



# ATMO sphere





# Training in the Naturals

Rod Cumming  
General Manager,  
Compliance & Training  
[rcumming@arctick.org](mailto:rcumming@arctick.org)

- The shift to new technologies / refrigerants is happening NOW
- Speed influenced by:
  - *Technology takers*
  - *Existing established markets*
  - *Environmental driver not as strong – end use licensing (and destruction) limits emissions. Has been in place for over 10 years*
  - *Training availability for new technologies / refrigerants*
  - *Government commitment (HFC Phase down – increase investment in new equipment, systems and refrigerant type)*
  - *Government responsibility for new refrigerants State based – expertise?*
- The rate at which this is adopted currently relies on the information and available training getting to the people that need it the most.

# Been here before?

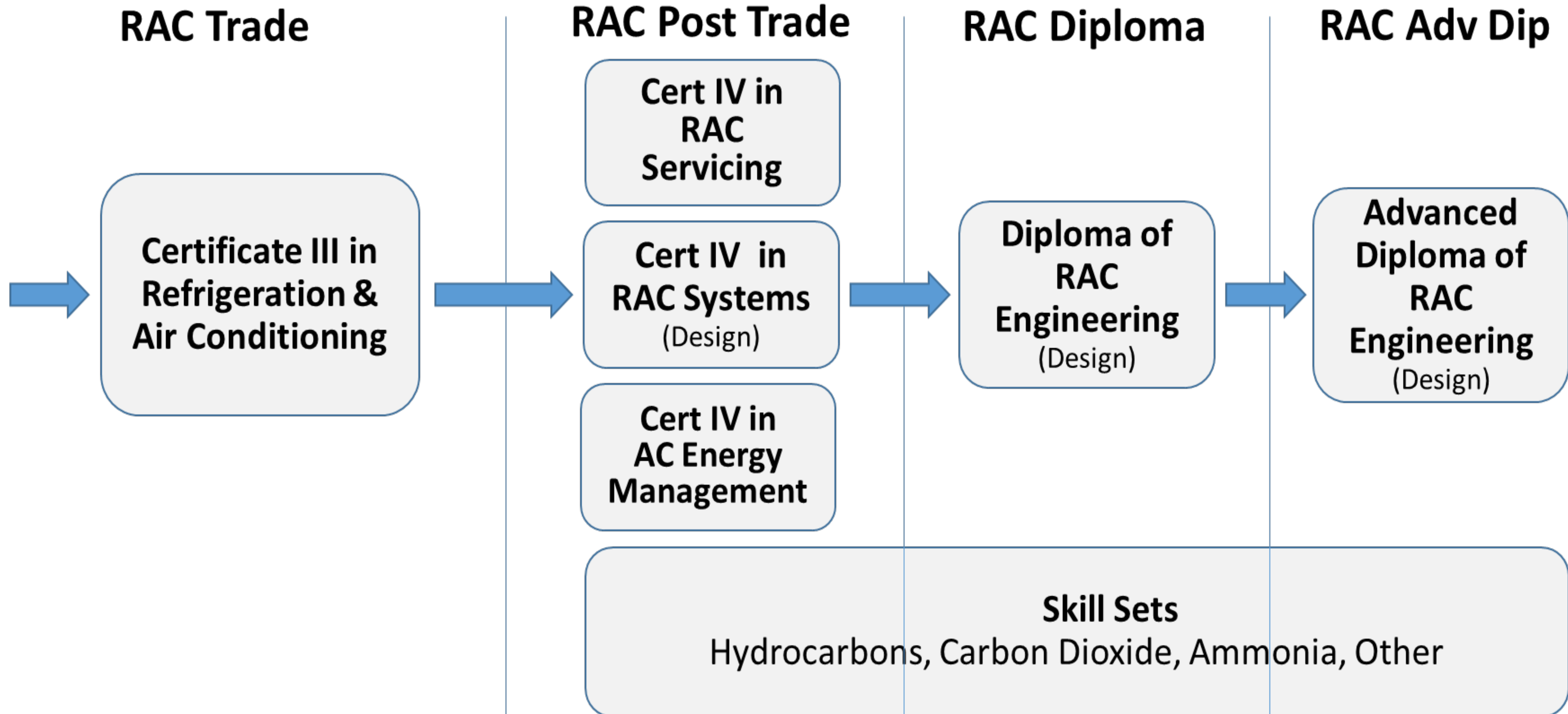
---

- Different this time.
- More complexity due to:
  - Number and types of alternatives
  - High operating pressures
  - WHS related issues need to be addressed
  - More uncertainty about industry direction within applications

- Training is often cited as the challenge in adoption of new technologies and refrigerants
- Reality is more complicated
- Course development – funding – demand and supply
- Quality trainer availability
- Upskilling of trainers
- Ongoing professional development

- Critical that technicians keep pace with these changes:
  - Industry is moving
  - Embrace the change
  - Technicians more valuable (improved skillset)
  - Greater employment opportunities.

# RAC training pathways



# Looking ahead

**Certificate IV's  
in Refrigeration & Air  
Conditioning + Time?**

**Master of Climate Control – future?**

**Refrigerant Skill Sets**  
Hydrocarbons, Ammonia, Carbon Dioxide  
and/or Class A2/A2L refrigerants

**Green Scheme – launched July 2017  
Accreditation**

**Certificate III in  
Refrigeration & Air  
Conditioning**

**Fluorocarbon Refrigerant Handling  
Licence - current**





- In June 2017 the **ARC Green Scheme Accreditation program** was launched. Incorporates key refrigerants not covered by the current ODS and SGG (ARCTick) scheme
- Natural and HFO refrigerants have their own challenges and risks - flammable, toxic and/or operate at extremely high pressures
- The **ARC Green Scheme program** is voluntary. However, it could be utilised by State/Territory Governments for licensing and/or as a Skills/Training Record for a Competent Person as defined under WHS Regulations
- The accreditation will generally require the same qualifications as a current ARCTick licence as a pre-requisite. For credibility it will be AQF based
- The refrigerants to be part of the scheme will include:
  - *Hydrocarbons / CO<sub>2</sub> / Ammonia / Class A2/A2L refrigerants*

## Automotive Air Conditioning Applications

Refrigerant Type	Required RHL	Accreditation Code	Accreditation Title	Required Unit of Competency
Hydrocarbons	Not applicable – No auto manufacturer approves the use of Hydrocarbons			
Carbon Dioxide	• AAC02 – Auto A/C	CD-AA-RS	Carbon Dioxide Refrigerant Safety	UEENEEJ184A Apply safety awareness and legal requirements for carbon dioxide refrigerant
	• AAC02 – Auto A/C	CD-AA-SR	Carbon Dioxide System Service and Repair	New AUR Automotive Unit required
Ammonia	Not applicable – No auto manufacturer approves the use of Ammonia			
Class A2 Refrigerants (R1234yf)	• AAC02 – Auto A/C	A2-AA-RH	Class A2 Refrigerants Handling	New AUR Automotive Unit required

Refrigerant Type	Required RHL	Accreditation Code	Accreditation Title	Required Unit of Competency
Hydrocarbons	<ul style="list-style-type: none"> <li>Any Stationary</li> </ul>	HC-SE-RS	Hydrocarbon Refrigerant Safety	UEENEEJ174A Apply safety awareness and legal requirements for hydrocarbon refrigerants
	<ul style="list-style-type: none"> <li>RAC01 - Full RAC</li> <li>RDR04 - Restricted Domestic</li> </ul>	HC-SE-SR	Hydrocarbon System Service and Repair	UEENEEJ175A Service and repair self-contained hydrocarbon air conditioning and refrigeration systems
	<ul style="list-style-type: none"> <li>RAC01 - Full RAC</li> </ul>	HC-SE-IC	Hydrocarbon System Install and Commission	UEENEEJ176A Install and commission hydrocarbon refrigeration systems, components and associated equipment
Carbon Dioxide	<ul style="list-style-type: none"> <li>Any Stationary</li> </ul>	CD-SE-RS	Carbon Dioxide Refrigerant Safety	UEENEEJ184A Apply safety awareness and legal requirements for carbon dioxide refrigerant
	<ul style="list-style-type: none"> <li>RAC01 - Full RAC</li> <li>RDR04 - Restricted Domestic</li> </ul>	CD-SE-SC	Carbon Dioxide Self-Contained System Service and Repair	UEENEEJ188A Repair and service self-contained carbon dioxide refrigeration and heat pump systems
	<ul style="list-style-type: none"> <li>RAC01 - Full RAC</li> </ul>	CD-SE-SR	Carbon Dioxide System Service and Repair	UEENEEJ185A Repair and service carbon dioxide refrigeration systems
	<ul style="list-style-type: none"> <li>RAC01 - Full RAC</li> </ul>	CD-SE-IC	Carbon Dioxide System Install and Commission	UEENEEJ186A Install and commission carbon dioxide refrigeration systems, components and associated equipment
Ammonia	Any Stationary	AM-SE-RS	Ammonia Refrigerant Safety	UEENEEJ178A Apply safety awareness and legal requirements for ammonia refrigerant
	Existing Ammonia Plant Operators Employer letter?	AM-SE-SO	Ammonia System Operator	UEENEEJ196A Operate Ammonia Refrigeration Plant (AIRAH)
	<ul style="list-style-type: none"> <li>RAC01 - Full RAC</li> </ul>	AM-SE-SR	Ammonia System Service and Repair	UEENEEJ179A Repair and service ammonia refrigeration systems Repair and service ammonia refrigeration systems
	<ul style="list-style-type: none"> <li>RAC01 - Full RAC</li> </ul>	AM-SE-IC	Ammonia System Install and Commission	UEENEEJ180A Install and commission ammonia refrigeration systems, components and associated equipment
Class A2 Refrigerants (R32, R1234yf)	Any Stationary	A2-SE-RH	Class A2 Refrigerants Handling	UEERA3024A Handle A2 Flammable Refrigerants (drafted, but not approved)

- The new accreditation scheme will add value to industry:
  - Upskill pathway for technicians
  - Assist in new technology and refrigerant uptake
  - Provide clarity around course gaps and required course development
  - Provide for an outcome to training
  - Gives trainers more confidence to provide training in an uncertain market

- An evolving industry poses a number of challenges
- Training, licensing (accreditation) and Code of Practice interrelationships are critical
- Challenges:
  - *Training quality*
  - *Trainer quality and availability*
  - *Course availability*
  - *Relevant Codes of Practice*
- Genuine and positive industry partnership
- About industry taking responsibility for moving forward
- Overall public, environmental, industry and technician benefit

# Smart Card



- Benefits for Technicians:
  - Access to technical resources.
  - Convenience.
  - Simple identification for consumers.
  - Assist with contractor and staff identification
  - Improved safety and compliance
  - Real time records
  - Course identification





ATMO  
sphere

Thank you very much!

ARC

AUSTRALIAN  
REFRIGERATION  
COUNCIL