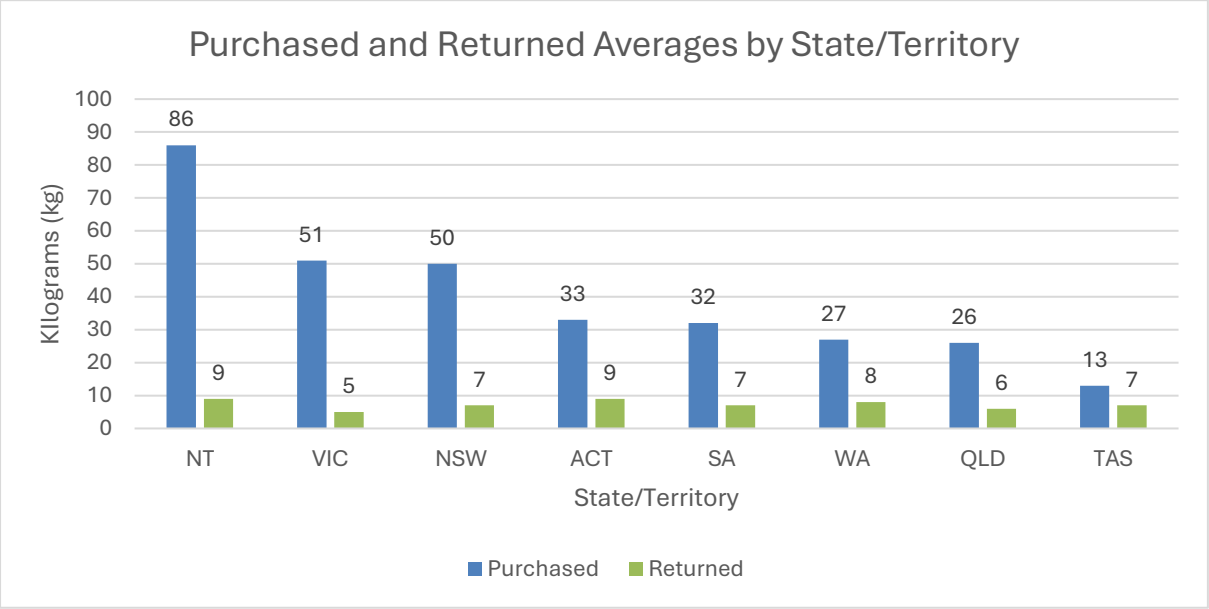
Refrigerant Purchases and Returns

A better understanding of how much refrigerant is purchased and returned gives a broader understanding of the risk of emissions – a key objective of the scheme.

ARC Field Officers collect information on the amount of refrigerant purchased and returned for the previous 2 quarters as part of the audit process. This data gives a 'micro' view of refrigerant management at a localised level.

In this financial Year, 200,721 kg of refrigerant was purchased over 5,249 audits, excluding Refrigerant Wholesalers. Of these audits, 2,286 (or 43%) provided reports of purchases at the time of audit. On Average, 38kg of Refrigerant was Purchased, and 6kg was Returned for destruction.[2]

Purchased and Returned Averages by State/Territory



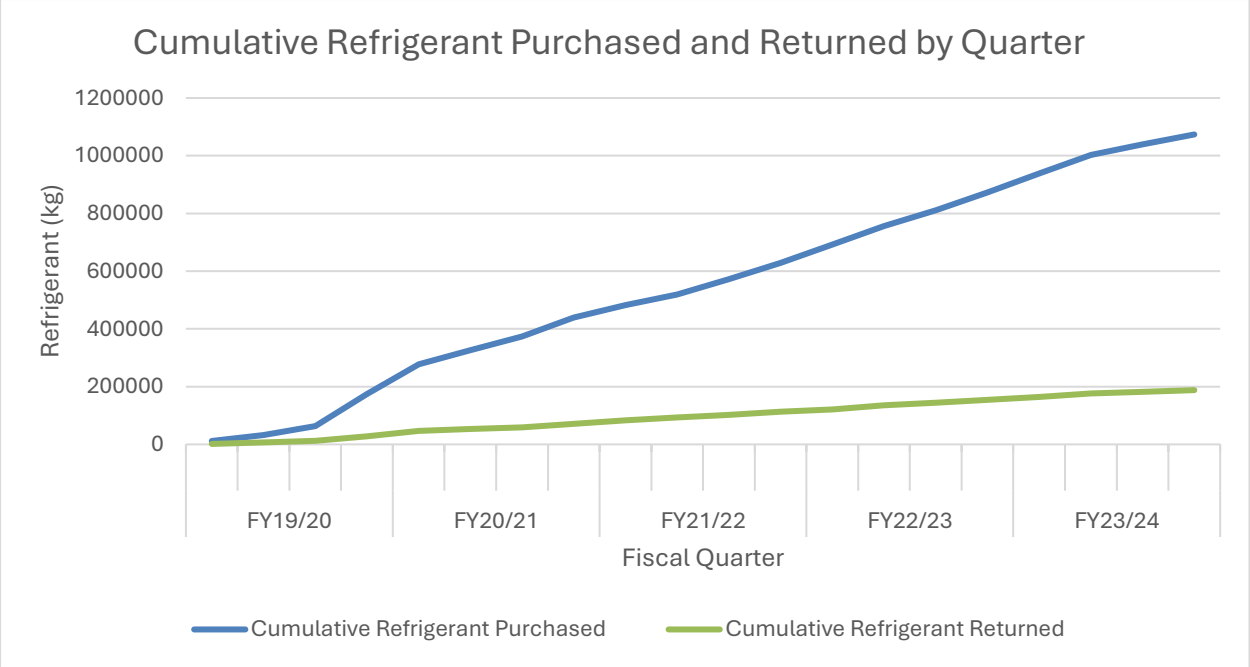
Out of all the states and territories in Australia, the Northern Territory had by far the highest average purchase amount, being 86kg, and together with ACT had the equal highest average refrigerant return amount with ACT, being 9kg. This number drops significantly when viewing second and third highest, being VIC and NSW, with 51kg and 50kg respectively. This could be due to a few factors, most likely being related to hotter climate in the Northern Territory.

[2] Actron Engineering has been excluded from the data analysis as it greatly skews all averages across the board by around 25%.

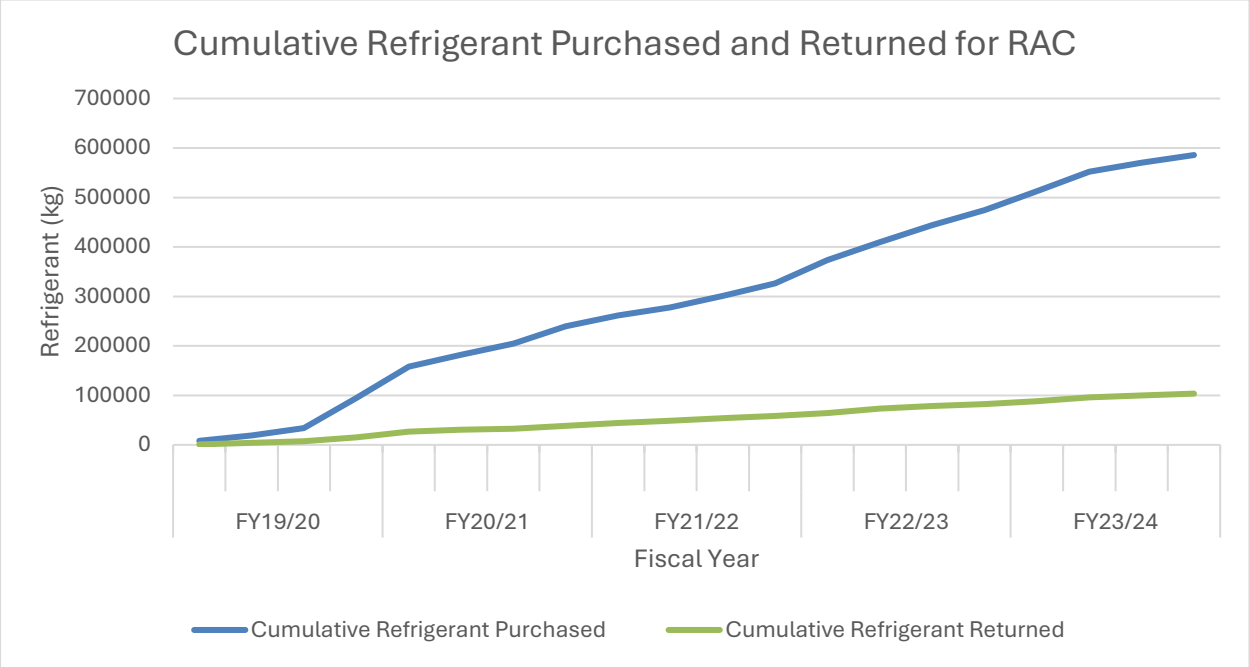
Further analysis identifies that RAC purchase records have a high dispersion – that being many of them sit far away from the mean amount of 38kg, either much lower or much higher. This is likely due to the nature of work conducted by the individual RTA significantly impacting the amount of refrigerant they purchase, being particularly noticeable in the RAC sector, where the scope of work can change drastically from one RTA to another. This is different to Automotive and Split Systems RTAs, where the average RTA sits much closer to the average purchase amount, and generally, the scope of work is much tighter.

Trend Analysis 2019-2024 FY

Cumulative Refrigerant Purchased and Returned by Quarter



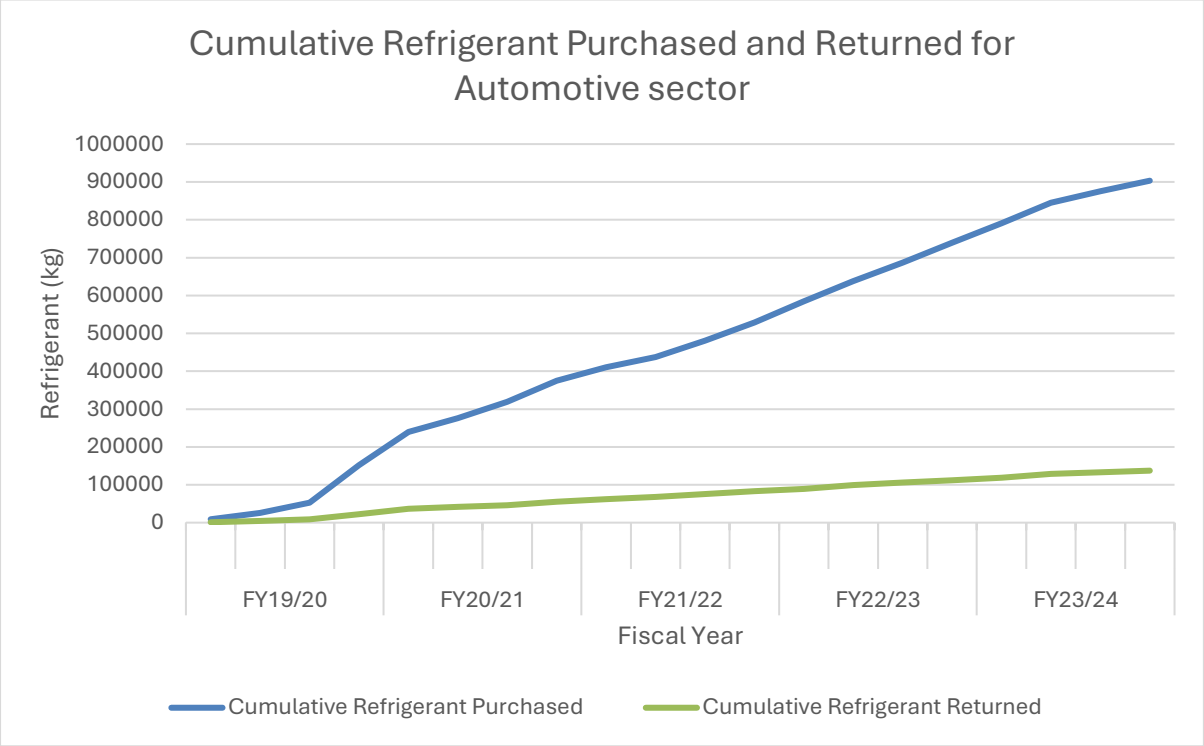
Cumulative Refrigerant Purchased and Returned for RAC



Looking at the Cumulative Refrigerant Purchased and Returned, apart from the initial jump where recording started, we can see the overall refrigerant purchases have been increasing at a steady rate for the last 4 years. The concerning part is how little the Refrigerant Returns are growing in relation to the Refrigerant Purchases. We can clearly see that a much lower amount of refrigerant is returned and has levelled out, particularly in the last financial year.

Looking specifically at the RAC Sector, we can identify that the refrigerant purchases went up significantly during the FY22/23 period, where the average purchased amount was 117kg for the year, whereas the average for the sector sits at 98kg overall. However, purchases have returned towards the normal trend in FY23/24, where the average purchased amount was 99kg.

Cumulative Refrigerant Purchased and Returned for Automotive sector



The automotive industry returns only around 10% of refrigerant, with NSW being the worst state for automotive returns with only 6.02% being returned. However, the automotive sector has also purchased less refrigerant than the RAC sector, being 317,383kg compared to 580,144kg.

These figures do not include refrigerant used.

Average of Purchased to Returned Ratio						
	FY19/20	**FY20/21**	**FY21/22**	**FY22/23**	**FY23/24**	**Grand Total**
Q1	13.13%	18.08%	28.35%	13.47%	14.77%	17.56%
Q2	23.74%	13.60%	26.42%	22.05%	9.85%	19.13%
Q3	17.24%	12.22%	17.66%	16.27%	15.04%	15.69%
Q4	14.30%	18.84%	18.67%	15.33%	16.57%	16.74%
Grand Total	**17.10%**	**15.69%**	**22.78%**	**16.78%**	**14.06%**	**17.28%**

The above graph is calculated by dividing the average refrigerant purchased amount by average refrigerant returned amount, providing us with a ratio for refrigerant returned to purchased. At the audit, engagement officers ask for the last 2 full quarters worth of records. This means that where an audit takes place in Q3, it would be looking at records from Q1 and Q2.

Splitting this into fiscal quarters and years, we can identify several patterns over the last 5 years.

One of the most noticeable parts is the 10% increase in ratio for Q1 and Q2 for FY21/22 compared to the previous year – 18.08% to 28.38% and 13.60% to 26.42% respectively. This is most likely because of the recovered refrigerant rebate being increased by Refrigerant Reclaim Australia (RRA) from $3 to $10 for Q3 and Q4 of FY20/21. Due to the above-mentioned note regarding when we collect records, this means that we would see the changes in Q1/Q2 of FY21/22.

Returns for destruction

The data from audits provides a broad picture. The complete picture is provided by Refrigerant Reclaim Australia (RRA).

Over the FY23/24 the amount of refrigerant returned to RRA for destruction was 461.31 tonnes. An unknown amount was retained for reclamation.

This was a milestone achieved through the dedicated efforts of licensed refrigeration and air conditioning technicians across Australia. RRA operates an extensive network of over 500 collection points nationwide, gathering unwanted ozone-depleting substances and synthetic greenhouse gases. The destruction of these substances has yielded significant environmental benefits, including the preservation of over 10 million tonnes of stratospheric ozone and the prevention of more than 18.5 million tonnes of CO_2 equivalent emissions. This initiative underscores the critical role of responsible refrigerant management in protecting our planet.

A significant portion was retrieved in increments of less than a kilogram from small-scale domestic units, illustrating that even the smallest actions can have a substantial impact on our planet's health.

This serves as a poignant reminder that every kilogram of refrigerant returned for destruction is pivotal, underscoring the crucial role that both individuals and the industry at large play in safeguarding our environment.

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