

TECHNICAL BULLETIN

TB/042 REFRIGERANT PHASEDOWN – IMPLICATIONS AND CONSIDERATIONS

Phasedown Steps

From the table highlighting the phase down steps we can see the initial drop down in 2016 showed only a 7% drop from the 2015 baseline limit of gas that could be placed on the single market. That may have been such a small figure that some buried their heads in the sand and convinced themselves that all would be OK. The other problem the industry sector faced was that there was some considerable stockpiling of gas being placed on the market in 2015 ahead of the control measures being put in place, effectively flooding the market and artificially compressing the prices so that we actually saw, in some cases, prices drop.



* Source: European Commission

Towards the end of the second step – around June 2017 – we saw very sharp price rises of many HFC refrigerants like R404A and later in the year R410A and R134a. The price of R404A to contractors today, for example, is more than 10 times what it was in January 2017. R410A prices are quickly spiralling out of control as well, even where still available. New entrant companies to the sector struggle to buy refrigerant as wholesalers limit sales to existing customer base and even then they frequently limit sales to the existing customer base depending on previous years' sales patterns and trends.

Implications

The implications of this effect are very serious for contractors and their clients. If contractors are signed up under full service contracts with their clients then they urgently need to look at their exposure. **Any contract that includes any replacement gas may now leave the contractor exposed to large, and increasing, costs that may seriously affect their profitability and financial viability.**

Similarly, contractors pricing a tender for a VRF installation that will not be installed for several months cannot possibly put a price against the refrigerant required in several months' time. **The price of R410A – the only viable refrigerant for VRF/VRV at the moment – is rising at around 30% every month.**

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End users not protected by inclusive service contracts will also need to urgently look at their systems, speak with their service contractors about options, and start planning either swapping out equipment using high GWP gases or converting existing equipment to lower GWP alternatives to the high GWP gases. This is something that requires expert advice as the alternatives are not of the “one size fits all” variety – different types of systems require different drop ins or retro-fits and proper advice and planning is essential if these systems are to be kept operational over the coming months and years. **The price of HFC refrigerants will not fall significantly any time soon!**

Solutions to consider

As outlined in the previous paragraph the best long term solution is to convert systems to lower GWP alternatives or to swap out the systems themselves as soon as possible. However, that is not always practical nor financially possible in the immediate window.

As a short term measure it is allowable to use recovered gas until 1st January 2030 if that gas has been recycled or reclaimed from the same type of system (stationary refrigeration, air conditioning or heat pump equipment under the scope of the F Gas Regulation). In the same way that recycled R22 was used to see people over the initial period post banning of HCFCs, recycled or reclaimed R404A or R410A will be essential if contractors are to mitigate the effect of the huge price rises currently occurring every few weeks.

However, it is essential that contractors observe best practices when recovering gases if they intend using them for servicing use after 2020 when the ban comes in for using virgin gases with a GWP above 2,500. REFCOM registered companies will have seen the recently published new Technical Bulletin (TB041) on the subject of Refrigerant Recovery that explains the difference between reclaimed, recycled and recovery and explains best practice to ensure maximising recycling of refrigerants.

In a nutshell recycled gas has had a very basic cleaning process applied to the recovered gas to remove non-condensables, oil, water vapour and particulate matter; whereas reclaimed gas has been reprocessed to ensure the equivalent performance of a virgin gas. Reclaim is generally carried out by gas manufacturers; whereas contractors can, if recovery is carried out properly, recycle themselves by using filters and driers and decanting into a dedicated reclaim cylinder.

This process becomes crucial to pay attention to when you are recovering zeotropic blends as the constituent gases may not be in their intended blend after recovery, especially after a leak. The wider the glide of the zeotropic blend, the greater the danger of not recovering in the correct constituent blend. The effect of this, of course, is that the gas will not perform as expected, may have serious effects on efficiency and can even create a safety issue in extreme cases.

As always, the REFCOM and BESA Technical helplines are there for members concerned with issues like this to get advice and guidance.

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