



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

## POSITION PAPER

Brussels, 13<sup>th</sup> July 2010

### **RE: Review of Regulation 842/2006 on certain fluorinated greenhouse gases**

AREA ([www.area-eur.be](http://www.area-eur.be)) is the European organisation of air-conditioning, refrigeration and heat pumps contractors. Established in 1988, AREA voices the interests of 22 national members from 20 European countries, representing more than 9,000 companies across Europe (mainly small to medium sized enterprises), employing some 125,000 people and with an annual turnover approaching € 20 billion.

#### **Introduction and background**

As designers of refrigeration, air conditioning and heat pump systems (RACHP), RACHP contractors have a thorough expertise in the properties and manipulations of fluorinated gases. For this reason, AREA was deeply involved in the discussion and adoption of the F-Gas Regulation in 2006. Indeed, the experience of some AREA members (e.g. Netherlands, Sweden, Austria) has shown that thanks to high training and certification standards for RAC contractors combined with regular leak checking requirements, leakage was decreased up to fivefold. Bearing in mind that synthetic refrigerants can only achieve their Global Warming Potential (GWP) if released into the atmosphere through leakages, the potential emissions and energy savings is enormous.

Mindful of such potential, AREA members have been / are involved in the Regulation's implementation process at national level. In February last year, AREA expressed concerns over the delays experienced by many Member States. Although the majority managed to match the 9<sup>th</sup> July deadline (often thanks to interim certification), a precise assessment of the Regulation's impact a few month later is *de facto* confronted with a certain deficit of qualitative and quantitative data in some countries.

While gathering input and data from its membership to feed in the review process, AREA has however received a clear message from countries that have implemented and are applying the Regulation: F-Gas works. Contractors have already observed a decrease in leakage rate of RAC installations. Such trend is common to all replies and confirmed by data from countries which have had a similar system in place for years.

The European Union has been a world pioneer by developing a legislative framework aiming at preventing fluorinated gases from achieving their GWP. Although still incomplete, the first signs are encouraging and show a positive effect of the legislation on refrigerants' leakage. AREA therefore believes that the EU should maintain its general policy and take the opportunity of the Regulation's review to complete and reinforce its framework. With this position paper, AREA wishes to point to a number of areas where the Regulation – and thus its effects - could be improved.

## **Implementation and enforcement**

The very best piece of legislation finds itself completely useless if it is not properly implemented, applied and enforced. The F-Gas Regulation does unfortunately not escape this basic principle. Four years after its adoption, the Regulation has still not been implemented in a number of countries, including some with a sizeable number of RAC contractors (e.g. Italy, Spain and Poland). AREA regrets such deficiencies that distort a comprehensive assessment of the Regulation's effects. Two lessons should be drawn from this situation. First, the European Commission should put more pressure on these Member States that are lagging behind so that they put in place the necessary framework as soon as possible. Second, negative conclusions should not be drawn from the fact that some large Member States have not implemented the Regulation. On the contrary, signs are encouraging in countries that are compliant and positive effects on leakages have been reported by AREA membership.

Even when the legislation is implemented, it needs to be policed in order to produce all its effects. There again, the situation is far from uniform across EU Member States. Many AREA members have reported a lack of controls either because there is no control system in place or due to insufficient resources allocated to control bodies. Such a lack of controls distorts competition to the detriment of compliant professionals, since the benefits of certification in terms of business can only be grasped if proper enforcement is in place.

Control is however not limited to public authorities. Practice shows that operators are not always aware of their obligations. Many RAC contractors have thus reported that too few operators ask for their F-Gas certificate before a maintenance check. This could easily be improved thanks to awareness-raising initiatives targeted directly at the end users, focusing on both their legal obligations and the advantages of having a leak tight system.

### **AREA standpoints**

- Urge Member States to implement the Regulation
- Exhort Member States to actually control compliance with F-Gas requirements
- Increase end users' awareness of their obligations

## **Improvements and modifications**

### ***Refrigerant pre-charged in non-monobloc systems***

Whereas refrigerants filled in a container can only be sold to certified professionals, non-monobloc systems pre-charged in refrigerant (often more than 3kg) can be purchased by anybody and are widely found in retail outlets or supermarkets. These systems are then usually installed by non-professionals and practically never checked, which invariably results in bad leakage rates. Such loophole is in complete contradiction with the purpose of the Regulation and should therefore be corrected. To this end, AREA suggests amending the Regulation in order to clearly bind pre-charged refrigerants in non-monobloc systems by the same rules as refrigerants in containers. In other words, the Regulation should place direct responsibility on the refrigerant distributor not to sell HFC refrigerants to an individual or company unless they are qualified/certified, whether those refrigerants are sold in a cylinder or in a non-monobloc pre-charged system. For the sake of clarity, non-monobloc systems can be defined as systems "*where the container needs to be connected to another piece of equipment to enable the flow of the fluorinated gases into the refrigerating circuit*".

### **Mobile refrigeration equipment**

Refrigeration equipment mounted in transport means (refrigeration trucks or ships - usually known as "mobile refrigeration") often contains more than 3 kg of HFC. Such equipment is currently outside the scope of both the MAC Directive 2006/40 (as it is not the same as air-conditioning used in cars) and the F-Gas Regulation. The F-Gas Regulation does mention mobile refrigeration but only as far as recovery is concerned. Some contractors deal with mobile refrigeration but most of it escapes professional maintenance whereas vibrations and leakages are problematic. It would however seem logical to go to the end of the reasoning and submit mobile refrigeration to the same requirements as stationary equipment in order to improve containment by preventing leakages. AREA therefore suggests amending the Regulation and including mobile refrigeration in its scope. All transport means should be tackled. 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.

### **Compulsory registration of RAC operatives**

In order to support the enforcement of the Regulation, AREA believes that the regulation should stipulate a mandatory registration of RAC craftsmen. This would not only enable better assessment of compliance to the Regulation but also assist public authorities in the performance of their enforcement duties.

### **Threshold of 3kg f-gases**

The adoption of a 3kg f-gas threshold made some sense in 2006 when the Regulation was adopted. Since then, technological progress has enabled to decrease the f-gas charge needed for the same power capacity. HFCs have moved on and the 3kg charge is classed about 15kw of capacity. This would appear too high, since most mini-split systems now run with less R410A. Since units less than 3kg are not registered under F-Gas, more and more of them will be unaccountable in 20 years time when reclaiming would be required. It should be noted that some countries are already applying a lower threshold (e.g. 2kg in France). AREA therefore believes that the threshold should be lowered to 1kg in order to reflect the technological evolutions that have lowered the amount of refrigerant actually used whilst keeping the exclusion of domestic refrigeration for practical reasons.

### **Alignment of definitions with Regulation 1005/2009**

Whereas Regulation 2037/2000 was recast by Regulation 1005/2009, and for the sake of consistency, the F-Gas Regulation should align its definitions on those provided by Regulation 1005/2009, in particular as regards "recovery", "recycling" and "reclamation". The purpose is not only legal but also practical. For instance, "reclamation" should result in the gas meeting "*a specified standard of performance*" under F-Gas whereas Regulation 1005/2009 requires the gas "*to meet the equivalent performance of a virgin substance, taking into account its intended use*". In other words, the level of performance required is not necessarily the same depending on the legislation. This should be corrected.

### **Phase-out of flared connections**

Most split systems are supplied with flared connections on both the indoor air handler and outdoor unit. This type of connection entails a relatively high risk of refrigerant leakage, in particular because of their reaction to vibrations and temperature fluctuations. Since more reliable alternatives exist (brazed connections, machined flared adaptors) and are more and more widely used by manufacturers, AREA believes that flared connections should be progressively phased out (for more information, see guidance issued by the British [Institute of Refrigeration](#))

#### **AREA standpoints**

- ➔ HFC refrigerants, whether in a cylinder or non-monobloc pre-charged system, should only be sold to qualified/certified companies or individuals
- ➔ Include mobile refrigeration in the Regulation's scope
- ➔ Stipulate a mandatory registration of RAC craftsmen
- ➔ Lower the F-Gas threshold to 1kg in order to reflect technological evolutions
- ➔ Align definitions with those provided by Regulation 1005/2009, in particular as regards "recovery", "recycling" and "reclamation"
- ➔ Phase out flared connections to decrease leakage risks

#### **Clarifications and best practices**

Article 5, paragraph 4 provides that only certified companies can take delivery of fluorinated greenhouse gases. In practice, this means that F-Gas distributors/wholesalers can only sell to certified companies. AREA does agree with this principle but feels that it should be more clearly stated in order to avoid misunderstandings. It is therefore suggested rewording the provision in order to highlight that wholesalers/distributors can only sell fluorinated greenhouse gases to certified companies.

As regards the implementation of the Regulation, an assessment of the practice in Member States shows a variety of interpretations of the same requirements. In certain federal states (e.g. Belgium) requirements are even different from one region to another without mutual recognition. Guidance could therefore be provided at EU level in order to ensure a common understanding of a number of issues. AREA members have drawn a non-exhaustive list of issues on which clarifications would be welcome. Our association is ready to further discuss these with the European Commission.

Finally, there is a need to promote best practices. For instance, Slovakia has put into place a system of electronic data logging and reporting, using free software. This enables automatic analysis, fault detection and comparison, fast access to the full history of leak checks and various forms of output. Such practice should be promoted in the EU.

#### **AREA standpoints**

- ➔ Modify Article 5, paragraph 4 to highlight that wholesalers/distributors can only sell fluorinated greenhouse gases to certified companies
- ➔ Develop guidelines on the application of the Regulation in order to foster uniformity of interpretation and application
- ➔ Promote best practices at EU level

#### **Conclusion**

Fluorinated gases are playing an important role in refrigeration, air-conditioning and heat pumps equipment. Although natural refrigerants are gaining momentum and are more and more widely used, fluorinated gases still represent the most energy efficient solution in many instances and will do so for many more years.

The F-Gas Regulation is an adequate tool to address the main problem posed by fluorinated gases, i.e. a high GWP that can only be achieved if the gas is released into the atmosphere through leakages. AREA believes that a proper implementation and enforcement of the Regulation combined with a few adjustments as mentioned above can unleash the full potential of the Regulation and reduce leakages to a bare minimum. The Regulation's review provides an ideal opportunity to tackle these issues. AREA is ready to put its structure and members' expertise at the European Commission's disposal in order to maximise the results of the review.