

MOP 31 | MONTREAL PROTOCOL
ROMA 2019

THE TRANSITION TO
ALTERNATIVE TECHNOLOGY:
THE EUROPEAN EXPERIENCE

Wednesday, 6 November 2019 | 8:00 - 10:00 | Iran room



With contribution of the LIFE programme
of the European Union

*The **Universal Training Kit** for Alternative Refrigerants: Transferring Knowledge through a Flexible Tool”*

Ayman Eltalouny
Coordinator International Partnerships – OzonAction, Law Division
UN Environment Programme (UNE)



With contribution of the LIFE programme of the European Union

Very large volume consuming countries

Brazil, China, India, Mexico, Korea RO, Saudi Arabia, Thailand

Medium volume consuming countries

Afghanistan, Algeria, Argentina, Bahrain, Bangladesh, Benin, Burkina Faso, Cameroon, Chile, Colombia, Côte d'Ivoire, Congo DR, Dominican Republic, Egypt, Gabon, Ghana, Indonesia, Iran, Iraq, Jordan, Kenya, Korea DPR, Korea Rep, Kuwait, Lebanon, Libya, Madagascar, Malaysia, Morocco, Niger, Nigeria, Oman, Pakistan, Panama, Peru, Philippines, Qatar, Senegal, Singapore, Somalia, South Africa, Sudan, Syria, Trinidad and Tobago, Tunisia, Turkey, United Arab Emirates, Uruguay, Venezuela, Viet Nam, Yemen

LVCs

Albania, Angola, Antigua & Barbuda, Armenia, Bahamas, Barbados, Belize, Bhutan, Bolivia, Bosnia & Herzegovina, Botswana, Brunei Darussalam, Burundi, Cambodia, Cape Verde, Central African Republic, Chad, Comoros, Congo, Cook Islands, Costa Rica, Croatia, Cuba, Djibouti, Dominica, Ecuador, El Salvador, Equatorial Guinea, Eritrea, Ethiopia, Fiji, Gambia, Georgia, Grenada, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, Jamaica, Kiribati, Kyrgyzstan, Lao PDR, Lesotho, Liberia, Macedonia FYR, Malawi, Maldives, Mali, Marshall Islands, Mauritania, Mauritius, Micronesia, Mongolia, Montenegro, Mozambique, Myanmar, Namibia, Nauru, Nepal, Nicaragua, Niue, Palau, Papua New Guinea, Paraguay, Republic of Moldova, Rwanda, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Samoa, Sao Tome & Principe, Serbia, Seychelles, Sierra Leone, Solomon Islands, South Sudan, Sri Lanka, Suriname, Swaziland, Tanzania, Timor-Leste, Togo, Tonga, Turkmenistan, Tuvalu, Uganda, Vanuatu, Zambia, Zimbabwe

UNEP-OzonAction's Clients



With contribution of the LIFE programme of the European Union

A. Institutional (Public Sectors)

1. **NOUs (Environmental Authorities)**
2. Energy / Climate
3. Customs, Enforcement, Border controls
4. Standardization Authorities
5. Industry Authorities
6. **Technical Education & Vocation Training (TVET)**
7. Research Institutes & Universities
8. Housing and Buildings Authorities
9. Procurement Boards and Committees
10. Marine/Fisheries/Agriculture/Ports, Others
11. Chambers of Trade and Industry

A. Technical (Private, Non-Governmental)

1. **Servicing workshops, companies and technicians**
2. Refrigerants' importers, wholesalers and distributors
3. **Training Institutes and Centers**
4. **Engineers, plants/facility managers and operators**
5. Consultants and consulting firms
6. **Buildings and Plants Owners/Investors**
7. Research Institutes & Universities
8. Engineering groups
9. **Informal servicing sector**

Support to Different Stakeholders At Local Level

Partnering for better delivery

Benefiting of EU
F-Gas related
products

	SMALL (Domestic Workshops)	MEDIUM (Light Commercial Workshops)	LARGE (Large Service Companies and Workshops)
Background of Type	1	1	1
Start date	2	2	2
Expiry date	1	1	1

Universal Training Kit
on Sound Management of Refrigerants
(In cooperation with AREA)



HFCs Outlook

Scenario Model for A5 countries
(In cooperation with EPEE)



National Certification Program
based on FOGas Certification
(In cooperation with ATF)



**Other
Examples
of
Partnering**



Refrigerant Driving License (RDL)



E-Learning, Award, Events, Guides and more



Model for Cold Chain Database



Technology Awareness for
Cold Chain Sectors



Risk Assessment Model for flammable
Refrigerants



AREA-UNEP Universal Training Kit on Alternative Refrigerants



What is the Universal Training Kit




Design a specialized “**Universal Training Kit on Alternative Refrigerants**” for the use of training institutes and centres in developing countries with the aim of offering state-of-art information and knowledge on the best practices and techniques in managing and handling future, mainly flammable, refrigerants in sound and safe manners by different stakeholders of the RSS sectors



Why we need the Universal Training Kit

- Montreal Protocol training programs lacks sustainability after projects end
- Refrigerants-focused Vs. Application-focused Training Programs
- Traditional training manuals; cumbersome exercise
- It's not only ppts and background technical materials
- Accessibility and Flexibility to extract exact need

Outline of the Kit

Colours and Icons	#	Module	Duration (hrs)*	T/P	SMALL MEDIUM Domestic/light Commercial WorkShops	Commercial A/C (Large Service Companies and Workshop)	Commercial Refrigeration
Colours and Icons	#	Module	Duration (hrs)*	T/P	Master Trainers and technicians	Master Trainers and technicians	Master Trainers and technicians
 ORANGE	1. General Module						
	A	Environmental & global policy background	1	T	X	X	X
	B	Refrigerants Classification and Types	1	T	X	X	X
	C	Lubricants for different refrigerant groups	1	T	X	X	X
	D	Refrigerants selection for different applications	2	T	X	X	X
	E	Identification, transport, storage and Safe handling of refrigerants and refrigerants containers	2	T/P	X	X	X
	F	Best Practices for servicing with non flammable fluorinated refrigerants, Recovery, Brazing, Evacuation, Charging, Leak Checking	2	T/P	X	X	X
	G	International and local policies, Standards and Codes	2	T	X	X	X
	H	Labelling and Record Keeping	1	T	X	X	X
 BLU R600a R290	2 Hydrocarbons (Materials compatability, specific components, specific relevant standards, identification, installation requirements, servicing** considerations, PPE and First Aid, safety checks for units and space, etc.)						
	A	Use of R-290 in small applications air-conditioning	15	T/P	X		
	B	Use of R-600a/R290 in small applications refrigeration	15	T/P			
 GREEN	3 Low-GWP HFC/HFO (Materials compatability, specific components, specific relevant standards, identification, installation requirements, servicing** considerations, PPE and First Aid, safety checks for units and space, etc.)						
	A	Use of Low-GWP HFC/HFOs in small applications air-conditioning	15	T/P	X		
	B	Use of Low-GWP HFC/HFOs in commercial air-conditioning	15	T/P		X	
	C	Use of Low-GWP HFC/HFOs in commercial/industrial refrigeration	15	T/P			X
	D	Use of Low-GWPHFC/HFOs in transport refrigeration***	15	T/P			X
4 Maximizing Energy Efficiency in Servicing and Managing RAC Applications							
A	Maximizing Energy Efficiency in Managing RAC plants	10	T				
B	Maximizing Energy Efficiency in Servicing commercial air-conditioning	5	T/P		X		
C	Maximizing Energy Efficiency in Servicing commercial refrigeration	5	T/P			X	



AREA-UNEP Universal Training Kit

What will be the format of the final materials

1. Pre-Assessment test (to be taken before the training start)
2. Post training assessment
3. Venue requirements for training (Equipment, Tools, Aids, Consumables, etc.)
4. Instructors minimum qualification
5. Guide for the instructor
6. Checklists and procedures to start and hold a training course
7. Supporting Syllabus, Textbook, Manuals, Tables, charts
8. PowerPoint [presentations for instructors
9. Hand-out Material for the attendees

AREA-UNEP
Universal
Training Kit;
Documents
Generating
Matrix

Colours and Icons	#	Module	Duration (hrs)*	T/P	Mandatory	Required documentation and documents' codes								
						Pre Assessment	Venue Req.	Teacher Qualif.	Instructors Guide	Powerpoint	Equipment needed	Syllabus and Material	Final test	
ORANGE	1. General Module													
	A	Environmental & global/national policy background	2	T	Y			E		G		M	R	
	B	Refrigerants Classification and Types	1	T	Y	A		E	F	G		M	R	
	C	Lubricants for different refrigerant groups	1	T	N	B		E	F	H		N	S	
	D	Refrigerants selection for different applications	2	T	Y	A		E	F	G		M	R	
	E	Identification, transport, storage and Safe handling of refrigerants and refrigerants containers	2	T/P	N		C	D	E	F	I	L	O	T
	F	Best Practices for servicing with non flammable fluorinated refrigerants, Recovery, Brazing, Evacuation, Charging, Leak Checking	2	T/P	N		C	D	E	F	Z	L	Y	T
	G	International and Local Policies, Standards and Codes	2	T	N				E		J		P	U
	H	Labelling and Record Keeping	1	T	N					F	K		Q	V
YELLOW	2 Hydrocarbons													
	A	Use of R-290 in small applications air-conditioning	15	T/P	N		AA	AB	AC	AD	AE	AF	AG	AH
	B	Use of R-600a/R290 in small applications refrigeration	15	T/P	N		AI	AB	AC	AD	AJ	AK	AL	AM

Select the courses you want to request *

- Master Train-the-Trainers for small A/C applications ([More](#))
- Master Train-the-Trainers for small Ref applications
- Master Train-the-Trainers for small applications
- Training of A/C servicing technicians on Sound management (with A3 refrigerants)
- Training of A/C servicing technicians on Sound management (with midly A2L refrigerants & non-flammables)
- Training of A/C servicing technicians on Sound management (with A3 & A2L refrigerants)
- General Course on Refrigerant Management
- General Course on Refrigerant Knowledge (without hands-on)
- I would like to choose the modules individually and create a custom course

https://www.unenvironment.org/content/.../resources/gwp-odp-calculator/gwp-odp-calculator


E-CONNECTION GWP-ODP Calculator | Obs...

UN Environment | Environmental rights and governance

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Universal Training Kit on Alternative Refrigerants



This product, developed in cooperation with AREA, is a specialised “*Universal Training Kit on Alternative Refrigerants*” for the use of training institutes and centres in developing countries with the aim of offering state-of-art information and knowledge on the best practices and techniques in managing and handling future, mainly flammable, refrigerants in sound and safe manners by different stakeholders of the RSS sectors.

[Read more>>](#)

Universal Training Kit on Alternative Refrigerants

[Access the database](#)

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(+33) 1 44 37 14 50 | ozonaction@unep.org

UN environment

UN Environment is an implementing Agency of the Multilateral Fund for the Implementation of the Montreal Protocol. OzonAction is part of UN Environment's Law Division and serves 147 developing countries through the Compliance Assistance Programme.

Universal Training Kit on Alternative Refrigerants

About you / Choose the course

About you

Name *

Email *

Organisation/training school *

Role *

Country

Autosuggest country names according to [UN denomination](#)

Select the courses you want to request *

- Master Train-the-Trainers for small A/C applications ([More](#))
- Master Train-the-Trainers for small Ref applications
- Master Train-the-Trainers for small applications
- Training of A/C servicing technicians on Sound management (with A3 refrigerants)
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- General Course on Refrigerant Management
- General Course on Refrigerant Knowledge (without hands-on)
- I would like to choose the modules individually and create a custom course

Next

About you / Choose the course

About you

Name *

Ayman

Email *

ayman.eltalouny@un.org

Organisation/training school *

OzonAction

Role *

Programme Officer

Country

Autosuggest country names according to [UN denomination](#)

Select the courses you want to request *

- Master Train-the-Trainers for small A/C applications ([More](#))
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Next

Universal Training Kit on Alternative Refrigerants

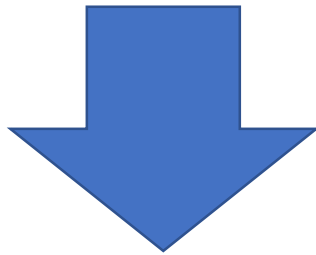
Thank You!

Dear Ayman,

Your request was sent to XXX@XXXX.com

We will get back to you shortly on the courses you've requested by email.

OzonAction



This will prompt automatic communication with the respective NOU to verify that the applicant represent a local accredited training institute and access to the Universal Training Kit can be granted



AREA-UNEP Universal Training Kit

Material
Development
(completed)

Review and
Layout
(end of 2019)

Platform
Development
(end of 2019)

Pilot Launching
(Jan 2020)

Full Launch
(April 2020)

Thank you

