Refcom is a BESA Group Company

TECHNICAL BULLETIN

REFRIGERANT GAS RECYCLING AND THE F GAS PHASEDOWN

1 OBJECTIVE

The objective of this technical bulletin is to remind members of the importance of the effective recycling of as much recovered gas as possible. This is advised in order to alleviate the pressures being experienced by members in the field with shortages of virgin and reclaimed gas causing gas prices at the wholesalers to rise to extremely high levels. This has led to a lack of availability and meant members have had to leave wholesalers without the gas supplies required to carry out their tasks.

The need for this guidance has come from widespread concerns within the RACHP industry sector of a lack of available gas supplies and a number of our members asking for guidance on the subject.

Discussions with industry stakeholders, contractor members, our own REFCOM Elite inspectors, industrial gas manufacturers and suppliers, and wholesaler representatives has highlighted concerning trends and bad habits that are exacerbating the issue and putting increased and unnecessary pressure on the HFC phase down imposed by the F-Gas Regulation.

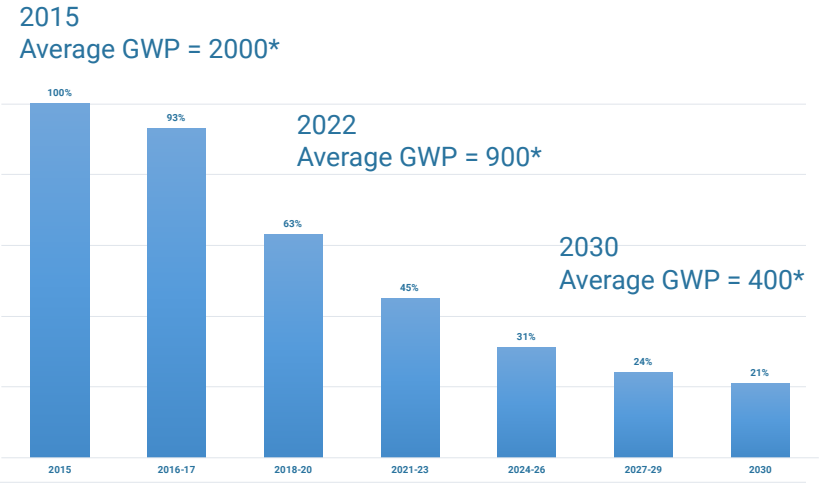
2 F GAS REGULATION PHASE DOWN STEPS - THE URGENT PROBLEM

The phase down steps introduced in the 2014 review of the F-Gas Regulation have been well documented and discussed but have still seemingly taken the industry by surprise to some extent.

The diagram on the right was designed by the European Commission to highlight each step of the phase down and to draw attention to how the phase down could be made to work by averaging out the GWP levels of all gases being placed on the market for the first time.

It is essential, in order to maintain sufficient quantities of virgin refrigerant availability, that significant effort is made in recycling existing stock. The more refrigerant gas in use that has previously been placed on the market, the less virgin refrigerant is needed and, thus, the lower the pressure on the supply chain to maintain stocks and supplies as the phase down bites.

F GAS PHASEDOWN & AVERAGE GWP



* source European Commission

3 RECOVERY OF REFRIGERANT GASES FOR RECYCLING – AN IMPORTANT PART OF THE SOLUTION

REFCOM's Technical Bulletin TB023 published June 2017 highlighted the legal requirements under EC517/2014 (the EU F-Gas Regulation) of properly recovering refrigerant from systems. This process applies to all systems when being decommissioned or where repair work is necessary on the refrigerant circuit and there is no opportunity to pump down into a liquid receiver or into the condenser coil.

TB023 also explained the differences between reclaimed and recycled refrigerant gas – an important distinction that has gathered importance due to the steep price rises of virgin gas in recent months.

Recovering refrigerant for recycling will mean the following steps will be needed:

- Check the bottle being used as the recovery receiver is not contaminated with oil or other gases; designated receiver cylinders should be used to avoid contamination rather than standard recovery cylinders if virgin gas is being aggregated.
- Recover the refrigerant through a filter-drier to remove any moisture, solid contaminants, and/or non-condensables;
- Remove any contaminated oil – perhaps via an oil separator;
- Check the quality of the refrigerant – particularly if it is a blend – by using a comparator chart/app and taking accurate temperature readings;
- Marking the bottle as recycled refrigerant for re-use.

This can provide a good stock of gas that is short in supply for any remedial repair work in future. Recycled refrigerants with a GWP over 2,500 such as R404A can still be used after the service ban in 2020.

"The prohibition referred to (use of fluorinated greenhouse gases with a GWP over 2,500) shall not apply to the following categories of fluorinated greenhouse gases until 1 January 2030:

(A) Reclaimed f-gases of 2,500 or more used for maintenance or servicing of existing refrigeration equipment, provided that they have been labelled in accordance with article 12(6);

(B) Recycled f-gases of 2,500 or more used for maintenance or servicing of existing refrigeration equipment provided they have been recovered from such equipment. Such recycled gases may only be used by the undertaking which carried out their recovery as part of maintenance or servicing or the undertaking for which the recovery was carried out as part of maintenance or servicing."[1]

This means that by recovering gas properly on major sites you can re-use that recycled gas for your clients for another 10 years after the service ban for virgin refrigerants kicks in. This can take a lot of pressure off the limited quota allowances removing some of the strain being felt because of the steep phase down system.

[1] Adapted from EC517/2014, article 13(3)

4 UNUSED GAS IN STOCK

Frequently we hear about members sending back bottles to wholesalers with significant amounts of refrigerant left in the bottle to avoid paying rental charges on the bottle itself. There is also a general shortage of virgin gas bottles in general and so the gas suppliers need these bottles back.

Many companies employing field engineers find that the engineer leaving the workshop to attend a service call will pick up a bottle from stock before heading out. However, where the bottle only has 2 or 3 kgs left in it, the engineer frequently leaves that one and picks up a fuller bottle, rarely thinking to use the small amount left in the other bottles first. This not only leaves several kgs of various refrigerant gases in a variety of bottles, but it also leaves bottles in stock beyond their rental date, instigating rental charges, or lost bottle charges. Frequently these small amounts are sent back to avoid the rental charges, and that gas is then lost to the system.

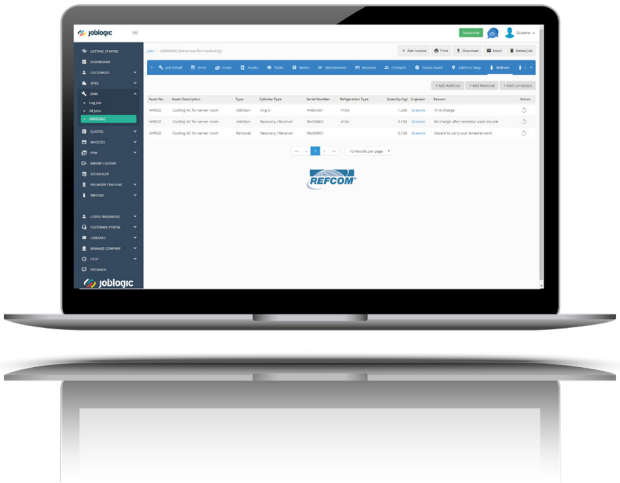
Instead of sending back f-gas that will be sent for destruction and then lost to the system, by aggregating small amounts of virgin refrigerant into a clean receiver cylinder you can build up enough virgin refrigerant in that bottle to make it more likely to be used by filed engineers when attending service call-outs. This is a sustainable management of f-gases from an environmental point of view anyway, but is an increasingly sensible way of dealing with the gases as the value of that gas increases monthly.

5 REFRIGERANT MANAGEMENT SYSTEM

In order to aid our members with the process of developing and maintaining a sustainable refrigerant gas management system we have built into our new software module the facility to decant from bottle to bottle – an action designed to better manage the aggregating of gases into bottles and manage recycled gas in a more effective way.

Every Refcom Member benefits from one free user licence of the **REFCOM powered by Joblogic** software and can take advantage of this refrigerant and bottle management system.

By using these tools our members can take a more hands on control over their stock levels, minimise bottle rental charges, and avoid waste of valuable resources as well as fulfilling all of their F-Gas Regulation obligations automatically.



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