



The Voice of European Air-Conditioning, Refrigeration and Heat Pumps Contractors

POSITION PAPER

Brussels, 10th December 2012

RE: Proposal for a revision of Regulation 842/2006 on certain fluorinated greenhouse gases

AREA (www.area-eur.be) is the European organisation of air-conditioning, refrigeration and heat pumps contractors. Established in 1988, AREA voices the interests of 20 national members from 17 European countries, representing more than 9,000 companies across Europe (mainly small to medium sized enterprises), employing some 125,000 people.

AREA members design, install, service, maintain, repair and decommission refrigeration, air conditioning and heat pump (RACHP) systems. For this purpose, RACHP contractors use every available solution with complete neutrality towards equipment and refrigerants, in the sole aim of ensuring the highest level of reliability, energy efficiency and cost-effectiveness. Since the F-Gas Regulation has far-reaching consequences on RACHP contractors' profession, AREA has been closely involved in the review of the Regulation and in the preparation of its revision.

AREA fully supports the EU objective of reducing CO₂ emissions. In this spirit we generally welcome the proposal for a revision of the F-Gas Regulation, which includes a number of suggestions that have the potential of substantially reducing emissions of fluorinated greenhouse gases (f-gases). However, we feel other suggestions may be inadequate or disproportionate, whilst additional provisions would further contribute to achieving the objectives of the proposal. With this position AREA wishes to provide detailed comments on the issues that are relevant to the RACHP contracting sector.

Summary of AREA's main principles

- **Certification** should be mandatory for installation, service and maintenance of equipment using fluorinated greenhouse gases or alternative refrigerants, whether in-house or for third parties
- **Mandatory training** would result in a disproportionate recurring cost for SME contractors
- **Stopping pre-charging** of non-hermetically sealed RACHP equipment will substantially reduce emissions and consumption of fluorinated greenhouse gases
- **Delivery of fluorinated greenhouse gases** should be clearly limited to certified contractors
- **Enforcement and control** would be facilitated by a database of certified companies & personnel
- **Regulation's scope** should include all types of mobile air conditioning and refrigeration
- **Ban on f-gases for servicing and maintenance** would result in a disproportionate increase of abatement cost for users
- **European Commission's amending powers** should safeguard the Regulation's stability and legal certainty

Legal base

Whereas the current F-Gas Regulation has a dual - internal market and environmental – legal base, the proposal only keeps the environmental base. Such a change does not seem justified legally, since the proposal keeps an internal market dimension because of its impact on free movement of products, persons and services. A sole environmental base would give too much room to diverging national implementations. In turn, it could hinder cross-border movement of contractors and limit mutual recognition of certificates (e.g. Ireland and Northern Ireland, where many contractors work across borders). It could also encourage illegal smuggling of refrigerant in case countries apply different global warming potential (GWP) levels for bans.

→ The Regulation should keep a dual legal base (environmental and internal market)

CONTAINMENT

Certification of undertakings (Article 2, §4)

The proposal keeps the current Regulation's principle that undertakings carrying out the tasks described in Article 2, §4, points a) to c) should be certified. It must be noted that despite this general principle that should apply to any undertaking carrying out these tasks, the European Commission considers that certification requirements target professional installers only. This interpretation de facto waives the certification obligation for companies undertaking in-house installation, maintenance or servicing (e.g. hotels, municipalities, property management companies). This creates unfair competition (some of these entities employ a large number of installers) and weakens controls on certification of personnel.

→ It should be made clear that certification of undertakings is necessary whether the tasks described in Article 2, §4, points a) to c) are carried out in-house or for third parties.

Liability & penalties (Article 2)

Training & certification under the F-Gas Regulation has had a substantial cost of € 341 million¹ for a sector, which mainly consists of very small companies that had to make such investments in a period of economic crisis. However, insufficient controls enable non-certified companies and personnel to continue operating in breach of the Regulation's certification obligations, thus generating unfair competition with compliant contractors. Penalties should be applied to deter non-compliant contractors.

→ Non-compliant contractors should be made liable to penalties

Delivery of fluorinated greenhouse gases (Article 2, §4, point d)

During the Regulation's review AREA requested a clarification on the fact that fluorinated greenhouse gases could only be delivered to and received by certified companies. The aim was to put responsibility on both contractors and distributors/wholesalers, as applied in France for instance. Article 2, §4, point d) tries to address this matter but it does not do so in a clear and undisputable manner. It should therefore be clarified. Moreover, and in order to facilitate the

¹ [Preparatory study for a review of Regulation \(EC\) 842/2006 on certain fluorinated greenhouse gases](#), Öko-Recherche et al.

application of this measure, as well as enforcement and controls on certification, the Regulation should stipulate mandatory registration of certified RACHP craftsmen and companies.

- It should be made clear that for the tasks listed in Article 2, §4, points a) to c), fluorinated greenhouse gases can only be delivered to and received by persons and undertakings certified in accordance with Article 8.
- Mandatory registration of certified RACHP craftsmen and companies should be stipulated

F-gas thresholds for leak checks (Article 2)

The proposal replaces thresholds currently expressed in kilogrammes of refrigerant with thresholds expressed in global warming potential (GWP) CO₂-equivalent. Whilst this may be a more accurate way of describing the different environmental impacts of the various fluorinated greenhouse gases, such a change would cause many practical complications to the whole RACHP industry which works in weights. Indeed, GWP thresholds would translate in very specific amounts (no round figure) and different thresholds in kg would apply to different f-gases. This may also make certain systems change status as regards leak checks. Finally, there would be some constant uncertainty, since the IPCC² tends to re-evaluate GWPs every so often.

- The current expression of thresholds in kilogrammes should be kept

Mobile refrigeration (Article 3, §1)

The proposal extends the scope of the equipment to be checked for leakage to refrigerated trucks and refrigerated trailers. Whilst this measure is supported, a comprehensive approach commands that ALL mobile air conditioning and refrigeration (trains, metros, buses, vans, barges, ships and lake & river vessels) - except that covered by the MAC Directive³ – be covered by the F-Gas Regulation. It would also be commensurate with the reference to mobile refrigeration in general, featuring in Article 7 on recovery. As regards maritime transport, since mobility of this equipment can be a problem for regular maintenance checks, a minimum requirement could consist in making sure that people working on this equipment in the EU are certified.

- All mobile air conditioning and refrigeration should be included in the Regulation's scope
- For maritime transport, only certified persons and undertakings should be allowed to carry out the tasks listed in Article 2, §4, points a) to c) on ships in European ports

Record keeping (Article 5)

The proposal introduces new elements to be included in the records. AREA supports these additions, except as regards “observed leakage rates” which prove difficult to calculate. It is impossible to quantify a leak without physically decanting the entire gas charge and weighing it, then comparing this measured weight against the amount charged initially. Each time you connect and disconnect refrigerant manifold gauges to a system - as you would need to do to carry out this work - you lose a small amount of refrigerant. This would, therefore, result in increased emissions when routine maintenance and leakage checks can be carried out by non-invasive means at present.

² Intergovernmental Panel on Climate Change

³ Directive 2006/40/EC relating to emissions from air conditioning systems in motor vehicles

→ Observed leakage rates should not be included in the record keeping

Training & certification (Article 8)

The planned phase-down scheme will legislatively stimulate the development and uptake of alternative technologies, and notably the so-called “natural refrigerants” (CO₂, hydrocarbons and ammonia), all of which present safety risks (pressure, flammability, toxicity). Mandatory certification should be extended to equipment working with natural refrigerant in order to ensure safe, efficient and reliable installation and maintenance.

→ Personnel working, even exclusively, with alternatives to fluorinated greenhouse gases should hold a certificate to ensure safety of contractors, users and the public at large.

Whilst the current F-Gas Regulation stipulates harmonised training and mandatory certification, the proposal makes training compulsory to both acquire and maintain certification. Such an obligation is disproportionate. What matters is knowledge, which certification proves. Knowledge may originate from training but also from experience or recent education. Imposing mandatory training, whether for f-gases or alternatives, would therefore generate a disproportionate recurring cost for European installers, the majority of which consists of very small enterprises. It appears against the “think small first” principle embedded in the Small Business Act.

→ Training should not be mandatory to either acquire or renew certification for both fluorinated greenhouse gases and alternative refrigerants

According to the proposal, certificates for personnel would be valid up to 5 years with a possibility of renewal; certificates for undertakings are not covered by such proposed limitations. In view of the practice across EU Member States, it seems acceptable to limit validity of certification of personnel. However, it would be appropriate to harmonise not only the principle of limited validity but also the actual duration. In addition and to respect the general principle of non-retroactivity of law, such a limitation should only apply to certificates granted or, when applicable nationally, renewed after the entry into force of the Regulation.

→ Certificates for personnel should be valid 5 years after which they must be renewed
→ Limit of validity should only apply to certificates granted or renewed after the Regulation’s entry into force

Member States have until 1st January 2015 to adopt training and certification programmes. Important delays have been experienced with the implementation of the current F-Gas Regulation. Since the proposal would add training and certification requirements on alternative refrigerants to be specified through delegated act and bearing in mind most EU countries do not have such a scheme in place yet, it will be almost impossible for most Member States to respect the deadline. It is therefore suggested to postpone it to 2018.

→ Deadline to adopt national training & certification schemes should be postponed to 1st January 2018 to leave enough time for the adoption of minimum requirements through delegated act and their transposition into national schemes

PLACING ON THE MARKET AND CONTROL OF USE

Equipment bans (Article 9 + Annex III)

The proposed scheme includes positive elements: limitation to hermetically sealed systems; exclusion of f-gases < 150 GWP to keep consistency with general GWP approach and safeguard the development of low GWP refrigerants; legal consistency and application of the energy efficiency principle thanks to the link with the Ecodesign Directive.

This said, the inclusion of bans itself is questionable insofar as the gradual reduction of the placing on the market of hydrofluorocarbons (“phase-down”) provided by Chapter IV seems sufficient to achieve the objectives of the proposal. Indeed, a phase-down will oblige the market to de facto ban hydrofluorocarbons in certain types of equipment whilst safeguarding the necessary flexibility to do so. Moreover, the possibility of further additions through European Commission’s delegated acts generates uncertainty that will negatively impact on users for their investment plans, on manufacturers for their product development plans and on contractors for their installation plans.

- ➔ Equipment bans are not necessary to achieve the Regulation’s objectives
- ➔ If bans were to be applied, they should be strictly limited to hermetically sealed systems and exclude f-gases < 150 GWP. To maintain certainty on the market, the Commission should not be able to make further modifications through delegated act

Ban on f-gases > 2500 GWP for servicing & maintenance (Article 11, §3)

Such a proposed ban targets refrigerants such as R-404A or R-507A, which are typically and widely used in commercial refrigeration and refrigerated transport. R-404A is notably used as a replacement for HCFCs (such as R22), which are being phased out following the Montreal Protocol. It must again be stressed that regulatory bans are considered unnecessary, since the phase-down approach will result in de facto bans whilst preserving flexibility on the market. In addition, the ban proposed in Article 11, §3 is incommensurate with the equipment bans proposed in Article 9, as it would affect any RACHP system and not just hermetically sealed ones. Finally, drop-in alternatives do not always provide an adequate solution. Since contractors would be unable to efficiently service and maintain a large number of systems, users (among which a large number of small shops) would be forced to a quick and costly replacement of the systems in question or be left with increasingly inefficient systems resulting in increased carbon emissions. This, in turn, would make the abatement cost rise dramatically.

If the proposed ban was however to be maintained, it should at least be made less dramatic to users so as to avoid costly investments to be borne by SMEs in a short period of time. To this end, the following arrangements should be incorporated in the proposal:

- Extend the deadline from 2020 to 2024
- Increase the threshold from 5 tonnes of CO₂-equivalent to 50 tonnes of CO₂-equivalent to spare many small shops for which the investment would be disproportionate
- Enable the use of recycled/reclaimed refrigerant for an additional 5 years, as provided by (EC) Regulation 1005/2009 on substances that deplete the ozone layer

- ➔ Proposed bans on f-gases for servicing and maintenance should be dropped to avoid a disproportionate increase of abatement cost for users
- ➔ Should the ban be maintained, arrangements on the threshold, the date of application and the use of recycled/reclaimed refrigerants should be applied

Pre-charging of non-hermetically sealed RACHP equipment (Article 12)

European RACHP contractors have raised this issue at the beginning of the Regulation's review⁴. Indeed, our industry is confronted with a growing number of systems (typically split air conditioners and heat pumps) that are not installed by certified contractors despite a legal obligation to do so. This often leads to a complete loss of the refrigerant charge, usually around 1.5kg per system. Considering a few millions of these systems are sold in Europe every year, the impact on the environment amounts to hundreds of thousands of tonnes of CO₂-equivalent emissions each year. Stopping pre-charging is a cost-neutral solution that will guarantee that only certified contractors install the equipment and put the adequate refrigerant charge, thus saving tonnes of fluorinated greenhouse gases emissions every year. In view of the low impact on the manufacturing process of this type of equipment and in order to reap the environmental benefits of the provision as soon as possible, the excessive 3-year delay for the application of this provision should be brought down to 1 year.

- ➔ Non-hermetically sealed RACHP equipment should be charged on site by certified contractors, as provided by the proposal
- ➔ The application of the provision should not be delayed by more than one year after the Regulation's entry into force

REDUCTION OF THE PLACING ON THE MARKET OF HYDROFLUOROCARBONS

Phase-down of hydrofluorocarbons (Article 13 + Annex V)

The European RACHP contractors' community supports the principle of a gradual reduction of the placing on the market of f-gases. Such a scheme can indeed foster the development of low GWP alternatives whilst maintaining the necessary flexibility enabling the most appropriate choice of refrigerant from an environmental, energy efficiency, safety and economic point of view. As far as the details of the proposed scheme are concerned, AREA would like to refer to the scenario of the recently published SKM ENVIROS study on HFC phase-down⁵, which indicates a 30% consumption reduction by 2020 and a potential 60 to 65% consumption reduction by 2030, resulting to f-gas emission savings of approximately 74 Mtonnes of CO₂ equivalents in the RAC sector alone.

- ➔ AREA supports the principle of a gradual reduction of the placing on the market of f-gases and refers to the SKM ENVIROS study for the details of the scheme

⁴ [AREA position on pre-charged non-monobloc air conditioning equipment](#), October 2010

⁵ [SKM ENVIROS study on phase-down of HFC consumption in the EU – assessment of implications for the RAC sector](#), October 2012

ANNEX

Pre-charging of non-hermetically sealed air conditioning equipment

Charging the refrigerant on site will...

... increase global emissions – **NO, on the contrary!**

Pre-charged air conditioning and heat pump domestic systems contain on average 1.5kg of refrigerant - usually R410a, which has a GWP of 2088. In Italy alone, 1 million were sold in 2010. Taking an extremely optimistic view, if only 10% of these are not professionally installed and the refrigerant is completely lost (typical effect of non-professional installation), this results in **150 tonnes of refrigerant** or more than **300,000 tonnes of CO₂-equivalent** leaked each year. It is argued that on-site filling would amount to 2% of refrigerant loss against 0.5% when pre-charging in a factory environment. Such a scale is clearly questionable as it would depend on the circumstances of each installation. However, even if that figure was correct, **charging on site** would still result in **5 times less emissions** than what is lost at present. If one considers that only the adequate charge would be filled, the gain would be bigger.

... increase F-gas use – **NO, on the contrary!**

Most pre-charged systems currently contain on average 1.5kg of refrigerant, corresponding to around 6/7m of pipes for the refrigerant circuit. The majority of installations however require much less length of pipes and therefore much less refrigerant. Stopping pre-charging would thus enable the professional installer to charge the quantity of refrigerant that is **strictly necessary**, thereby **reducing** the overall quantity of fluorinated gases in use.

... increase the cost to users - **NO**

Charging on site would only increase the installation time by a few minutes. It would therefore hardly impact on installation costs for end-users. **Gains** can even be envisaged as **less refrigerant** would most often be needed than the current amount pre-charged (considering that the equipment should then be cheaper as supplied empty).

... increase the cost to authorities - **NO**

The operation would be **cost-neutral** for public authorities: public authorities would even save money in controls, since users would not have to be checked any longer

... enable refrigerant counting - **YES**

At present, HFCs contained in pre-charged systems are not accounted for. This means that **1,500 tonnes** of refrigerant were **off the radar** in 2010, in Italy alone. Stopping pre-charging would ensure reporting. It would also enable better tracing of the equipment and stimulate professional decommissioning at end of life.

... protect SMEs - **YES**

Pre-charged air conditioning equipment sold in Europe is by far and large manufactured by multinationals. The European refrigeration, air conditioning and heat pump contractors' community represented by AREA consists of **9,000 companies**, almost all of which are SMEs and most of which are **very small companies**. They employ some **125,000 people in Europe**. These companies had to invest to comply with F-Gas training & certification and they are suffering from the loss of business resulting from repeated breaches of the F-Gas Regulation's provision on professional installation of pre-charged non-hermetically sealed air conditioning and heat pump equipment.