EUROPEAN COMMISSION
DIRECTORATE-GENERAL
CLIMATE ACTION
Directorate C - Mainstreaming Adaptation and Low Carbon Technology
CLIMA.C.2 - Transport and Ozone

MINUTES

1st meeting of the Consultation Forum according to Art. 23 of Regulation (EU) No 517/2014 on fluorinated greenhouse gases

Thursday 10 September 2015 (9:00 – 18:00)

Participants: See "Attendance List" in Annex.

1. WELCOME AND PRESENTATION

The **COM** welcomed the participants and recalled that the creation of the Consultation Forum is based on Article 23 of the F-gas Regulation, which states that:

"In implementing this Regulation, the Commission shall ensure a balanced participation of Member States' representatives and representatives of civil society, including environmental organisations, representatives of manufacturers, operators and certified persons. To that end, it shall establish a Consultation Forum for those parties to meet and provide advice and expertise to the Commission in relation to the implementation of this Regulation, in particular with regard to the availability of alternatives to fluorinated greenhouse gases, including the environmental, technical, economic and safety aspects of their use. The rules of procedure of the Consultation Forum shall be established by the Commission and shall be published."

The **COM** informed that the members of the Consultation Forum include Member State F-Gas officials, transnational industry associations and NGOs. Ad-hoc technical experts are invited as needed based on the agenda. The Commission webpage on expert groups[1] lists the nominated organisations and the rules of procedures for the Forum. The COM, represented by DG CLIMA, will be chairing the meetings.

The **COM** explained that this first meeting of the Consultation Forum is to examine three specific issues related to the implementation of the F-Gas Regulation:

a) Barriers to the use of low GWP alternatives to HFCs related to standards, codes and legislation. A Commission report requested in Article 11(6).
b) Barriers to the use of low GWP alternatives to HFCs related to training. A Commission report is requested in Article 21(6).
c) Opportunities to stimulate the market for low GWP alternatives through Green Public Procurement.

[1] http://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupDetail&groupID=3338

External studies investigating these issues will conclude in November 2015. Preliminary findings are summaried in background notes that had been sent to members ahead of the meeting.

Feedback on the preliminary findings was welcomed under the respective discussion sessions and index cards provided to attendees. In addition, members were also invited to submit additional written feedback on three topics by Friday 25th September 2015 via the email address: CLIMA-FGAS-CONSULTATION-FORUM@ec.europa.eu.

2. TOPIC A: BARRIERS RELATED TO CODES, STANDARDS AND LEGISLATION WITH RESPECT TO REPLACEMENT TECHNOLOGIES USING ALTERNATIVES TO F-GASES IN RACHP EQUIPMENT AND FOAMS (ART. 11(6) OF REGULATION (EU) NO 517/2014).

The consultants presented the preliminary findings regarding barriers related to codes, standards and legislation with respect to replacement technologies using alternatives to F-gases[2].

In response, **Ireland** inquired if international standards also pose roadblocks similar to standards in the EU. The consultant replied that it varied significantly in geographic areas. UL codes in North America tend to be more restrictive. ISO 5149 updates usually resembles EN378 developments. Harmonising standards will be difficult as other countries, e.g. Japan, take a different approach. Responding to a question, the **consultant** clarified that the main message was that standards related to ammonia and CO2 are less problematic, whereas standards affecting flammable refrigerants require urgent attention.

COM asked for feedback and comments, in particular on the following issues:

- The completeness of identified MS codes/standards/legislation and EU standards limiting the uptake of low GWP technologies.
- Identification of flammable refrigerants as the most problematic area, and key changes required to address this problem
- Improvement of standard setting process, data required and what future work at the European level is necessary

On completeness of the presented data, **EHI** indicated that the General Product Safety Directive is relevant for importers of equipment. An **ad-hoc expert** added that the Appendix A of Machinery Directive should be added as EN378 is harmonised with this Directive. There is an important link between EN378 (general) and with EN 60335-2-40 and EN 60335-2-89 (product standards). Furthermore, it should be clarified that product standards always prevail over general standards. **EFCTC** commented that for other applications such as foams, aerosol and solvents standards are also relevant, not only economic considerations. Standards take a long time and ressources to set and influence the introduction of low GWP alternatives. **JBCE** drew the attention to charge limitations in transport and storage related codes. **EPEE** inquired if the consultants had taken into account fire brigade safety rules in each country. The **consultants** highlighted that during

[2] All background information and presentations can be found here: http://ec.europa.eu/clima/events/articles/0106_en.htm

the research Member States had been asked about local regulations, but little feedback was received in this area.

On the question of the most problematic areas, a number of respondents agreed that enabling the increased but safe use of flammable refrigerants was the key issue to address. **Transfrigoroute** pointed out that there may be limitations on the use of hydrocarbons (HCs) in refrigerated vehicles that enter tunnels or covered areas. They also drew the attention to barriers posed by local and regional standards. **ASERCOM** stated that harmonisation of flammability between standards is key and that there is too much room for interpretation at present. **AREA** emphasised that people handling equipment must have the necessary skills. **CHEAA** stated that standards have become a big barrier, especially the existing charge size limits for HCs. In their view, existing requirements are unfair and result in increased costs for equipment using HCs. Instead, standards should rather promote the use of HCs. Bonus approaches under Ecodesign are such options. **JBCE** emphasised that A2L and A3 refrigerants should not be put in the same basket, as there are differences in burning velocity, and consequently, the safety rules should not be the same. For the future, more risk assessments would be needed.

On the standard setting process, **Shecco** pointed out that the process currently favours HFCs. They suggested that possibly own standards for natural technologies may be needed as they require a different approach. Moreover, HC experts were not sufficiently involved in standard setting today. Hence, it was suggested that COM could initiate a working group of natural refrigerant experts. In reply, **COM** pointed out that such a group should be linked to the European Standardisation Committees. **EPEE** noted that it is erroneous to divide manufacturers in those using HFCs and those using natural refrigerants. Many manufacturers use both types of refrigerants. Also it was important to use existing structures instead of setting up new groups.

An **ad-hoc expert** suggested finding ways to accelerate the standard setting process to avoid that it would take 5 years before the currently discussed requirements for HCs become available. These standards are urgent considering the phase-down step in 2018. Also, he highlighted that product standards are also IEC (international) standards: non EU stakeholders are involved in the development of the text resulting in further divergent opinions regarding risk and liability. Greater efforts are needed to address product standards at EU level instead of IEC level. Potentially negotiations between IEC and EU technical committees could accelerate the process and encourage parallel activities. Working groups at EU level should be initiated. It would also be useful to harmonise standard EN378 and product standards with the ATEX Directive to give a robust legal base for the application of flammable refrigerants. This would help legal compliance, and would be useful for installers and manufacturers in particular.

Another **ad-hoc expert** agreed that the standard development process could be improved and pointed to the importance of updating EN 378. She explained that the 2010 mandate included flammability within its scope. 1500 comments have been reviewed and addressed in the process. All Technical Committees now have to vote either 'in favour' of the changes or for launching an 'enquiry'. If the vote is positive the standard is likely to be published in 2016, if there is an enquiry then this could take a long time. After publication the standards can be amended via a ‘fast track’ process which is 6 months at least – subject to national committee input and approval.

A third **ad-hoc expert** recalled the difference between standards that are implemented and written by governments and technical standards like EN378 which are developed by industry. Standards Committees are restricted in terms of participation, but can be

significant in number e.g. in Germany the committee consists of 30 members. She acknowledged that HC technologies were not sufficiently represented. This, however, was largely due to the process. Standard development activities are costly and time consuming and companies using HCs are often small companies that cannot give priority to such work. At the same time, as HCs become more important, its representation in the Standard Committees also increases in importance. The Industry itself will have to drive this development as Member States cannot. Test and risks assessment should support this development. Today, in Germany more permissive national standards (i.e. allowing higher charge size) are often not exploited by companies who look at more restrictive EU or international standards.

Ireland asked if carrying out risk assessments is a barrier in itself and enquired about the process and who pays the assessments. An **ad-hoc expert** responded that there is no specific process for assessments. The Standards Committee relies on what data/information is made available to it by experts. She cautioned that liability is an issue for many companies and that there are different ideologies in Japan, US and Europe on the approach to take. Another **ad-hoc expert** pointed out that risk assessments are often prohibitively expensive, especially for SMEs, and that there is disagreement also on the data needed for assessing risks (e.g. realistic leak hole sizes).

On further action, **JBCE** suggested targeting the seven Member States that identified barriers to see how these could be removed and to speed up implementation. **ECOS** proposed to get the HC manufacturers more strongly involved in standard setting and provide more transparency on the process including the right for NGOs to participate. A standardisation request to create a standard for natural refrigerants and a working group on low GWP refrigerants would be the logical next steps. Another option if this approach is not successful is to create a separate standard for hydrocarbon use. **EIA** emphasised the role of MS and national committees where there is not always a close connection. The right participation should be encouraged and enabling the availability of the necessary data would be helpful to improve the standard setting work. **JRAIA** pointed out that risk assessments are key. They have data on R32, but HC would need updating. **CHEAA** cautioned that reality can be different to simulation software, meaning real data are needed. Objective results are complicated by the fact that each company has its own opinions on the different technologies.

Ireland reminded about the funding available through the EC LIFE Programme which calls for projects and offers 60% funding from the EC. In 2015 LIFE has identified F-gases as a priority area for funding. **The consultants** propose the possible development of a two track approach to maximise the availability of low GWP options: finalising EN378 and at the same time promoting measures to overcome obstacles for HC refrigerants including a realistic timetable for achieving this.

The COM asked participants to fill in index cards containing the following questions:

- Biggest hurdle for low GWP refrigerants as regards standards
- Future focus of work for European standardisation organisations

A summary of the feedback obtained in this way is given under point 6.

3. TOPIC B: TRAINING FOR THE SAFE HANDLING OF ALTERNATIVE REFRIGERANTS TO REPLACE OR TO REDUCE THE USE OF F-GASES (ART. 21(6) OF REGULATION (EU) NO 517/2014).

The **consultants** presented their preliminary findings and an **ad-hoc expert** presented the REAL alternatives project.[2]

In response, **France** indicated their intention to follow up on possible recommendations from the AFCE study as a priority in the next months. **Spain** inquired on having the REAL alternatives material available in other languages to which the **ad-hoc expert** replied that a funding extension of the project would be necessary. Responding to a number of questions, he also clarified that practical training is very important, but that Real Alternatives is limited to e-learning. Real Alternatives includes recommendations for a certification scheme based on AREA guidelines but it would require practical and classroom training the project currently does not provide. The availability of practical facilities is a barrier because it is expensive. **Shecco** added that they will be publishing a report soon on availability of training for natural refrigerants.

COM asked for further comments, in particular on the following issues

- Completeness of identified EU and MS legislation and its sufficiency as a framework for providing training for alternatives

- What and where the existing gaps are today and how they can be filled

AREA advocated a more proactive system and asked for an EU mandatory certificate demonstrating the necessary competence. They highlighted imposing mandatory training is not useful, but testing competence would be. **JBCE** added that we know from other countries e.g. Japan that the full life cycle needs to be considered e.g. installation stage, storage and transportation, use and disposal stages. **WWF EPO** found that an EU wide harmonised approach was necessary and that the scope of the F-gas implementing regulations on training and certification could include training for natural and low GWP alternatives. **EHI** pointed out that existing legislation, e.g. the General Product Safety Directive, already provide a legal duty that products are handled safely. The manufacturers have an existing legal obligation including on informing on the risks of the products they supply. **EuroCommerce** pleaded for mandatory compulsory training for instance for the use of ammonia in food retail.

An **ad-hoc expert** stated that training in alternatives would be pointless unless the technicians already had a basic fundamental understanding of refrigeration equipment. **AREA** found that baseline qualifications were adequate as technicians are highly qualified and usually have undertaken 3-5 years training. He suggested making certification mandatory for alternatives, to create demand for training and thereby give trainers and schools an incentive to offer the training.

Shecco had the impression that many think that it is not yet important to acquire training on alternative refrigerants. Some awareness raising could be done in partnership with trade bodies and associations of the fast approaching need for training resulting from the F-gas Regulation. Also subsidies from MS or the EU would be appropriate in the area of training. At the same time mandatory certification should not be used to create additional barriers for natural refrigerants. **EPEE** suggested promoting Standard EN13313 as this is a useful summary of required competencies and skills. They had already launched several

initiatives to raise awareness. They considered the COM could play a role, for instance through links from the EC website.

Ireland indicated that when companies sell CO2 equipment they provide training and inquired if industry could help more to fill the training gap. Governments cannot be expected to take the lead on this.

The COM asked participants to fill in the index cards containing the following questions:

- Biggest hurdle for low GWP refrigerants as regards training
- How to overcome existing gaps

A summary of the feedback obtained in this way is given under point 6.

4. TOPIC C: GREEN PUBLIC PROCUREMENT WITH A FOCUS ON F-GASES.

The **consultants** presented their preliminary findings and an **ad-hoc expert** presented the REAL alternatives project.[2]

The **COM** asked for comments, in particular on the following issue

- How to use GPP to support the phase-down
- Most promising target areas for procurement of low GWP alternatives

Ireland asked if there will be a report that includes the case studies and if the EU GPP committee has a database that could be exploited. The **consultants** highlighted that the EU GPP online case study database is available on the Commissions website has been reviewed, but none highlight any action on F-Gases yet. The case studies developed as part of this study will be made available for wider circulation. **Ireland** stated that implementation of the GPP policy is difficult due to a predominant focus on costs. Case studies showing reduced life cycle costs could encourage the use of low GWP alternatives. **AREA** noted that in addition to the air-conditioning sector, there is also potential in the catering business, which use significant amounts of coolers and fridges, e.g. in schools and public areas.

The COM asked participants to fill in the index cards containing the following questions:

- Most promising target areas for procurement of low GWP alternatives

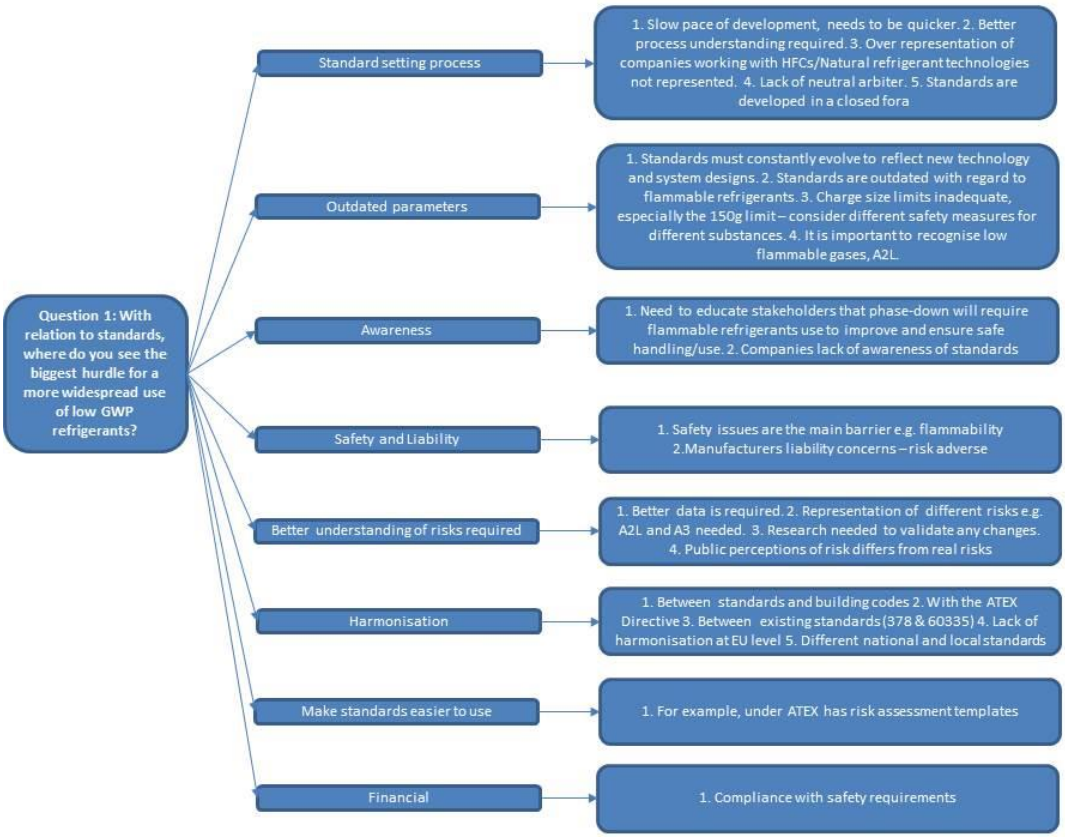
A summary of the feedback obtained in this way is given under point 6.

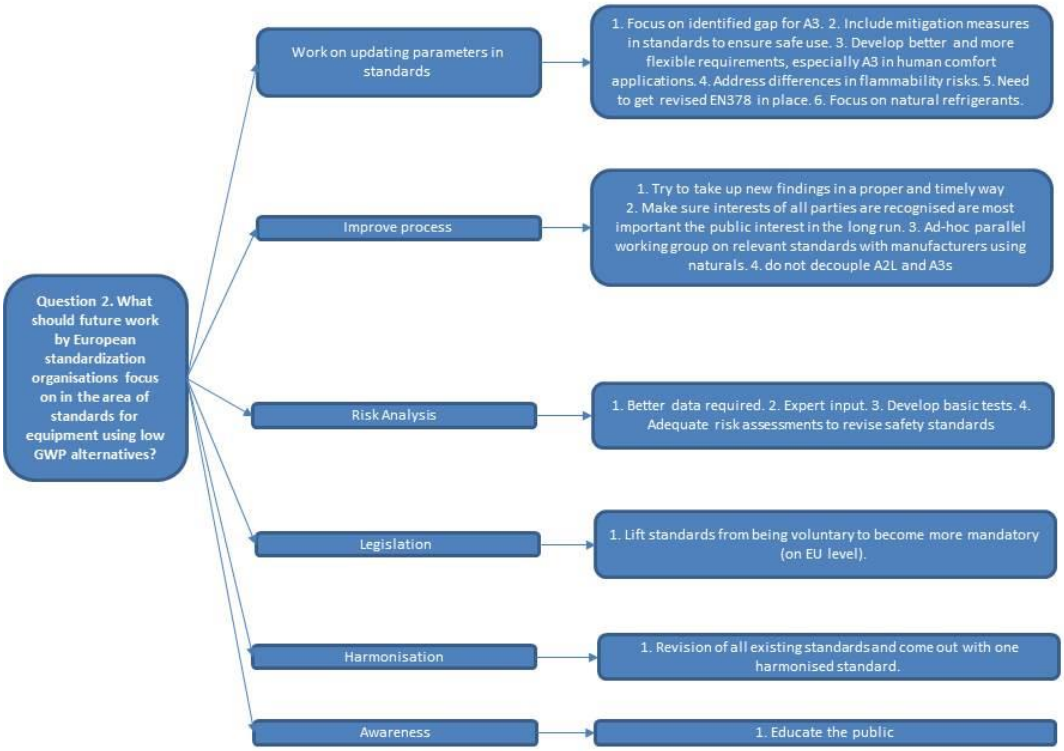
5. CLOSE

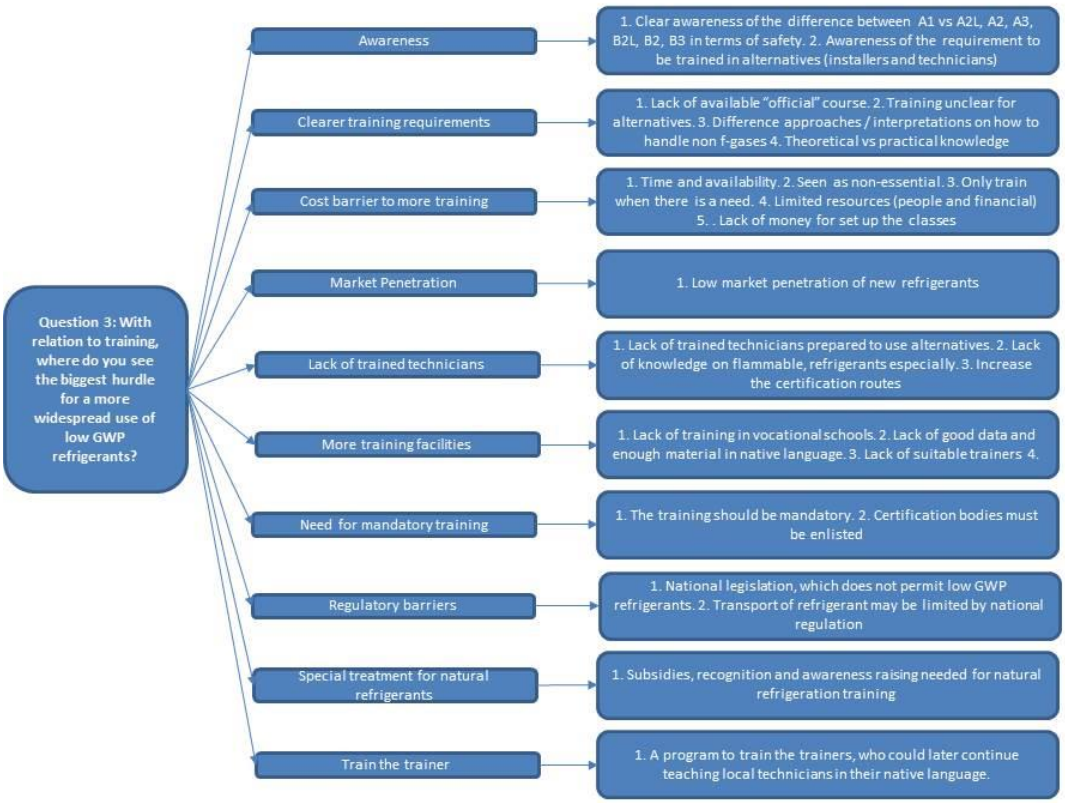
The **consultants** summarised initial observations from the index cards from topic A and B and noted that the input from the index cards for all three topics will be further analysed.

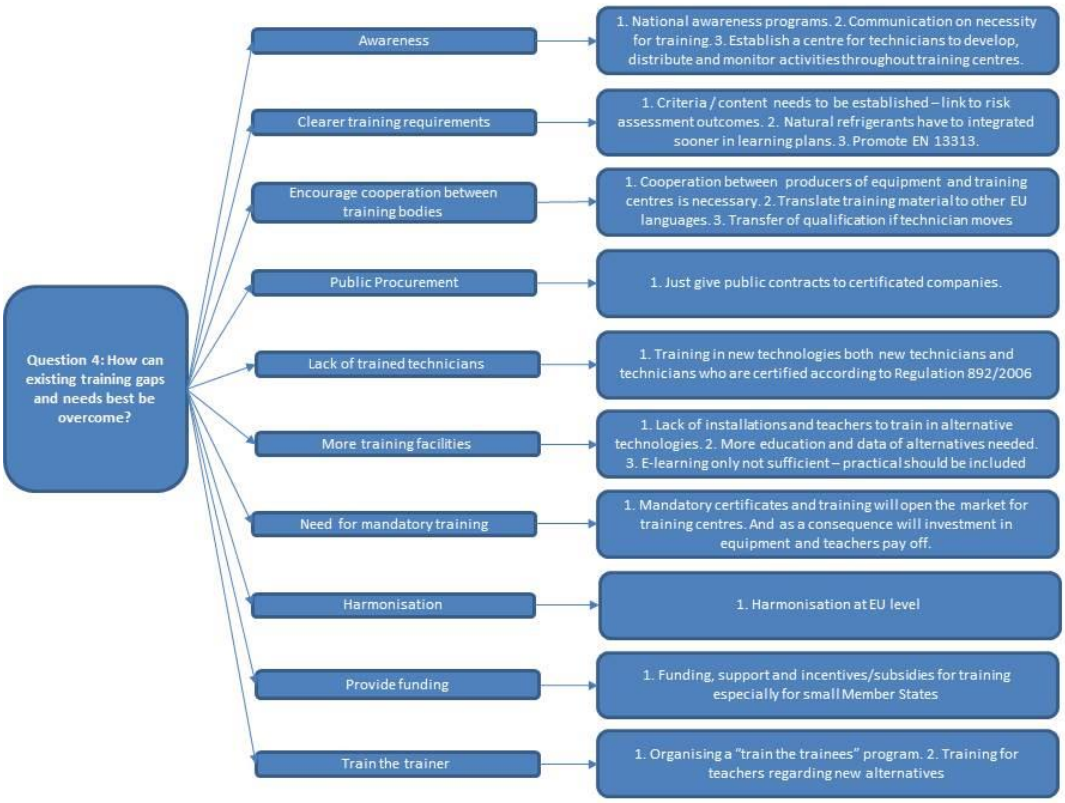
COM thanked participants for their valuable input and requested any further feedback and data from stakeholders in writing by 25 September 2015 at the latest.

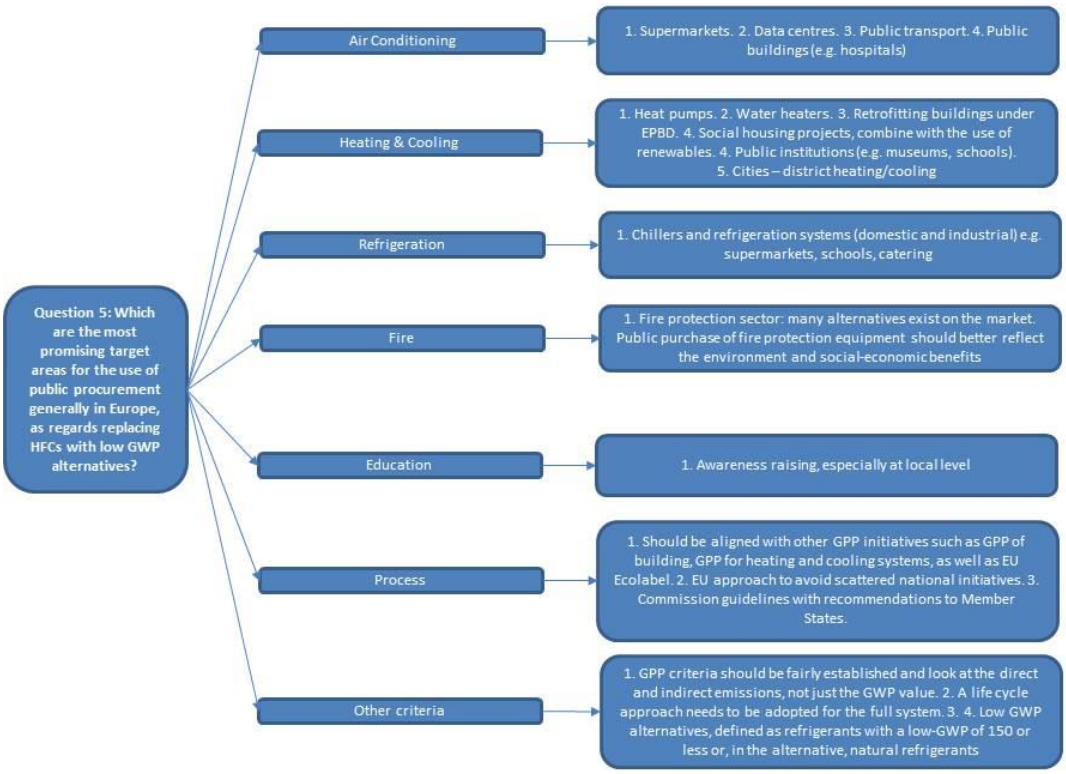
6. FEEDBACK RECEIVED THROUGH INDEX CARDS






Question 3: With relation to training, where do you see the biggest hurdle for a more widespread use of low GWP refrigerants?
Awareness
1. Clear awareness of the difference between A1 vs A2L, A2, A3, B2L, B2, B3 in terms of safety. 2. Awareness of the requirement to be trained in alternatives (installers and technicians)
Clearer training requirements
1. Lack of available "official" course. 2. Training unclear for alternatives. 3. Difference approaches / interpretations on how to handle non f-gases 4. Theoretical vs practical knowledge
Cost barrier to more training
1. Time and availability. 2. Seen as non-essential. 3. Only train when there is a need. 4. Limited resources (people and financial) 5. . Lack of money for set up the classes
Market Penetration
1. Low market penetration of new refrigerants
Lack of trained technicians
1. Lack of trained technicians prepared to use alternatives. 2. Lack of knowledge on flammable, refrigerants especially. 3. Increase the certification routes
More training facilities
1. Lack of training in vocational schools. 2. Lack of good data and enough material in native language. 3. Lack of suitable trainers 4.
Need for mandatory training
1. The training should be mandatory. 2. Certification bodies must be enlisted
Regulatory barriers
1. National legislation, which does not permit low GWP refrigerants. 2. Transport of refrigerant may be limited by national regulation
Special treatment for natural refrigerants
1. Subsidies, recognition and awareness raising needed for natural refrigeration training
Train the trainer
1. A program to train the trainers, who could later continue teaching local technicians in their native language.


Question 4: How can existing training gaps and needs best be overcome?
Awareness
1. National awareness programs. 2. Communication on necessity for training. 3. Establish a centre for technicians to develop, distribute and monitor activities throughout training centres.
Clearer training requirements
1. Criteria / content needs to be established – link to risk assessment outcomes. 2. Natural refrigerants have to integrated sooner in learning plans. 3. Promote EN 13313.
Encourage cooperation between training bodies
1. Cooperation between producers of equipment and training centres is necessary. 2. Translate training material to other EU languages. 3. Transfer of qualification if technician moves
Public Procurement
1. Just give public contracts to certificated companies.
Lack of trained technicians
1. Training in new technologies both new technicians and technicians who are certified according to Regulation 892/2006
More training facilities
1. Lack of installations and teachers to train in alternative technologies. 2. More education and data of alternatives needed. 3. E-learning only not sufficient – practical should be included
Need for mandatory training
1. Mandatory certificates and training will open the market for training centres. And as a consequence will investment in equipment and teachers pay off.
Harmonisation
1. Harmonisation at EU level
Provide funding
1. Funding, support and incentives/subsidies for training especially for small Member States
Train the trainer
1. Organising a "train the trainees" program. 2. Training for teachers regarding new alternatives


Question 5: Which are the most promising target areas for the use of public procurement generally in Europe, as regards replacing HFCs with low GWP alternatives?
Air Conditioning
1. Supermarkets. 2. Data centres. 3. Public transport. 4. Public buildings (e.g. hospitals)
Heating & Cooling
1. Heat pumps. 2. Water heaters. 3. Retrofitting buildings under EPBD. 4. Social housing projects, combine with the use of renewables. 4. Public institutions (e.g. museums, schools). 5. Cities – district heating/cooling
Refrigeration
1. Chillers and refrigeration systems (domestic and industrial) e.g. supermarkets, schools, catering
Fire
1. Fire protection sector: many alternatives exist on the market. Public purchase of fire protection equipment should better reflect the environment and social-economic benefits
Education
1. Awareness raising, especially at local level
Process
1. Should be aligned with other GPP initiatives such as GPP of building, GPP for heating and cooling systems, as well as EU Ecolabel. 2. EU approach to avoid scattered national initiatives. 3. Commission guidelines with recommendations to Member States.
Other criteria
1. GPP criteria should be fairly established and look at the direct and indirect emissions, not just the GWP value. 2. A life cycle approach needs to be adopted for the full system. 3. 4. Low GWP alternatives, defined as refrigerants with a low-GWP of 150 or less or, in the alternative, natural refrigerants

ANNEX – Attendance List

European Commission: Directorate-General for Climate Action

Consultants to the European Commission: GLUCKMAN Consulting and RICARDO-AEA

Participants:

Austria
Belgium
Croatia
Denmark
Estonia
Finland
France
Germany
Hungary
Ireland
Italy
Lithuania
Malta
Netherlands
Poland
Portugal
Spain
Sweden
United Kingdom
ACEA
AmCham EU
AREA
ASECOM
Business Europe
Carbon Market Watch
CECED
CHEAA
Climate Action Network Europe
ECOS
ECSLA
EEB
EFCTC
EHI
EIA
ENTSO-E
EPEE
ESIA
Eurammon
Eurelectric

Eurocommerce
Eurovent
EVA
FEA
Food Drink Europe
IIR
JBCE
JRAIA
PU Europe
Shecco
T&D Europe
Transfrigoroute
WWF EPO

Ad hoc experts and Speakers:

Associazione dei Tecnici del Freddo
Convenor of Working Group 6 of CEN/TC 182
Member of WG6 of CEN/TC 182, RTOC member
Umweltbundesamt Germany (UBA)
Estonian Environmental Research Centre
Oeko-Recherche
Gesellschaft für Internationale Zusammenarbeit (GIZ)