



James Henley is product development manager at Daikin Applied

Compliance won't be left to chance

There is unease about how the F-Gas regulations will be enforced after Brexit, but **James Henley** believes the industry already has the answers

The government has pledged to continue implementing the phase down of HFC refrigerants in line with EU legislation after the UK leaves the EU in March, but many in the industry believe the Environment Agency does not have the resources to police the process properly.

A recent parliamentary Environmental Audit Committee (EAC) report urged the government to take these concerns more seriously and pointed out that there had only ever been one prosecution under the F-Gas rules.

However, in response, DEFRA – the ministry responsible – said that compliance was “generally good and the main environmental outcomes are being achieved”. It said lack of prosecutions was “not necessarily a good indicator of the effectiveness of compliance work” and that enforcement notices, advice, awareness campaigns and guidance had been successful in making people aware of their obligations.

There is little doubt that most contractors are doing their utmost to comply with the rules, but there are bound to be a number of non-conformances, which are not investigated because of lack of resource or information, and the usual ‘rogue operator’ element, which is probably true of any sector.

The introduction of civil penalties this year will certainly help keep people on the straight and narrow. The Environment Agency now has the power to impose on the spot fines of up to £200,000 for F-Gas breaches. In the past, they had found it difficult to prosecute offenders because of the complexity and cost of taking legal action – so this new power will make a huge difference. Even the threat of such a sizeable fine should have an impact.

However, ultimately it is product development and best practice engineering that will have the biggest influence on whether or not F-Gas will achieve its aims in reducing the amount of global warming gas in air conditioning and refrigeration systems. The industry has already made

Henley: ‘technological innovations are what will make the real difference in the long term’



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significant progress and our technological innovations are what will make the real difference in the long term.

Rather than further ‘cliff edge’ bans for certain types of refrigerant gas and draconian punishments dished out to companies falling foul of regulators, technical developments will take us to where we need to be.

Fast chiller evolution

Chiller technology is evolving fast – and not just because of F-Gas, but also because there is a commitment to the energy efficiency improvements enshrined in the EU’s Ecodesign regulations – and because we want to give end users the best possible performance. They are having an increasing say in the selection of chillers and are acutely mindful of the implications for the future cost of maintenance from restrictions on refrigerant availability.

It is also well within our grasp to deliver the ever increasing amounts of cooling

capacity required globally without driving up energy consumption or penalising consumers.

A recent report from the International Energy Agency (IEA) found that by using technology that is already available it would be possible to keep building energy use at today’s level until 2040 despite a predicted 60 per cent increase in new construction and a likely doubling of air conditioning capacity.

The trick is ensuring that the best and most cost-effective technologies are adopted as widely as possible.

In its Energy Efficiency 2018 report, the IEA says warmer temperatures, increasing population and economic growth has seen cooling energy use in buildings double since 2000 making it the fastest growing consumable in buildings.

“While the efficiency of best available air conditioning technology has continued to improve, there is significant potential to close the gap between the best available technology and the market average,” the report says – and that is our challenge. We are making these things available – how do we ensure everyone buys into them?

Adoption of best available technology is the solution to meeting our long-term greenhouse gas emissions reductions and maintaining running cost efficiencies for end users. The threat of regulatory sanction is always in the background, but our sector will respond better to carrot than stick.

For example, Daikin Applied was the first in the market to launch a new generation of high efficiency air-cooled scroll chillers using R32 refrigerant.

Switching to R32 has allowed us to achieve a 10 per cent improvement in seasonal energy efficiency ratio (SEER) compared with the equivalent equipment using R410a. The R32 chiller range also fully complies with the efficiency requirements imposed by current European Legislation (Ecodesign Lot21).

Even more significantly, a chiller using R32 has a 63 per cent lower CO₂ equivalent charge than a similar capacity R410a counterpart. In the event of any leakage of refrigerant gas to the atmosphere that is a major difference and marks a considerable technical advance in line with the aims of F-Gas regulators. It also means that an end user can significantly reduce their potential impact on the environment and meet all their legislative obligations with no loss of performance.

In the end, it will be the market – not regulators – that drives change. End users will be on the lookout for the best available cost-effective performance and the lowest potential environmental impact and we are ready to provide it. ■