

F-Gas Regulation Review

The European Industrial Gases Association (EIGA) welcomes the Commission's proposal¹ for a review of existing F-gas Regulation (842/2006). EIGA supports the aim of reducing the environmental impact of fluorinated gases through a balanced phase-down approach.

However, EIGA is concerned that the Commission's current proposal would have significant impact on the Industrial Gases industry as it does not take into account a number of technical challenges that are unique to our sector.

If the proposal were enacted in its current form, it would lead to equipment redundancy, inefficiency, cost and reliability penalties and a risk of distortion of competition; it would also lead to an overall increase in greenhouse gas emissions. *EIGA notes that these consequences would be contrary to the stated objectives of the Regulation and presents four suggested solutions.*

Overview

EIGA members operate refrigeration units within large-scale cryogenic plants, in the production of industrial gases such as nitrogen, oxygen, hydrogen, argon and carbon dioxide and in some cases are also distributors of fluorocarbon and 'natural' refrigerant gases. Our industrial gases are used in a wide range of applications including iron and steel production, refineries, healthcare, food and beverage and manufacturing.

The production of industrial gases is energy-intensive and requires operation at cryogenic temperatures, down to approximately -200°C. Refrigeration units serve as an important element within such production plants. On the process route from atmospheric down to cryogenic temperature levels, refrigeration units operate at very low temperatures (typically below -50°C) significantly enhancing capacity, economics and efficiencies of production. These refrigeration units are capital-intensive and normally operate for more than fifteen years. This creates a unique, industry specific, technical challenge on the choice of refrigeration units and gases used.

The proposal creates substantial technical and cost challenges for our industry. 'Drop-in' refrigerant replacements with GWP <2500 are not available for many of our existing refrigeration units, leading to equipment redundancy. The consequence of this equipment redundancy is significant capital expenditure on new refrigeration equipment.

In addition, often there is no suitable solution using HFC gases with GWP <2500 that meet our industry specific operating requirements. Suggested alternative products such as 'HFO' (hydro-fluoro-olefin), ammonia and hydrocarbon-based natural refrigerants - and alternative refrigeration technologies - are not yet proven to be reliable, cost or energy efficient on an industrial scale in our unique cryogenic applications. In addition, use of these alternative refrigerants would create difficulties with other established legislation such as the Seveso Directive.

It is also important to note that many EIGA members are near completion of significant capital investment programmes to replace R22 refrigeration units with units based on HFCs with GWP >2500 such as R507. This action

¹ Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on fluorinated greenhouse gases Brussels, 7.11.2012 COM (2012) 643 final 2012/0305 (COD)

was required under EU Regulation 2037/2000 on ozone-depleting substances. EIGA now finds itself in a position of a 'double impact' and will potentially have to replace refrigeration units for a second time within a period as short as five years.

As a result of these proposals refrigeration units would become redundant in existing production plants and risk being phased out of our future designs. Consequences would include a major loss in production capacity and energy efficiency, leading to a significant overall increase in greenhouse gas emissions. EIGA offers the following comments on specific aspects of the proposal:

1. Bans on equipment maintenance with out adequate timelines will result in efficiency penalties and lead to an overall increase in greenhouse gas emissions

In the Commission proposal, Chapter III, Control of use, Article 11, states that maintaining equipment using refrigerants with a GWP > 2500 shall be prohibited from 2020.

As stated above, in many cases there is no 'drop-in' replacement gas with a GWP < 2500 available for our existing refrigeration units. This will lead to refrigeration equipment redundancy which we believe was unforeseen by the EC when drafting the proposal. The consequence of this equipment redundancy is significant cost and technical challenges in finding suitable replacement units for our unique cryogenic applications. For our industry, a deadline of 2020 is premature to overcome these financial, technical and efficiency challenges.

We also note that the Commission has previously considered a lower GWP threshold value: 2150. Imposition of this lower limit would extend the impact stated above to units operating on other gases such as R423A for which the search for viable alternatives is even more challenging.

To avoid immediate equipment redundancy and allow the industrial gas industry to have adequate time to identify energy efficient and reliable alternatives, EIGA requests that the timeline for a ban on maintenance of large scale industrial equipment using refrigerants with GWP > 2500 be extended to 2030.

2. Bans on new industrial equipment using HFCs with GWP >150 would lead to an increase in indirect greenhouse gas emissions

EIGA is concerned that the proposed text empowers the European Commission to extend the list (Annex III) of placing on the market prohibitions to include new industrial refrigeration equipment containing HFCs with a GWP >150. EIGA also is concerned that the European Commission had previously considered a full ban on the use of HFC's with a GWP > 150 in new industrial equipment.

If new large scale industrial equipment were included in the list of prohibitions, the Industrial Gas companies would be left with no other choice than using 'HFO' or 'natural' refrigerants, which would create substantial technical and cost challenges as explained earlier. This may lead to the removal of refrigeration units in cryogenic production processes and the resulting inefficiencies would lead to increased indirect emissions and global warming.

EIGA requests that no additional prohibitions impacting new large-scale refrigeration units be imposed (in Annex III or elsewhere) until it can be shown that there are energy-efficient alternatives available.

3. The current baseline dates for quota allocations will distort competition

If the Regulation's aims are to be achieved at the least overall cost and with the avoidance of market shocks or distortions, it is important that the baseline for phase-down is set correctly; also that quotas be allocated in a fair manner reflecting the current market situation. With this in mind, it is important that the present quota allocation methodology takes into account how the supply market for F-gases has evolved substantially over the period 2008 to present. However, in the Commission's proposal, Article 13, General Principles, the quota allocation system does not reflect these market changes. This distorts competition, reduces user choice and in effect creates a 'tacit oligopoly' of suppliers based on historical market positions. In addition, the proposal does not provide a strong enough mechanism to provide for new market entrants, or competition amongst those with existing reference value quotas.

EIGA requests that there be a careful review of the size of the reserve percentage to minimise market distortion and recommends a change of the reserve for new market entrants from the current 5% to 10%.

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4. Definition and use of reclamation

EIGA believes that the opportunity to use reclaimed refrigerant gases offers the benefits of a lower overall environmental impact than virgin product and would provide for more extensive recycling of refrigerants, helping to avoid bad practices such as the illegal venting of used gas to atmosphere.

EIGA therefore encourages a definition of Reclamation as laid out in Chapter 1, General Provisions, Definitions Article 1, which takes into account industry best practice and relevant international standards. This would ensure that reclaimed product meets all performance and safety standards expected of new product. EIGA believes the method to best meet these aims is to ensure that any reclaimed product meets the same specifications as virgin product – i.e. with purity greater than 99.5%.

EIGA recommends that reclaimed refrigerant gases with GWP >2500 are allowed to be used to maintain existing equipment for a period of five years after any maintenance ban takes place. EIGA also requests that the definition of reclamation be tightened to meet the energy and safety performance of virgin substance.

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