

F-Gas Consultation Forum

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Topic C: Public Procurement and F-Gases

Preliminary findings of external study carried out for DG CLIMA

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Aims and approach to the study

- Our research has and continues to investigate:
 - EU GPP requirements on F-gases and on which product groups
 - The status of GPP requirements for F-gases at national, regional and municipal level
 - The experiences of using such requirements where they exist
 - If there is no GPP F-gas activity understanding why, and
 - Considering potential opportunities where GPP could be used to support F-Gas policy

- This has and will be achieved through:
 - Literature review
 - Member State survey
 - Direct communication with relevant stakeholders
 - Development of case studies
 - Input from this forum

Public procurement should be viewed as an opportunity to catalyse and positively reinforce HFC/F-Gas alternatives

- **G7 Summit Declaration, Brussels, 5 June 2014**
 - *"11. [...] we will promote public procurement of climate-friendly HFC alternatives."*
- **Ban Ki Moon UN Climate Summit, New York, September 2014**
 - *"The public sector can play a key role in promoting climate-friendly alternatives through their own procurement policies to reduce purchasing and transition over time away from high-GWP HFCs toward energy-efficient, low-GWP alternatives. In many countries, the public sector represents a significant share of the total use of HFCs."*
[Climate and Clean Air Coalition (CCAC) Action Statement]
- **UNEP, March 2015**
 - *Workshop in South Korea, Asia, to promote public procurement of HFC alternatives*

How can public procurement be utilised?

- Public procurement represents a significant market
 - European public sector expenditure was over **€2 trillion; 17% of the EU's GDP**
- This purchasing power represents an opportunity to transform the products bought and subsequently influence the long term market
- Potential stimulation of “alternatives market” via green public procurement (GPP)
- EU Level
 - EU Green Public Procurement scheme
 - “a process whereby public authorities seek to procure goods, services and works with a reduced environmental impact throughout their life-cycle when compared to goods, services and works with the same primary function that would otherwise be procured.”*
- Member State/Country Level
 - Individual Member State / Country schemes
 - Regional and Municipal levels

- GPP is an official tool of European Sustainable Production and Consumption policy
- Significant use of life cycle cost approach to procurement, if used correctly
- Includes GPP specifications and other supporting activities e.g. training toolkits, news alerts, publications, case studies
- EU GPP is a **voluntary measure**, working to stimulate **demand** for products, services and goods with a reduced environmental impact, stimulus for eco-innovation.
- Core and comprehensive criteria are the key details
- Core criteria: initial requirements, more basic and common requirements
 - e.g. if you are buying a fridge (food and catering services), it must be at least an A⁺⁺ grade
- Comprehensive criteria are the more stretching
 - e.g. for a fridge it might be that A⁺⁺⁺ is required, and/or that the refrigerant in the system uses low GWP gas

There is the opportunity to use GPP to help lead the way on F-Gas compliant products, and to identify if this is already happening in some areas

- There are already GPP product groups with F-Gas criteria

Product group		Comprehensive Requirement
Transport	Vehicles (cars)	A/C system using an F-gas must have a GWP lower than 150*
	Vehicles (buses)	A/C system using an F-gas must have a GWP lower than 2500
	Transport services	A/C system using an F-gas must have a GWP lower than 2500
Food and catering services	Fridges and freezers	Free of HFCs
Electrical equipment in healthcare	Medical refrigerators	Refrigerants used where the GWP less than 10 (award criteria)
Water based heaters		Primary refrigerant will have a GWP of less than 2000**

*If the GWP is higher, the leakage rate from the system must not exceed 40g of fluorinated greenhouse gases per year for a single evaporator system, or 60g of fluorinated greenhouse gases per year for a dual evaporator system.

** Space heaters with secondary refrigerant, must not have the design based on the secondary refrigerant, brine or additives classified as environmentally hazardous.....

EU GPP and F-Gases - Observations

- EU GPP F-Gas requirements are comprehensive criteria
- Format and rationale varies between product group
- Monitoring of uptake is difficult; specific criteria uptake unknown
- Work Plan 2015/16
 - Office Buildings in development
 - Revision of the food and catering services GPP criteria underway

- Survey of Member State GPP contacts
 - Understand Member State level approaches to F-Gas procurement requirements
- Level of responses suggest limited activity

Member States <u>with</u> F-Gas related GPP requirements	Member States/Countries <u>without</u> F-Gas related GPP requirements
Sweden	Finland
United Kingdom	Netherlands
Belgium	Germany
Ireland	Denmark
	Norway

Member States with F-Gas GPP requirements



- Product groups
- Types of criteria
- Practical monitoring of actual criteria use

Member State	Product Groups
Sweden	<ul style="list-style-type: none">● Vending equipment● Professional catering● Windows● Drug refrigerators● Low temperature tissue storage● Domestic scale refrigerators
United Kingdom	<ul style="list-style-type: none">● Transport – air conditioning● Electrical Goods – Includes: air conditioning units, fridges and freezers, commercial refrigeration, condensing units● Office furniture (polyurethane foams)
Belgium	<ul style="list-style-type: none">● Domestic scale refrigerators
Ireland	<ul style="list-style-type: none">● Proposing to use the EU GPP criteria for transport

Member States with F-Gas GPP requirements

- Voluntary versus mandatory requirements
- Different approaches can be used at different levels of the public sector

Member State	Status of Scheme
Sweden	<ul style="list-style-type: none">● Voluntary
United Kingdom	<ul style="list-style-type: none">● Mix of mandatory and voluntary, depending on the 1) classification of the government department (central government or wider public sector); and, 2) the product group
Belgium	<ul style="list-style-type: none">● Indications are voluntary. Applies to “In principle all federal, regional and local Belgian procurers”
Ireland	<ul style="list-style-type: none">● The GPP scheme still in development. Policy and action plan have been created. It seems possible that GPP criteria could be made a mandatory requirement

Member States without F-Gas GPP requirements

- Member States and countries
 - Finland, Netherlands, Germany, Denmark, and Norway indicated that they do not currently have F-Gas related GPP requirements
- Feedback and reasons why there is no GPP requirement
 - Still considering F-Gas implementation
 - Other priorities within GPP
 - Rely on horizontal measures e.g. F-Gas Regulation
 - Covered by other tools e.g. Ecolabels, which can guide procurement officers
 - Other measures e.g. fiscal instruments
 - Structure and levels at which procurement is undertaken can be complex

Additional research

- Review of **National Action Plans**
 - Under EU-GPP Member States were encourage to draw up publicly available National Action Plans (NAPs) for greening their public procurement. Not all countries have NAPs
 - NAPs set out generally very board themes, priorities, and commitments for GPP in each State
 - Limited additional information identified
 - Austria's NAP highlights that for furniture HFCs cannot be used as blowing agents
 - City of Vienna has requirements that ban the use of halogenated organic compounds in refrigeration, boilers, heaters and chilled water pumps
- Review of **Ecodesign Directive** requirements for relevant product group
 - Include a bonus for some product groups for the use of alternative refrigerants, for example room air conditioners and space cooling products
 - No included for others where direct emission not considered significant or phase out advanced and market already responding

- Case studies developed to provide examples of the types of application and show that use of alternatives in the public sector is possible and even desirable
- **Airports** as an example of a very large enclosed public spaces requiring climate control
 - Ammonia chillers to provide cooling e.g. Terminal 5 at Heathrow in the UK, Copenhagen, and Stuttgart
- **2012 Olympic Games, London**
 - *“HFCs must not be used where other safe, technically feasible, cost effective, energy efficient and more environmentally acceptable alternatives exist.”*
 - Mixed success, with many of the new purpose built venues able to achieve this, but significant challenges were experienced for temporary venues and temporary catering establishments
- **Aarhus University Hospital, Denmark**
 - Use of propane chillers (R290) at replacing the R22 based chillers at this, the second biggest hospital in Denmark

Case Studies - HFC alternatives in the public sector

- Continuing to explore possible case studies in the following areas:
- **Inclusion of F-Gas / Alternative refrigerant requirements within recent tenders**
 - To demonstrate practical use of how procurers can use such specifications in their tender documentation
- **Public / Government Buildings**
 - To illustrate the use of alternatives in public office buildings
- **District Cooling**
 - For example, that uses alternative refrigerants or eliminates the need for refrigerants
- **Please let us know if you have examples that could make a case study**

Potential Products for GPP containing F-gases - Part 1



Main market sector	Public sector users	Sub-sector	Equipment type	HFCs to be avoided
Building Air-conditioning	Where temporary air-conditioning required	Small hermetic systems	Movable units	HFC 410A
	Small applications e.g. air-conditioning in single room Air-conditioning in 2 or 3 rooms Medium sized buildings, with several rooms cooled	Split systems	Single splits Multi-splits VRV and roof top units	HFC 410A HFC 407C
	Large buildings with chilled water Very large buildings	Chillers	Screw chillers Centrifugal chillers	HFC 410A HFC 134a
Heat Pumps	Heating of social housing	Domestic sized	Air source, ground source	HFC 410A
	Large public buildings	Larger heat pumps	Various types	Various
Fire protection	Museums, data centres – where the contents of the room will not be damaged by the fire system	Specialised building fire protection		HFC 227ea
Insulating foam	All building types	Polyurethane and extruded polystyrene insulation		Various

Potential Products for GPP containing F-gases - Part 2



Main market sector	Public sector users	Sub-sector	Equipment type	HFCs to be avoided
Refrigeration of food and drink	Office buildings, staff canteen facilities	Small hermetic systems	Domestic refrigerators Vending equipment Retail displays	HFC 134a
	Larger catering facilities e.g. hospitals, universities etc.	Split systems	Walk-in cold rooms	HFC 404A HFC 134a
Refrigeration for medical applications	Hospitals, surgeries, mortuaries	Small hermetic systems	Drug refrigerators Low temperature tissue storage	HFC 404A HFC 134a
		Split systems	Cadaver and tissue storage Medical Scanners	
Refrigeration in large specialised systems	Universities, research laboratories, specialist MoD facilities (e.g. wind tunnels), data centres	Industrial systems	Various	Various
Transport - Air conditioning	Trains			HFC 134a
	Buses			HFC 410A HFC 407C
	Car Fleets			HFC 134a
Air conditioning	Tunnels		Various	Various

Conclusions (1)

- Clearly some GPP F-Gas requirements exist at EU level, but
 - It is a voluntary scheme, uptake not guaranteed
 - F-gas requirements exist in “comprehensive criteria”
 - Potential time lags to include relevant product groups due to work plan and criteria development process
- Member State activities’ as regards F-Gases vary, but appear limited
 - Reflected through survey responses
 - The schemes are in the main voluntary
- Monitoring
 - Availability of criteria versus actual use of criteria

Conclusions (2)

- Opportunities

- Limited potential where HFCs have been mostly replaced
- Opportunities in product groups where phase-down still requires work
- Particularly relevant product groups are
 - Air conditioning within public buildings at all scales (including chillers, and DX and district cooling)
 - Air conditioning in transport services

These groups are important as they contain a very high proportion of the HFCs purchased in the public sector

- Potential product groups could include those with Ecodesign bonus requirements
- **Member States, Regions, Cities do not need to wait for the EU – they can take action now**
 - Include requirements to promote alternatives in on-going public procurement activities
 - F-Gas experts can help inform procurers on what is required and why
 - Relatively rapid means of promoting HFC alternatives in procurement activities with a potentially large impact