Forum Agenda

- **Coen van de Sande**, AREA – President | *"AREA Position On The Certification Of Personnel In The Context of the F-Gas 3.0"*
- **Štěpán Stojanov**, AREA – Vice-President | *"Implementing Regulation (EU) no. 2024/2215 on Fluorinated and Alternative Refrigerants Certification"*
- **Marco Buoni**, AREA - Former President, w/ mandate Int'l Affairs | *"Training and Certification 4 Alt Refs: Available and Working Schemes in Europe"*
- **Thanos Biris**, AREA – Treasurer | *"The Importance of Training and Certification on Alternative Refrigerants for the Success of the F-gas Regulation"*
- **Deniss Lukashuks**, AREA Member| *"Natural, Flammable Refrigerants in Education: Future-proof, Environmentally Friendly and Safe to Use"*
- **Said El Harch**, U-3ARC – Secretary General (partner of AREA)| *"Europe and Africa together for a Sustainable and Safe Refrigeration"*

Moderator **Marco Buoni**

Q&A time *at the end of the presentations*

Hall 8/8-516
Thursday, 10th October 2024 - 14:00

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AREA Position on the Certification of Personnel in the Context of the F-Gas 3.0

Coen van de Sande
AREA – President, The Netherlands

About Coen van de Sande:

- President of AREA >2022
- Board Member AREA >2014
- Dutch RACHP Association NVKL >2009
- Contractor 1987-2009

About AREA

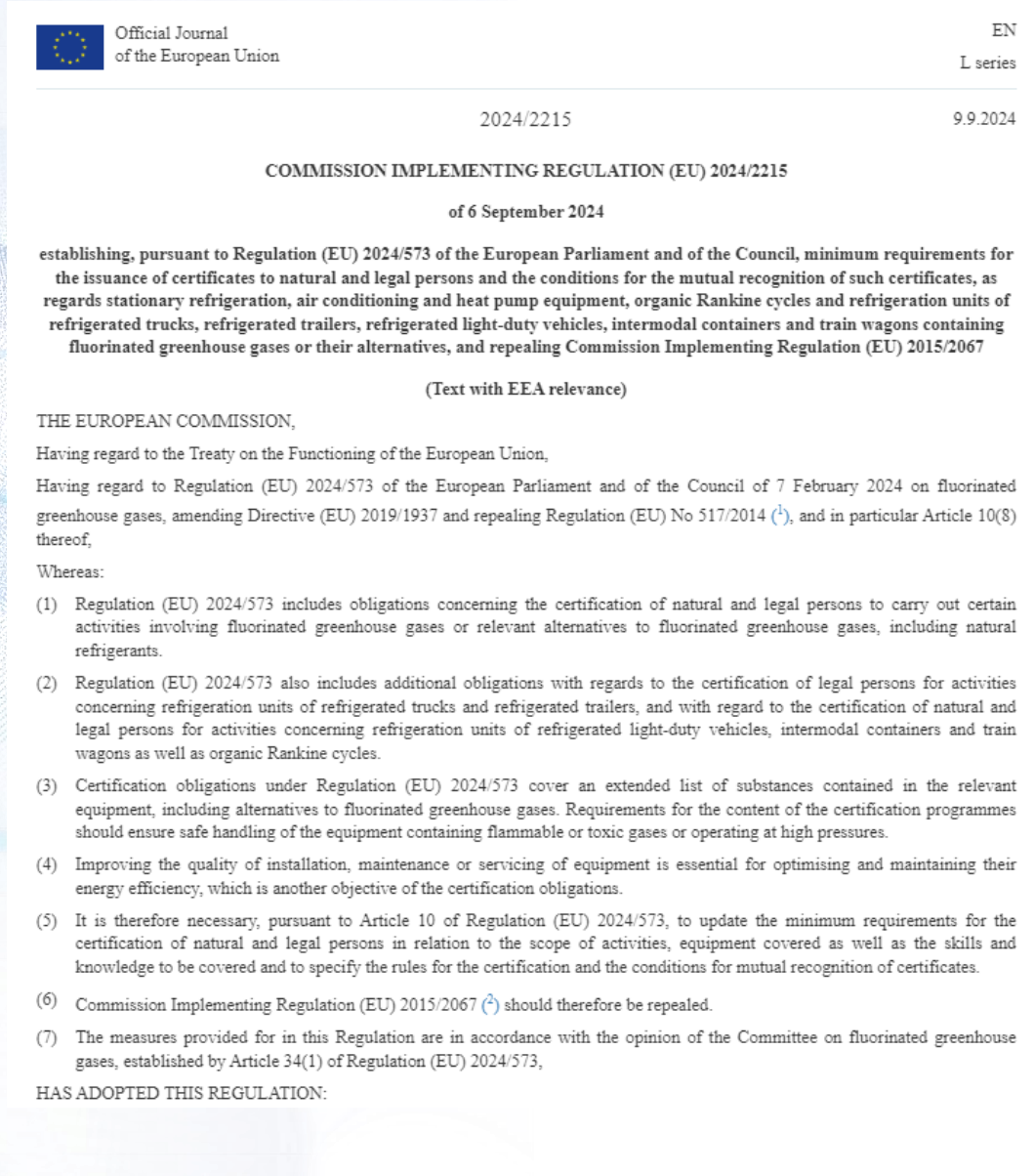
European Association of National Refrigeration, Air Conditioning and Heat Pump (RACHP) associations, representing RACHP contractors and engineers.

- 25 National Member Associations
- 23 Countries
- Over 13,000 companies employing 110,000 people
- 90% SME's
- Annual turnover €23 billion

Contractors are the essential link between end users and manufacturers.

Implementing Regulation on Certification 2024/2215

- Published 6 September 2024
- Into force 29 September 2024
- Certification Schemes 27 Member States ready 29 September 2025
- Clarity certification persons working with f-gases and alternatives
- Shift from Environmental to Safety



Official Journal of the European Union

EN

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2024/2215

9.9.2024

COMMISSION IMPLEMENTING REGULATION (EU) 2024/2215

of 6 September 2024

establishing, pursuant to Regulation (EU) 2024/573 of the European Parliament and of the Council, minimum requirements for the issuance of certificates to natural and legal persons and the conditions for the mutual recognition of such certificates, as regards stationary refrigeration, air conditioning and heat pump equipment, organic Rankine cycles and refrigeration units of refrigerated trucks, refrigerated trailers, refrigerated light-duty vehicles, intermodal containers and train wagons containing fluorinated greenhouse gases or their alternatives, and repealing Commission Implementing Regulation (EU) 2015/2067

(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EU) 2024/573 of the European Parliament and of the Council of 7 February 2024 on fluorinated greenhouse gases, amending Directive (EU) 2019/1937 and repealing Regulation (EU) No 517/2014 ([1]), and in particular Article 10(8) thereof,

Whereas:

(1) Regulation (EU) 2024/573 includes obligations concerning the certification of natural and legal persons to carry out certain activities involving fluorinated greenhouse gases or relevant alternatives to fluorinated greenhouse gases, including natural refrigerants.

(2) Regulation (EU) 2024/573 also includes additional obligations with regards to the certification of legal persons for activities concerning refrigeration units of refrigerated trucks and refrigerated trailers, and with regard to the certification of natural and legal persons for activities concerning refrigeration units of refrigerated light-duty vehicles, intermodal containers and train wagons as well as organic Rankine cycles.

(3) Certification obligations under Regulation (EU) 2024/573 cover an extended list of substances contained in the relevant equipment, including alternatives to fluorinated greenhouse gases. Requirements for the content of the certification programmes should ensure safe handling of the equipment containing flammable or toxic gases or operating at high pressures.

(4) Improving the quality of installation, maintenance or servicing of equipment is essential for optimising and maintaining their energy efficiency, which is another objective of the certification obligations.

(5) It is therefore necessary, pursuant to Article 10 of Regulation (EU) 2024/573, to update the minimum requirements for the certification of natural and legal persons in relation to the scope of activities, equipment covered as well as the skills and knowledge to be covered and to specify the rules for the certification and the conditions for mutual recognition of certificates.

(6) Commission Implementing Regulation (EU) 2015/2067 ([2]) should therefore be repealed.

(7) The measures provided for in this Regulation are in accordance with the opinion of the Committee on fluorinated greenhouse gases, established by Article 34(1) of Regulation (EU) 2024/573,

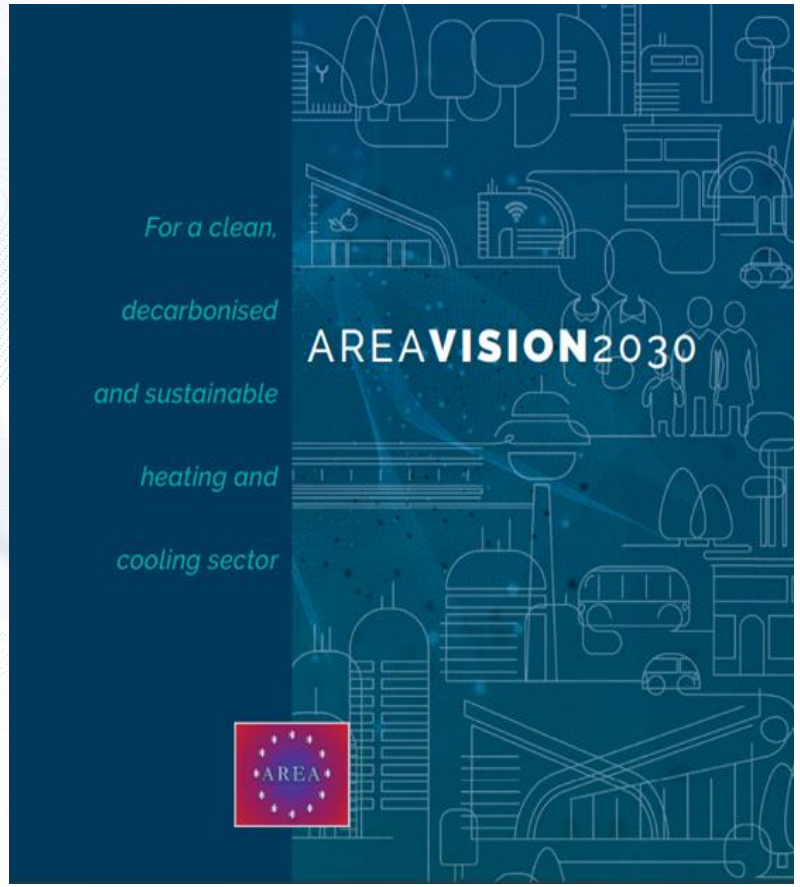
HAS ADOPTED THIS REGULATION:

Position of AREA

- Captured in our Vision 2030
- AREA fully supports the transition from F-gas to Alternative Refrigerants

But:

- For successful transition skilled technicians are crucial
- Implementing act: before 26/9/2025 certification programs ready
- From 26/9/2025 >500.000 technicians should get trained & certified
- Great challenge for MS, education institutions, certification bodies, AREA members
- Market moves (much) quicker in transition F-gas > R290
- Potential hazards and incidents RACHP systems if skilled technicians lack



What is needed in the next 12 month's

- Clarity EC to MS about implementing certification in national schemes
- Mutual recognition of certificate MS
- Quick scale up education & certification in all MS
- Cooperation AREA members
- Cooperation AREA > RACHP Industry representing associations

ehpa european heat pump association

EPEE

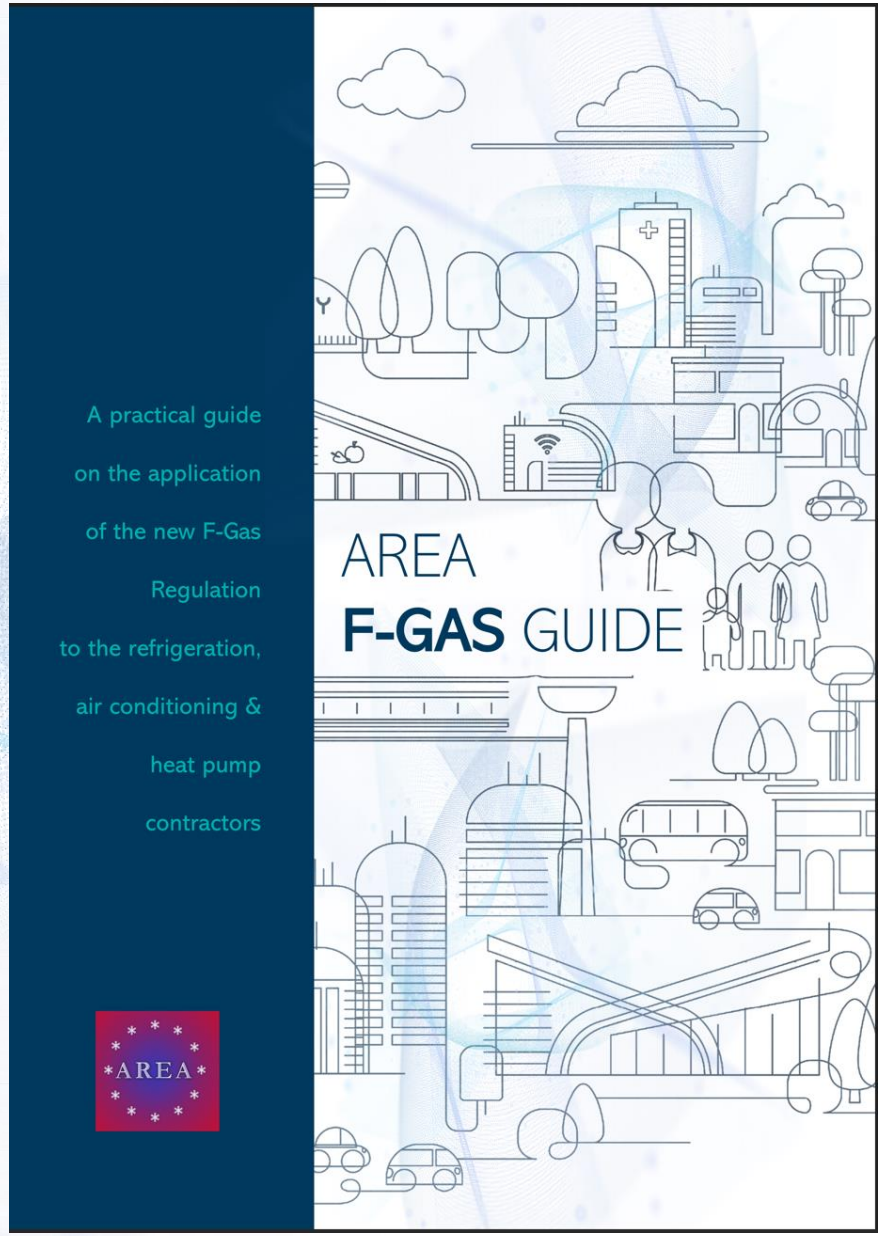
AREA

EUROVENT EUROPEAN INDUSTRY ASSOCIATION

ASERCOM ASSOCIATION OF EUROPEAN REFRIGERATION COMPONENT MANUFACTURERS

What are the activities of AREA in the next 12 month's

- Publish AREA F-gas guide
- Advocating clarity from the EC about implementing acts regarding certification
- Advocating mutual recognition of certificates MS
- Develop education programs and modules for all members (SKILL SAFE, REAL ALTERNATIVES)
- Participate in development of guidelines for installation/maintenance RACHP systems charged with R290
- Contribute to development of EN/ISO standards and guidelines > alternative refrigerants
- Stimulate cooperation RACHP Industry representing associations in EU



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Coen van de Sande
AREA – President

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Overview of the *Implementing Regulation (EU) no.2024/2215 on Fluorinated and Alternative Refrigerants Certification*

Štěpán Stojanov

AREA – Vice-President, Czech Rep

New Regulation – New Certification

New EU regulation on fluorinated greenhouse gases no. 2014/573 sets new obligations for natural and legal persons regarding activities, systems and types of refrigerants which are in scope of this legal act.

It also includes alternatives (to F-gases) refrigerants HYDROCARBONS, CO_2, and AMMONIA

Scope of the Regulation then (reg. 517/2014) and now (reg. 2024/573)

- **Reg. 517/2014**
- HFC refrigerants
- Stationary RACHP systems
- Mobile ref. units on trucks and trailers

- **Reg. 2024/573**
- HFC‘s, HFO‘s and HC‘s, CO_2, and NH_3
- Stationary RACHP systems
- Mobile ref. units on trucks and trailers
- refrigerated light-duty vehicles, intermodal containers and train wagons as well as organic Rankine cycles

Implementing Regulation 2024/2215

This implementing act sets conditions after which natural and legal persons may get certification on activities, that it is required for:

- Leak checks on equipment[1] with HFC's and HFO's
- Installation of equipment with HFC's, HFO's or HC's, CO_2, and NH_3
- Repair, maintenance or servicing as well as decommissioning of the equipment with HFC's, HFO's or HC's, CO_2, and NH_3
- Recovery of fluorinated greenhouse gases from cooling circuits of stationary refrigeration, air conditioning equipment, heat pumps, and of refrigeration units of refrigerated trucks and refrigerated trailers

[1] above limit set in reg. 2024/573, [2] obligation to have certificate does not apply for activities in production plants

Implementing Regulation 2024/2215

- Implementing regulation enters into force on Sept. 29th 2024, Member States have one year to adjust certification schemes and make sure that trainings and certifications are available

- There are now six types of certificates according to type of refrigerant and also activity A1, A2, B, C, D and E

- Holders of certificates issued under reg. 517/2014 will have to undergo refreshment courses to update their knowledge and skills to required level by no later 12th March 2029

New Certification Scheme

- **Certificates A1 and A2**
- Certificate A1 attesting that holders may carry out all the activities provided for in Article 2(1) in relation to fluorinated greenhouse gases and hydrocarbons;
- Certificate A2 attesting that holders may carry out all the activities provided for in Article 2(1) in relation to fluorinated greenhouse gases and hydrocarbons, limited to equipment with a charge size of less than 3 kilograms or, if hermetically sealed systems which are labelled as such are concerned, containing less than 6 kilograms;

New Certification Scheme

- **Certificate B and C**
- Certificate B attesting that holders may carry out all the activities provided for in Article 2(1) in relation to carbon dioxide (CO_2);

- Certificate C attesting that holders may carry out all the activities provided for in Article 2(1) in relation to ammonia (NH_3);

New Certification Scheme

- **Certificate D and E**
- Certificate D attesting that holders may carry out the activity provided for in Article 2(1)(d)[1] for the equipment containing less than 3 kilograms of fluorinated greenhouse gases or, if hermetically sealed systems which are labelled as such are concerned, containing less than 6 kilograms of fluorinated greenhouse gases;
- Certificate E attesting that holders may carry out the activity provided for in Article 2(1)(a)[2], provided that such activity does not entail breaking into the refrigeration circuit containing fluorinated greenhouse gases listed in Annex I and Section 1 of Annex II to Regulation (EU) 2024/573.

[1] recovery of fluorinated greenhouse gases from cooling circuits of stationary refrigeration, air conditioning equipment, heat pumps, and of refrigeration units of refrigerated trucks and refrigerated trailers

[2] leak checks which do not require entering the refrigeration circuit

Existing Certificates, Refreshment Courses or Evaluation Processes

- Existing certificates will remain valid under conditions for which they were issued for maximal period of five years
- Holders of existing certificates will have to update their knowledge and skill to the required level:
- Category I → Certificate A1
- Category II → Certificate A2
- Category III → Certificate D
- Category IV → Certificate E

Mutual Recognition of Certificates

- Upgrading certificates cat. I and II to A1 and A2 requires new knowledge on legislation, energy efficiency and safety and skills on handling and best practise during installation and service of systems containing hydrocarbon refrigerants
- Thousands of certificate holders will have to be re-trained in relatively short period of time
- Existing training programmes can be used, like REAL ALTERNATIVES 4 LIFE which provides trainings on alternative refrigerants since 2019

Existing Certificates, Refreshment Courses or Evaluation Processes

- Member States shall recognise certificates issued in other MS's, provided they were issued in accordance with the regulation
- Member States shall not impose any evaluation or other type of assessment procedures or disproportionate administrative requirements on holders of certificates issued in another Member State
- Member States may require holders of certificates issued in another Member State to provide a translation of the certificate into another official language of the Union.

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Thank you for your attention

Štěpán Stojanov, AREA VP
stojanov@chlazeni.cz

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Training and Certification 4 Alt Refs: Available and Working Schemes in Europe

Marco Buoni

AREA - Former President

w/ mandate for Int'l Affairs, Italy

Extension of F-gas Certification to Alternatives Implementation in Member States

	Country	Comments
EU	Austria	
	Belgium	
	Czech Republic	
	Denmark	**National certification in place**
	Estonia	National certification coming up
	Finland	**National certification in place**
	France	
	Germany	
	Greece	
	Ireland	
	Italy	
	Netherlands	**National certification in place**
	Poland	
	Portugal	
	Slovakia	
	Spain	**National certification in place**
	Sweden	
Non-EU	Norway	
	Turkey	
	UK	

AREA Internal Survey 2024

AREA members work nationally for implementing as soon as possible the extension to Alternatives.
To start as soon as possible the training and mandatory certification.
We contacted our contact point generally at the Ministry of Environment.

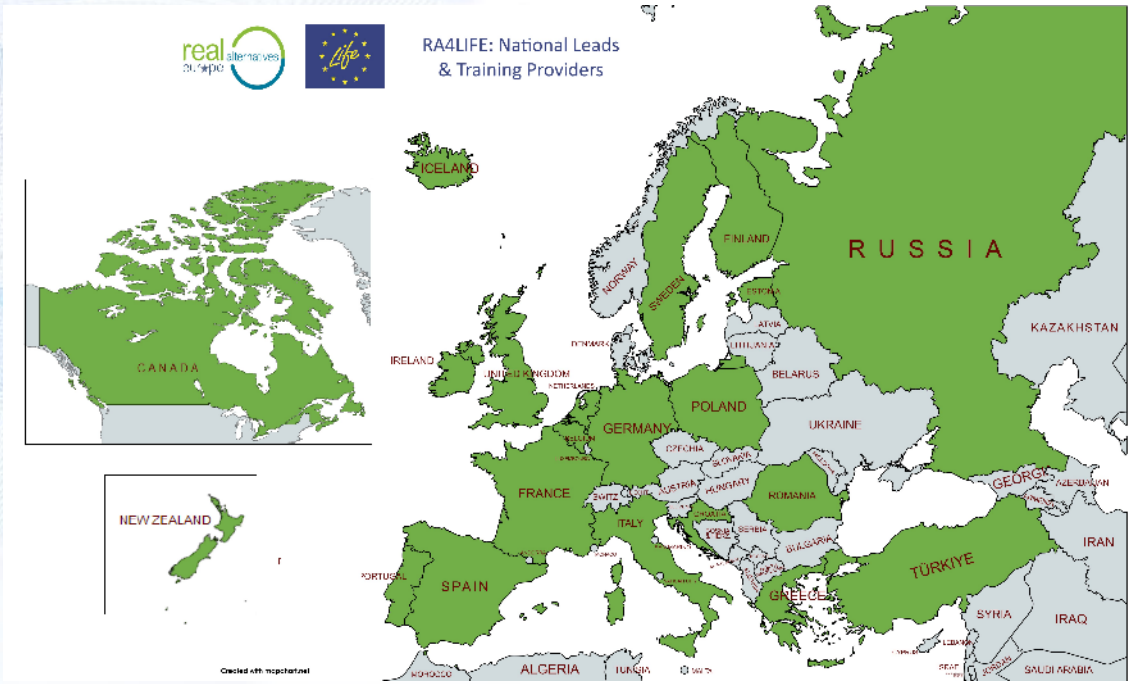
Alternative Refrigerants trained Personnel by Country (2024)

	Ammonia	CO2	HC (small)	HC (large)	HFOs
Austria	5%	20%	100%	50%	100%
Croatia	0%	1.90%	1.80%	1.80%	38% (MAC technicians included)
Czech Republic	1%	2-4%	5%	2%	5-10%
Denmark	35%	60%	60%	35%	100%
Estonia	2%	30%	5%	5%	10%
France	5%	20%	16%	0.6%	/
Greece	15%	20%	45.0%	15.0%	50.0%
Ireland	5%	20%	10.0%	2.0%	10.0%
Italy	2%	5%	10.0%	3.0%	45.0%
Netherlands	2.5%	3.6%	1%		/
Poland	2%	2%	1%	NA	1%
Portugal	0%	0%	4%	0%	0%
Slovakia	2%	26%	26%	NA	26%
Spain	90%	85%	50%	90%	85%
Total EU	12%	21%	29%	19%	40%
Norway	7.50%	10%	15%	15%	15%
Turkey	0%	0%	0.2%	0.2%	0.2%
Total non-EU	4%	5%	8%	8%	8

REAL Alternatives
blended learning for Low GWP Refrigerants

www.realalternatives.eu

- **Flammables** (HCs - HFOs - low GWP blends), **CO_2, Ammonia**
- **9 Modules**
- **Free learning material** available for download
- **Multi-lingual** programme (17 languages – 21 EU or 25 tot countries)
- **Licensed training providers (around 30) in each country:**
  - **Best Practices** in fully equipped laboratories, focusing on the safety issues
  - **Theory** in classroom or remote
- **Certification (theory and practice)** consistent and recognized among project members (more than 2000 certificates so far)



→New partners, Training providers or just learners in our training centres are welcome!

Assessing and Qualifying Training Centers

- Albania, Egypt, Greece, Cyprus, Armenia, Middle East…

a package,
→list of tools,
→training and certification scheme
→drafting the legislation
→for Environment, Safety, Sustainability

Service Procedure Differences

Need to carry out or refer to a <u>RISK ASSESSMENT</u>
and taking into account control measures prior to carrying out any work.

- The properties of the alternative refrigerants, and in particular their hazards, affect how systems are serviced and maintained

Remember
If you are unsure of anything:
Do Not Proceed.
Stop work and ask the question!

Refrig.	Work area	Equipment	Leak testing	Charging	Recovery / disposal
R744	Very well ventilated	Suitable for the very high pressure	Method must be sensitive to R744	Initial charge should be gas to prevent dry ice formation	Venting is the usual practice
R717	<u>Very well ventilated and free from sources of ignition</u>	Suitable for use with R717 and free from sources of ignition	Method must be safe and sensitive to R717		Recovered
R32		Suitable for the high pressure and free from sources of ignition	Method must be safe and sensitive to R32		<u>Recovered</u>
R1234ze		<u>Free from sources of ignition</u>	Method must be safe and sensitive to R1234ze		Recovered
R600a R290			<u>Method must be safe and sensitive to HCs</u>	<u>Charge weight is less so accuracy important</u>	<u>Small amounts* can be vented,</u> otherwise HC is recovered
R1270					

Maintenance and Repair

Suitable gloves and safety glasses should be worn when working with any refrigerant, and when carrying out hot works (brazing / welding). Antistatic wrist strap should also be worn

*Small amounts are usually considered to be less than 150g.

Different Equipment with Low GWP Refrigerants

The use of flammable gases in the equipment will be subject to the implementation of some risk mitigation measures such as, among other things: the introduction of shut-off valves, pump down to the outdoor unit, pressure switches, continuous ventilation or additional regulated by leak detector on board the machine, ATEX certified electronics. All this can make us understand how the initial cost of the appliance, installation, but also maintenance/repair, of a small domestic air conditioner can increase considerably.

In addition to the inevitable increase in costs for the equipment, it is useful to remember that the individual companies involved in the installation, maintenance and repair of these appliances must face considerable investments to equip themselves with tools and equipment suitable for flammable gases.









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Thank you for your attention

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The Importance of Training and Certification on Alternative Refrigerants for the Success of the New 573/2024 F-Gas 3.0 Regulation

Thanos Biris
Mechanical Engineer Msc Ntua
AREA – Treasurer, Greece

Main Target

The success of the new 573/2024 F-Gas 3.0 Regulation, which was designed to minimize the environmental impact of fluorinated gases (F-Gases) used in refrigeration, air conditioning, and heat pump systems, hinges significantly on the effective implementation and enforcement of comprehensive training and certification programs for alternative refrigerants.

Brief Introduction

- Global commitment to reducing greenhouse gas emissions and combating climate change.
- The role of alternative refrigerants with lower global warming potential (GWP) in this transition and the challenges they pose in terms of **flammability, toxicity, and pressure levels.**
- Proper training ensures that technicians and engineers are proficient in **best practices for their safe handling, installation, maintenance, and disposal,** keeping a standardized level of competence across the industry in all EU countries.

Brief Introduction

- Effective training and certification can, reduce incidences of refrigerant leakage, improve system performance, and ultimately lead to greater adoption of alternative refrigerants.

ENVIRONMENT
+
PERFORMANCE
+
SAFETY

- In conclusion, investing in training and certification programs is indispensable for the successful implementation of the new 573/2024 F-Gas Regulation. It ensures that industry professionals are well prepared to navigate the complexities of alternative refrigerants.

Sectors of Interest

- INDUSTRY - PRODUCTION
- INSTALLATION
- MAINTENANCE
- END OF LIFE RECLAIM & RECYCLE

Industry - Production

- New line of production
- Danger from high pressure, flammability, toxicity
- Energy efficiency
- Training programs are important for professionals in the industry in order to be equipped with the necessary skills and knowledge to safely handle and transition to eco-friendly alternatives.

Installation

- Difficulties in the use of the new alternative refrigerants
- Risk assessment for high pressure, flammability, toxicity
- Leak detection
- Proper training ensures that technicians and engineers are not only aware of the properties and risks associated with alternative refrigerants but are also proficient in **best practices for their safe handling.**

Maintenance

- Leak checks
- Energy efficiency
- Retrofit
- Proper training ensures that technicians and engineers have a standardized level of competence across the industry in all EU countries.

End of Life – Reclaim - Recycle

- RECLAIM
- DESTRUCTION
- RECYCLE & REUSE
- Training programs for professionals in the industry equip with the necessary skills and knowledge to reclaim, recycle and reuse F-gases with high GWP, since the use of such virgin F-gases is not allowed from 2025 (2032).

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Thanos Biris
Mechanical Engineer Msc Ntua
AREA – Treasurer

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Natural, Flammable Refrigerants in Education: Future-proof, Environmentally Friendly and Safe to Use

Deniss Lukashuks,
AREA Member, Latvia

Introduction

- Flammability of Gases – *what to pay attention to;*
- The importance of safety;
- The role of education and training programs in promoting knowledge and safety.

Flammability of Gases

- What makes gases flammable?
  - Flammable gas will ignite when it comes into contact with oxygen and is exposed to a source of ignition,
  - Explosions happen only when gases are mixed with air/oxygen in the right **proportions** (5-10 % refrigerant within the area).
  - Examples of flammable gases are propane, hydrogen, butane, methane, ethylene, acetylene, ammonia, ethane and silane.
- There is **uncertainty** surrounding newer gases, as there is not enough evidence on how they will behave in certain conditions.
  - PFAS accumulate in living organisms, including humans, and do not degrade, making them extremely persistent in the environment according to the European Commission.

Refrigerant Safety Classification

ISO 817:2014 provides an unambiguous system for assigning designations to refrigerants. It also establishes a system for assigning a refrigerant safety classification based on toxicity and flammability data and provides a means of determining the refrigerant concentration limit.

The standard divides flammability into three defined classes with an additional sub classification:

- **Class 3**: higher flammability.
- **Class 2**: lower flammability.
- **Class 2L**: lower burning velocity (with burning velocities less than or equal to 10 cm/s.)
- **Class 1**: no flame propagation.

Meanwhile, *toxicity* classification considers two classes (A and B), based on allowable occupational exposure:

- **Class A** (lower chronic toxicity) refrigerant with an occupational exposure limit of 400ppm or greater.
- **Class B** (higher chronic toxicity) refrigerant with an occupational exposure limit of less than 400ppm.

Comparative Characteristics

	R1234yf	R454a	R290	R600a	R717
Name	Tetrafluoropropene	Opteon® XL20	Propane	Isobutane	Ammonia
Safety class	A2L	A2L	A3	A3	B2L
Lower flammability limit	405 C	444 C	470 C	460 C	630 C
Burning velocity	0,289 kg/m3	0,293 kg/m3	0,038 kg/m3	0,043 kg/m3	0,116 kg/m3
GWP	4	148	3	3	0

Safety First

- **Certified equipment:**
  - Tools made and certificated for A2L & A3 classes;
  - Leak detectors.
- **Certified specialists**
  - Regular renewal of certificate to handle refrigerants
  - Check of technical documentation before installation and maintenance of equipment

❖ *Lack of common standard for new gases – how to mark them on equipment*

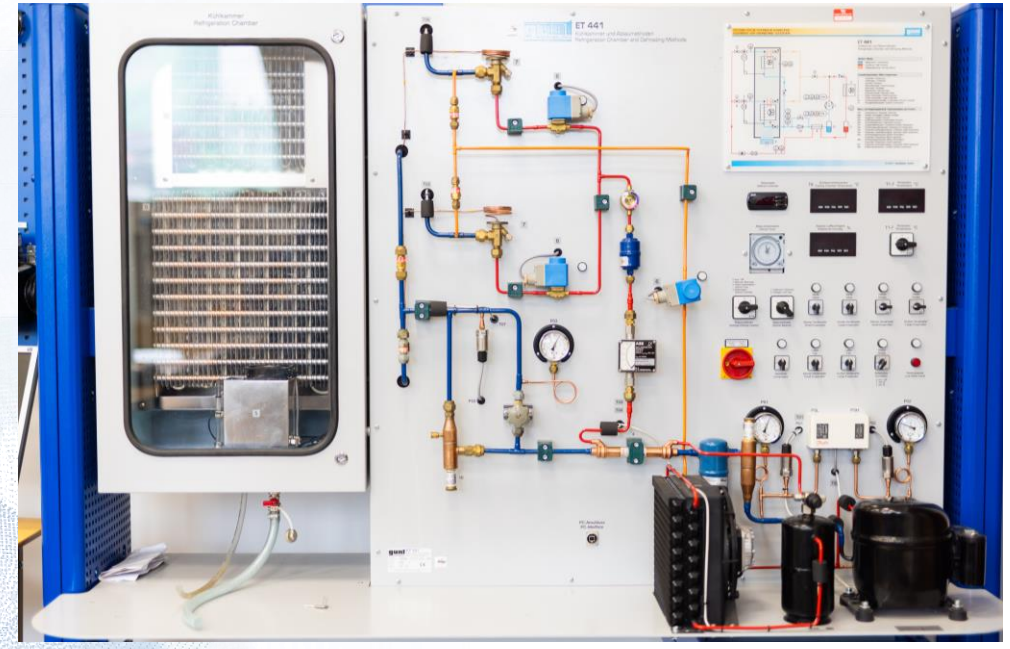
❖ *Need for equipment test*

How to integrate Regulation and Safety in Education and Training Activities

- Face-to-Face education works best:
  - Hands on experience of theoretical knowledge gets the best outcome from technicians
  - Ensure activities are challenging, yet manageable
  - Interests meeting organization in training centers (like new products, gases ..)
- International meetings and conferences to share ideas and knowledge
- Promoting continuous education for specialists: keep them updated on the latest advancements.

Conclusion

- Workforce Education: information is fundamental for the safety of all specialists
- New knowledge should be motivation for professional development



Today all technicians must be colleagues, not competitors

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AREA Member

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Europe and Africa together for a Sustainable and Safe Refrigeration

Said El Harch
U-3ARC – Secretary General
(partner of AREA)

Introduction

- Overview of the growing demand for refrigeration in Africa.
- Importance of refrigeration in agriculture, food security, and health sectors.
- The environmental and safety challenges of refrigeration.
- The role of collaboration between Europe and Africa to achieve sustainable solutions.

State of Refrigeration in Africa

- Limited infrastructure for modern refrigeration systems.
- High dependence on outdated, energy-inefficient systems.
- Lack of widespread adoption of low-GWP refrigerants.
- Emerging opportunities in agri-business, fisheries, and cold chain sectors.
- Low cold storage capacity in Africa, particularly in sub-Saharan Africa: estimated at around 19 liters/inhabitant compared to 200 liters/inhabitant for developed countries. (Source IFF)

Europe and Africa : Efficient Collaboration for the Implementation of Standards

- Alignment with global refrigerant and energy efficiency standards.
- Developing African-specific refrigeration safety guidelines.
- Training for safe handling of alternative refrigerants.
- Building strong frameworks for monitoring and enforcing standards

Europe and Africa : Sharing Technologies, Experiences and Statistics

- Transferring expertise on natural refrigerants (R-290, CO2, ammonia).
- Adaptation of energy-efficient refrigeration systems to African contexts.
- Introducing smart refrigeration solutions for energy optimization.
- Creating affordable, scalable solutions for rural and urban markets in Africa.
- Analysis of Europe’s success in adopting sustainable refrigeration practices.
- Presenting African case studies on refrigeration implementation.
- Sharing data on refrigerant usage and energy consumption
- Identifying key challenges through collaborative research.

Partnership for Research and Development of Solutions Adapted to Africa

- Joint R&D projects focused on low-cost, energy-efficient solutions.
- Developing technologies to address Africa's specific climate challenges.
- Leveraging European innovation for African market needs.
- Incentivizing local African innovation with support from European partners.
- Only 22 of the 54 countries on the continent have a functional cold chain system for vaccines requiring storage between 2°C and 8°C, thanks to the performance of North African countries. (Source: IIR and Brookings)
- Annual food losses for fruits and vegetables are an estimated 40 to 50 %.

Europe and Africa : Common Plan Against Dumping

- Retirement of high-GWP refrigeration plants resumes in Africa
- Raising awareness about the dangers of importing obsolete refrigeration technology.
- Advocating for stricter import regulations and enforcement.
- Joint monitoring and reporting on illegal dumping activities.
- 2013-2020: +60,000 used units seized in Ghana (Source U3ARC)
- Promoting the adoption of sustainable, safe alternatives.

Europe and Africa : The Call for Action Now for Sustainable and Safe Refrigeration

- Urgency of adopting sustainable refrigeration technologies to combat climate change **but first**, train the technician to use flammables and sustainable refrigerant
- Train more technician about the alternative refrigerant and the safety in refrigeration
- Immediate collaboration on standards, training, and technology transfer.
- Commitment to a shared sustainable refrigeration future between Europe and Africa.

Conclusion: Together for a Sustainable Future

- Recap of the importance of Europe-Africa collaboration.
- Vision for long-term sustainable refrigeration practices.
- The benefits of creating safer, greener refrigeration systems for all.
- Invitation for further engagement and partnerships to support the initiative.

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Thursday, 10th October 2024 - 14:00

Chillventa Specialist Forums 2024
AREA Forum

CONNECTING EXPERTS.

Thank you for your attention

Said El Harch
U-3ARC – Secretary General
(partner of AREA)