On track:
The F-Gas regulation works!

Europe is setting the course for the future of HFCs: in the coming months the EU Commission will be evaluating whether the F-Gas Regulation effectively reduces greenhouse gas emissions or whether more drastic measures are required.

Entered into force in 2007, the F-Gas Regulation 842/2006 has hardly had the time yet to show its real potential. However, by mid 2011 the Commission will present a report which will be the basis for a possible review of the legislation. To that end, it will investigate whether the regulation has been fully implemented in all member states and to gain conclusive evidence on its effective impact on emissions. Even though this is a difficult task, at this early stage, the signs are encouraging.

Positive
It is perfectly possible to implement the F-Gas Regulation. A survey by the industry association EPEE shows that countries such as the Netherlands, Hungary and France have already implemented and gained comprehensive practical experience with the regulation's measures. Germany, the UK, Belgium and Denmark have also made excellent progress. In some countries, however, further efforts are required. For example in Italy, training courses for qualified personnel exist, however, so far there are no official certification bodies. Despite these disparities, the European association of refrigeration contractors AREA draws a first positive conclusion: "In countries where the F-Gas Regulation has already been implemented contractors have observed a clear decrease in leakage rates", summarises Graeme Fox, AREA President. "Leakage tests are carried out more often, problems are identified at an earlier stage and, consequently, emissions are avoided."

Awareness
Creating awareness at operator level remains critical for the success of the regulation. Graeme Fox explains: "At the end of the day, the operators of the equipment are responsible for regular leakage control and logbook keeping. However, very often, they are not aware of their obligations." The AREA experience also shows that there are significant differences between the various market segments. For example, large supermarket chains and hospitals are generally fully aware about the F-Gas Regulation's requirements whilst this is not necessarily the case in small commercial refrigeration applications such as bakeries, butchers or flower shops.

Know-How
The certification of personnel and companies is another milestone on the path of the F-Gas Regulation. Significant differences still exist between the EU member states. In some countries such as Germany, Sweden or the Netherlands strong rules applied already before the entering into force of the F-Gas Regulation. In France and the UK requirements have significantly increased since then. Still, in both countries three quarters of the companies are estimated to be certified already according to the new rules. In Italy and Ireland, however, no certification has existed so far, and in Poland new rules are expected to enter into force only this year. Despite these substantial differences, Graeme Fox underlines the positive impact of the Regulation on the contracting sector's expertise level: "Thanks to the F-Gas Regulation the number of specialized schools and training courses has clearly increased in many countries. This is a good sign and indicates that the knowledge level in the sector is continuously increasing. Bureaucracy and the differences between the countries, however,

remain major stumbling blocks. For example, the cost for the certification of a company varies between zero and 3,000 Euro per year according to the country!"

Control

Control is a vital element of any legislation's success. The F-Gas Regulation is no exception to this rule. However, once again, some member states apply very strict rules whilst others are rather lax. For example in France, controls have been carried out since 2009 and infringements can attract fines from 1,500 Euro up to 75,000 Euro and in some cases even up to 2 years in prison. In Finland, Portugal and Spain, however, neither fines nor control systems exist. In Germany, the ChemKlimaSchutzV defines control mechanisms but the number of controls has been indicated to be insufficient – which is certainly due to the lack of control authorities. In Poland, on the other hand, contractors are reported to be controlled too often and operators not often enough. These examples clearly show that harmonization related to control mechanisms and fines is urgently required and would probably also accelerate the implementation of the regulation.

On track

The sector is on track, even though it is still too early to effectively measure the regulation's success in terms of emission reduction. Common sense dictates: if leakage controls are carried out as stipulated by the regulation, if the "cowboys" disappear sooner rather than later and if the operators take their obligations seriously the results will be obvious and positive. Harmonized and actually implemented control mechanisms in the EU together with hefty fines will most certainly accelerate the whole process.

The Dutch model: A reduction of emissions from over 20% to 3.5% on average

STEK: 18 years of experience

- A forerunner of the F-Gas Regulation: The Dutch STEK programme has existed since 1992 and is based, as the F-gas Regulation, on emission reduction through containment and regular maintenance.

- It took 5 years for the STEK system to be fully understood and implemented by all actors in the Netherlands.

- Under the STEK programme, some 2,000 companies were certified for stationary RAC systems. These companies were visited and assessed once every 18 months by independent bodies and inspected by government authorities.

- All STEK certified companies are obliged to keep a Refrigerant Registration at company level and a logbook at the installation indicating the type and quantities of refrigerants used as well as their purpose, i.e. new filling for new RAC circuits , maintenance or recovery. Since 1999 figures have been presented on an aggregated level.

- The cost for a STEK certification is approx. € 0.33 per hour per service engineer for 80 to 90% of all companies. This estimation is based on an average cost of € 500 per year (fee and internal administration) per service engineer.

HFC leakage rate

- Before the entering into force of the STEK system in 1992, the average leakage rate in the Netherlands was estimated to be around 20 to 25%.

- Since the introduction of the STEK system it decreased to an average rate of 3.5%, based on aggregated figures since 1999. This average rate takes into account tailor made installations as well as pre-charged equipment.

Benefits of the STEK system

- **High awareness** about the environmental impact of RAC & heat pump equipment by the industry sector, including certified companies, their personnel and operators
- **Equipment quality** improved. Equipment manufacturers and installers increased the quality of both equipment and services
- **Operators** benefit from a higher reliability of their systems and thus higher productivity of their own activities
- **Lower operational costs** for operators due to professional leak checks resulting in direct refrigerant and spare part savings. Leak-tight equipment, ensuring optimal refrigerant charge, also results in higher energy performance
- **Higher quality** education and training
- **Real leakage rate figures** based on the refrigerant registration by certified companies