

F-Gas Regulation & Pricing of Refrigerants: Q&A

Key takeaways



- **New regulations are expected to cause high-GWP refrigerants prices to grow drastically while limiting their availability**
- **Lower GWP alternatives such as Solstice[®] ze, Solstice zd, Solstice blends and Genetron Performax[®] LT (R-407F), will help you stay competitive and maintain favorable cost position**
- **HFO refrigerants are not considered fluorinated greenhouse gases and can be used without an end date**

What is F-gas regulation?

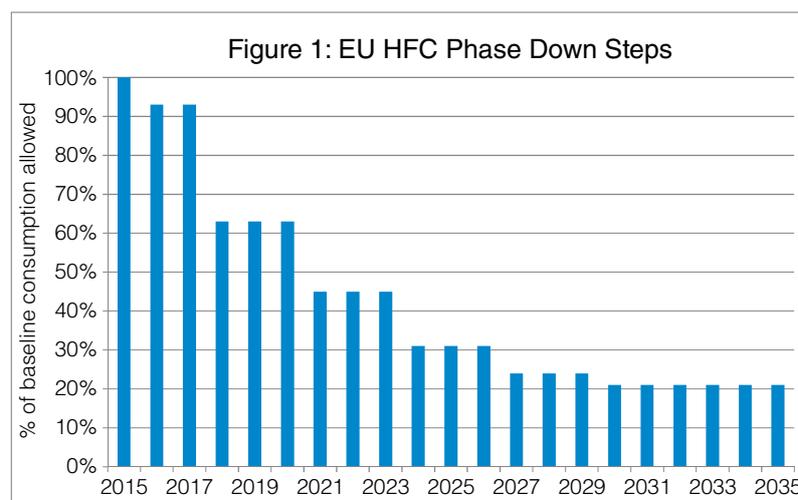


- Among other measures, such as leak detection, containment and control, F-gas regulation limits the amount of HFCs which can be placed on the market in the EU from 2015 onwards
- It also introduces bans on the use of certain F-gases based on GWP and date for both new equipment and for service
- It is a law since January 1, 2015
- By 2030, the F-gas regulation will cut the EU's F-gas emissions by two-thirds compared with 2015 levels
- Landmark regulation helping European Union control emissions from fluorinated gases (F-gases) as part of its commitment to combat climate change
 - HFO refrigerants are not considered fluorinated greenhouse gases and can be used without an end date

Supply



- HFCs are going to face significant shortages in supply
 - F-gas regulations phases down HFCs to 21% of baseline in 2030
 - HFC producers are not investing into HFC capacities because the products are being phased out globally as the environmental regulations are getting globally harmonised



Source: Gluckman Consulting,

<http://www.gluckmanconsulting.com/wp-content/uploads/2014/12/IS-28-The-Phase-Down-Process.pdf>

Demand

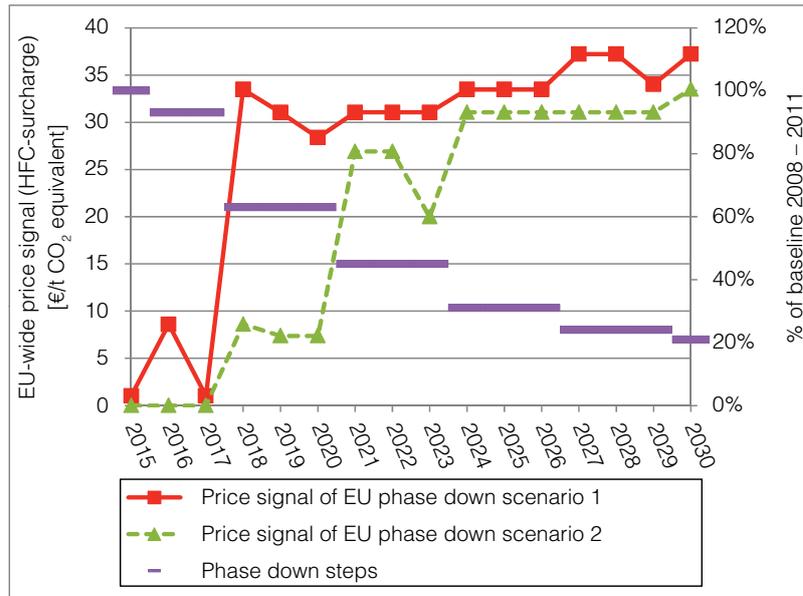


- EU economy is recovering and expected to grow, which in turn is expected to cause a growth in demand on products and services
- New regulations are introduced across industries (Ecodesign, Building Standards etc.) impacting energy efficiency standards and further increasing demand for energy efficient, low GWP solutions

Cost



- Based on third party data (Öko-Institut), it is expected that high GWP products will face dramatic price increases



Source: Öko-Institut, Wolfram Jörß, March 29, 2014, presentation at the Symposium 'The new F-gas regulation'

Q&A

Q Why is R-404A significantly costlier than last year?

A The amount of quota needed to sell 1kg of R-404A is nearly 2.75 times the quota needed for 1kg of 134a. As companies have limited quotas they will need to optimise their portfolio and consequently supply of higher GWP products is already reducing. All high GWP products (such as R-404A, R-507, R-125 or alike) will be priced on their GWP (ton of CO₂ eq.) and their availability. Based on third party data (Öko-Institut), it is expected that high GWP products will face price increases as of 2015.

Q What do the quotas mean for me?

A The overall quota of product which can be placed on market is based on GWP (ton of CO₂ eq.). The F-gas regulation clearly states how much HFCs can be placed on the market each year (see Figure 1). This amount is reducing in steps – with first significant step down between 2017 and 2018: 37% (if pre-charged equipment is taken into account, it is indeed even bigger step down: ~50%). Every producer also has its own quota which it can place on the market. Therefore, every producer has to judge if to spend the quota on higher GWP products, and sell less of them, or sell more products with lower GWP in higher quantity and meet a demand of more customers. For instance, within the same quota, we can sell 1 kg of R-404A or almost 2.75 kg of R-134a. This way, the higher GWP products will be naturally squeezed out of the market.

Q The high-GWP products work and I don't want to switch. Will these products still be available?

A This is very simple – you can use certain products by 2020 or even longer, but you will not be able to purchase them anymore. Moreover, their price is expected to increase significantly. Simply put: the higher GWP refrigerant you use, the more issues you will run into, since the prices are expected to go up and the availability to go down.

Q Why does Europe have these regulations, while the rest of the world is not taking action?

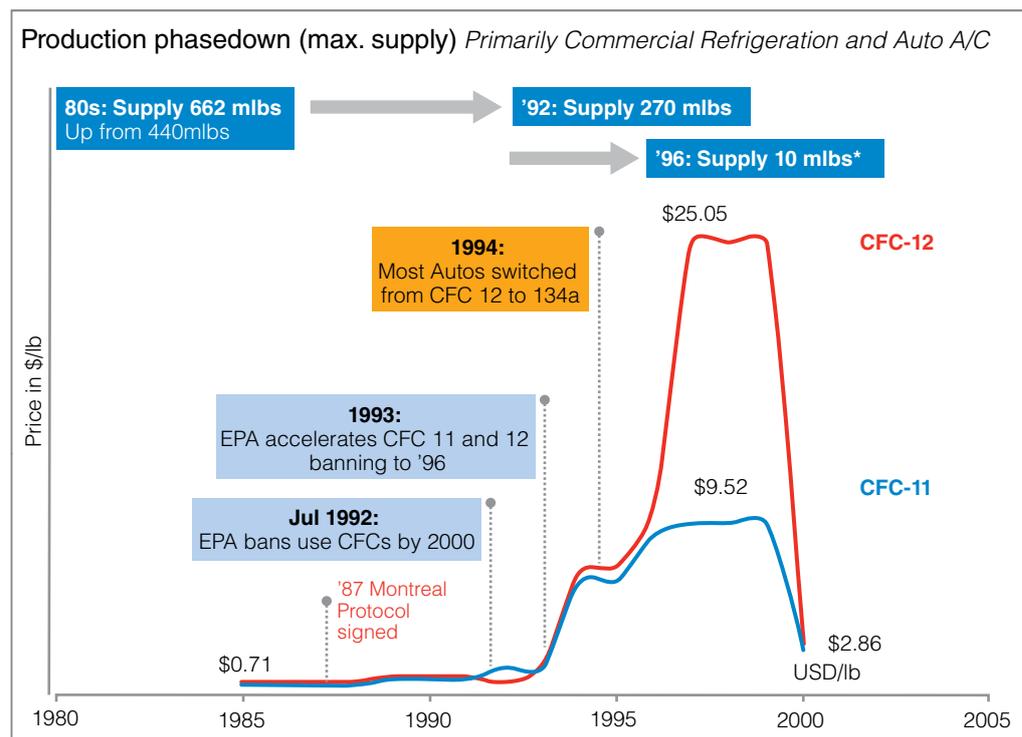
A The European Union is a leader in reducing its carbon footprint; however, especially in recent years, more countries and regions are making similar steps. The regulations are more often internationally harmonised – so we can see similar efforts in the U.S., Japan and in other parts of the world, too.

Q R-134a or R-404A are basically commodities. Can I buy them from China and save money?

A We expect refrigerants imported from China to face shortages in supply, as the Chinese producers do not have significant quota. In order to be able to buy those refrigerants you have to have quota or buy the product through somebody that possesses quota in order to comply with the law and to be able to clear them through customs.

Q Is there a way to avoid the ever increasing prices of refrigerants?

A Honeywell encourages customers to switch to its low GWP offerings: Solstice® range or Genetron Performax® LT (R-407F). Honeywell is committed to help customers transition to the new products by technical and communications support. There will be a point in time when high GWP HFCs will increase in price to an extent where it is more reasonable to switch over to the low GWP options. A good example is the historic case of AC refrigerants switching from CFC-12 to R-134a. Initially, R-134a was more expensive but due to limited availability of CFC-12 over time, price increases led to a complete switch to R-134a by the automotive industry.



Source: Chem. Eng. Handbook; Marketing Research Report; FLUOROCARBONS; Sept 2011; Internal company reports.

*p 55. US production of FCs data table

Q Do you have a projection of pricing of the base HFCs? How much more will they cost next year and later?

A Based on third party data (Öko-Institut) or the historic data, high GWP HFC prices are expected to grow. Their prices are based on CO₂ equivalent. Their longer term expectation is that the price of high GWP products will move to two digit figures for a CO₂ equivalent.

Q Can companies supply the high GWP product on the same level as before 2015?

A Every producer has its own quota which it can place on the market. Therefore, every producer has to judge if to spend the quota on higher GWP products, and sell less of them, or sell more products with lower GWP in higher quantity and meet demand of more customers. This way, the higher GWP products will be naturally squeezed out of the market.

Honeywell recommendations to comply with F-gas regulation and to avoid price increases



- Avoid buying new equipment that uses a refrigerant with high GWP (R-404A, R-507A and others)
- HFO refrigerants are not considered fluorinated greenhouse gases and will not be subject to quota pressure. Move to a low GWP alternative as soon as possible to be sure you have supplies of products. Find more information on Solstice® yf, Solstice zd and Solstice ze here:
www.honeywell-refrigerants.com/europe
www.honeywell-blowingagents.com
<https://www.honeywell-solvents.com>
<https://www.honeywell-solstice-propellants.com/>
- If direct move to low GWP HFOs is not possible, an alternative is to move to lower GWP blends, such as:
[Solstice® N40](#) (R-448A),
[Solstice® N13](#) (R-450A)
[Genetron Performax® LT](#) (R-407F),
and multiple others
- As a consumer of F-gases, ensure you have a long-term supply agreement with a reputable producer or distributor
- When searching for a refrigerant, consider the five important aspects:
 - GWP
 - Performance
 - Safety
 - Cost to purchase and serve
 - Energy efficiency

More information



For more information, please visit our website www.honeywell-refrigerants.com/europe or follow the QR code:



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