The importance of certified professional training for natural refrigeration

Speaker:
Marco Buoni
Secretary General
ATF-Associazione dei Tecnici del Freddo
Priorities

Where do we stand?

- Gaps following the EU increase in use of Alternative Refrigerants: **Training, Recovery and recycling, Retrofitting, Availability**
- **APP** on EN378
- **Guidelines** on pre-charged equipment, recycling, retrofitting

What are the challenges that need to be tackled?

- **More Training:** **Manuals, Real Alternatives**
- **Certification:** Should be **Mandatory** also for **Alternative Refrigerants**, **Illegal trade** Southern (Italy-Greece) and Eastern Europe (Poland), coming from Turkey, China
- Guidelines, Use the **right tools** and equipment, **no retrofitting** with flammables

Other regions in the world get inspiration from the F-Gas Regulation?

- **International cooperation in capacity buildings**, similarities in article 5 countries
- **UT-KAR** (Universal Training Kit for Alternative Refrigerants)
- **RDL** (Refrigerant Driving Licence)
- **Certification Schemes in line with F-gas regulation** (we are already working in Albania, Bahrain, Gambia, Kuwait, Tunisia, Turkey many more…)

What’s next?

- **Common** training and certification schemes, for mutual recognition worldwide
- **Increase awareness** on good practices, recovery, safety
- Move globally to **Low GWP refrigerants**, keeping High **Energy Efficiency**
- **Safety and standards** (in particular for flammables) **EN13313, EN378 …**
Fill the gaps in Italy, EU and beyond

We are working on:

• More Training
  – Manuals, Real Alternatives,
• Mandatory Certification
  – Guidelines
• The right tools
  – Guidelines
• Safety standards
  (in particular for flammables)
  EN13313, EN378 …
Warnings from Italy, EU

- Increase prices of refrigerants
  (over 1000% for R404a, 400% R134a)

- R404a ban, no retrofit with flammable refrigerants

- Illegal trade from Southern (Italy-Greece) and Eastern Europe (Poland), coming from Turkey and China

- Importance of Associations as AREA, ATF who are continuously communicating to members and stakeholders about these warnings
  In article 5 countries Associations should be established and strong
Guidelines

- Equipment for handling refrigerants with lower (A2L) and higher (A3) flammability

Example of Figure from the guideline: Possible sources for leakage and safety equipment used when filling flammable refrigerant

! Translated already in 8 languages, including 5 out of 6 UN languages!
## Equipment and tools

<table>
<thead>
<tr>
<th>Equipment and tools of the certified personnel to be supplied by his employer</th>
<th>RC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manifold</td>
<td>x</td>
</tr>
<tr>
<td>Vacuum Gauge or Vacuum Meter</td>
<td>x</td>
</tr>
<tr>
<td>Temperature meter</td>
<td>x</td>
</tr>
<tr>
<td>Portable leak detector</td>
<td>x</td>
</tr>
<tr>
<td>Refrigerant weight Scale</td>
<td>x</td>
</tr>
<tr>
<td>Vacuum pump</td>
<td>x</td>
</tr>
<tr>
<td>Recovery set</td>
<td>x</td>
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<tr>
<td>Nitrogen pressure regulator</td>
<td>x</td>
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<tr>
<td>Recycling cylinder</td>
<td>x</td>
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</tbody>
</table>

- **Figure 4** Recovery cylinder, how to label it
- **Figure 5** Vacuum pump
- **Figure 6** Refrigerant recovery machine
- **Figure 7** Leak detector
- **Figure 8** Scale
- **Figure 9** Vacuum Gauge
- **Figure 10** Pressure Manifold
- **Figure 11** Temperature Meter
Project Alternative Refrigerants (incl. naturals)

- Multi-lingual website (15 languages)
- Free guides (download learning materials)
- Licensed Training providers list
- E-library of additional resources
- E-learning link to register
- Sign up for newsletters
- See latest news and events
Training and certification worldwide

- Together with the UN implementing agencies UNEP, UNIDO, UNDP over the past few years AREA has been deeply involved in helping developing countries through training RSS technicians to install, repair, maintain and design RAC systems and numerous Certification Sessions in Africa and Asia.

- Pics from top: Rwanda, Former Soviet Unit Rep, Benin, Gambia, and also Ghana, Tunisia, Eritrea, Montenegro, Saudi Arabia, Turkey… etc…).
Assessing training centers in article 5 countries

- Gambia
- Rwanda
- Kuwait, Bahrain, Qatar
- Maldives
- Grenada (Caribbean) …

→ Good equipment, sometimes sitting on the shelf.
→ Propose a package, tools, training and certification (pushing for including in the legislation) to make it sustainable
Conclusions

• EU, Italy is doing the first step and it is a success even if with difficulties
• Warning on retrofitting with flammables – taking the short route
• Recovery and Recycling and Reclaiming
• Training and certification is Key
• Use the right tools
• EU, Italy is happy to assist article 5 countries and it is doing already
Thank You!

Contacts:
Marco Buoni
buoni@centrogalileo.it

SIDE EVENT
THE FOOD COLD CHAIN: SOLUTIONS FOR SUSTAINABLE COMMERCIAL REFRIGERATION