

JBCE position paper on the EU's Commission proposal for a new F-Gas regulation

JBCE represents the interests of about 90 multinational companies of Japanese parentage active in Europe. Our members operate across a wide range of sectors, and include companies that are active in developing, producing and marketing refrigeration, air conditioning and heat pump (RACHP) equipment.

JBCE welcomes the revision of the 2014 F-Gas Regulation and remains committed to achieving further emission reductions from F-Gases. JBCE believes the HVAC industry can support and contribute to EU's climate goals and the challenges to reduce the EU's energy dependency on fossil fuels in the heating and cooling sector especially in light of the recent geopolitical events, via the uptake of energy efficient heat pumps. The contribution of heat pumps in this respect was recognised in the Commission's March 2022 RePowerEU Communication which targets an accelerated deployment of heat pumps aiming at 30 million by 2030.

However, JBCE has strong concerns that the needed acceleration of heat pumps in the market will be hampered with the current Commission proposal. JBCE would like to draw attention to the following important issues in the Commission's proposal, especially considering the contribution of heat pumps to EU energy efficiency, EU Green Deal and REPowerEU objectives.

1. Stringent schedule of HFCs phase down (Annex VII)

The draft proposal suggests a very strict phase down schedule for HFCs. JBCE has strong concerns on the proposed measures due to the following:

- The phase down proposed is a de facto phase out of HFCs by 2027. Not only would this limit the deployment of heat pumps, essential to the Fitfor55 and REPowerEU targets, it would also heavily impact the affordability of heat pump technology (contrary to what is mentioned in the impact assessment reports).
- The steep phase down would require redesigning a significant amount of the market of heat pump equipment in less than 3 years' time. In addition to that, new requirements will be set in the revised Ecodesign Regulations for air conditioners and heat pumps (Lot 10, Lot 1, Lot 21), for which units need to meet more stringent minimum efficiency requirements and require retesting due to new test methods. All these requirements, combined with potential PFAS restrictions in the future, can simply not be met by the industry in such a short timeframe. In order to mitigate the overall climate impact from HVAC equipment, alternative refrigerant technology has to be assessed comprehensively by looking at the total environmental impact, not only direct emission deriving from fluorinated gas.

As such, JBCE proposes to maintain the current phase down until at least 2030. This to allow more time for the industry to adapt and ensure that the heat pump acceleration is not jeopardised.

2. Additional GWP limits for new equipment (Annex IV)

JBCE believes that the additionally proposed product bans are incoherent with the EU objectives to roll out renewable and highly efficient air-to-air and hydronic heat pumps, as they limit innovation and flexibility for manufacturers. The transition to lower GWP refrigerants is already taken care of by the phase down (Annex VII).

What the European Commission is proposing is not feasible neither from a safety point of view nor from a timing point of view and JBCE is concerned because additional product bans might restrict the contribution of heat pumps to the decarbonisation of heating and cooling. For this reason, heat pump technology should not be subject to any additional product bans for the moment.

In addition, JBCE considers that the scope of the proposed bans is extremely unclear and lacks clear definitions. There is not a clear understanding of what the European Commission means with 'self-contained' air conditioning and heat pump equipment, among other elements.

Furthermore, there is an exception for safety standards introduced and JBCE request a clarification on how this exemption rule will be applied by market surveillance authorities.

In addition, the proposal refers not only to the placing on the market of products and equipment but also to **parts** of products and equipment. This is concerning because the proposal is unclear when it comes to the meaning of "parts thereof"; and it could limit or prevent repair, maintenance and upgrading of existing equipment.

Put simply, the bans and de facto 'phase-out' of HFCs in the F-Gas revision proposal is not consistent with the Commission's ambitions to decarbonise the building stock via a massive rollout of heat pumps. Due to the restriction for the use of R-290 in terms of safety standards such as EN378 and IEC60335-2-40, very large proportions of the building stock will not be suitable for R-290 heat pumps, and due to the F-Gas revision proposal's GWP bans and 'phase-out', will therefore not have the option of installing a heat pump.

Therefore, and in conclusion, JBCE suggests:

- **To maintain the current phase down steps at least until at least 2030 to ensure that the transition away from fossil fuels is not jeopardized and heat pump uptake in the market is accelerated.**
- **To avoid introducing additional heat pump bans to allow for the needed flexibility in transitioning to lower GWP refrigerants.**

Remarks to the Impact Assessment

JBCE carefully analysed the Impact Assessment reports that were shared as part of the public consultation 'Have Your Say', and would like to take the opportunity to provide following feedback:

- The Impact Assessment fails to provide the assumptions behind the scenarios proposed which have led to the current phase down proposal. It is unclear what market size and market growth was assumed for each of the product groups that were assessed, making it impossible to verify the feasibility of the proposal. Furthermore, the Impact Assessment does not provide sufficient information on how much HFCs were assumed to be needed for servicing of existing equipment.
- The assumptions used in the modelling to develop this new phase down proposal are not in line with the market reality. Indeed taking as an example the scenario elaborated for splits air-conditioners and heat pumps below 12kW. The study and modelling both fails to show how such sector would reasonably and technically transition to propane at more than 96% by 2024. Indeed, the modelling developed by the consultant hired by the EU commission, assumes that all splits air-conditioning and heat pump would transition within 3 years (between now today 2022 and 2024) to flammable refrigerants, regardless of installations needs, supply chain transition, new components development, let alone safety considerations. For instance, multi-splits represented in 2015 17% of the total EU units sales (reference Lot 10 ErP study Task 1 on markets) are assumed being able to transition to flammable refrigerants while it is well known that with current and upcoming safety standards those equipment could not reasonably move to such flammable refrigerants. Therefore, how can it be assumed that 96% of the market would be able to transition to propane while already 17% of the market would not be able to do so in reality. Same could be also said for larger reversible air-conditioners. In 2020 , the EU Commission itself released a report leading to the conclusion that F-Gases were needed for certain single splits and multi-splits. While today, not even 2 years after, the modelling developed totally disregarded this conclusion, which constitute another 15% of the sales on the market. Last but not least, it is assumed that the sector can transition within 3 years to a new refrigerant, where currently only a very limited number of units are available on the market. It should not be forgotten that the transition to R32 in those units took 10 years between the first units on the market and today. For those reasons, we strongly challenge the assumptions used to build up the phase down, which leads to an unrealistically strict scenario that will leave the market with no possibility to meet consumers demand for renewables and highly efficient cooling and heat technologies.

ANNEX

Supporting arguments of JBCE comments from the safety aspects

The proposed bans, coupled with the phase-down's defacto 'phase-out' of HFC use in new heat pumps, means that the heat pumps choice of refrigerants will be limited in the majority to R-290 (Propane), which is a highly flammable refrigerant option. Indeed, it is classified under ASHRAE Standard 34 as A3, the highest class of flammability under the standard. This is recognised by the European Commission in its [2020 report on the availability of refrigerants for split air conditioning systems](#).

High flammability necessitates safety restrictions that justifiably limit the use of R-290 to protect human health. In general, these are detailed in European and International standards, but can also be requirements in regional, local and municipal building codes. The most relevant standards are the harmonised standards, EN 378¹ and the product specific IEC EN 60335-2-40², which is commonly used for factory produced products, mostly for residential applications. The standards define charge limitations for both the outdoor and indoor units but also define safe installation parameters on the location of the indoor and outdoor units.

It is important to note that the current Ed. 6 of IEC EN 60335-2-40 is being revised and will permit the use of R-290 subject to the integration of two solutions to mitigate safety aspects: enhanced air tightness and circulation airflow. Ed. 7 is therefore expected to facilitate R-290's use with larger charge sizes, and thus larger capacity units. However, an upper limit of 1kg is maintained and these solutions will increase the cost of heat pumps.

In practice, in the real-world the reality of the exclusion perimeters, limits the range of applications in which an R-290 heat pump can be installed. For new buildings such limitations can be overcome by designing the building to respect the exclusion perimeters that are a safety necessity for R-290 heat pumps. However, this is not the case for existing buildings which were not designed with R-290 use in mind.

The Commission's Renovation Wave Communication published in October 2020 starts with the pertinent statement that "[m]ore than 220 million building units, representing 85% of the EU's building stock were built before 2001. 85-95% of the buildings that exist today will be standing in 2050". In the next paragraph it is stated that "[m]ost of those existing buildings are not energy efficient [and] [m]any rely on fossil fuels for heating and cooling, and use old technologies and wasteful appliances". More recently the explanatory memorandum of the Commission's proposal to revise the Energy Performance of Buildings Directive (EPBD) declares that the revision "will support the replacement of inefficient fossil-fuel boilers by systems with no direct GHG emissions, such as heat pumps". This strategic importance of heat pumps was thus clear even prior to the RePowerEU Communication's target to accelerate heat

¹ EN 378-1-4: Refrigerating systems and heat pumps - Safety and environmental requirements

² IEC 60335-2-40: Household and similar electrical appliances - Safety - Part 2-40: Particular requirements for electrical heat pumps, air-conditioners and dehumidifiers



pump deployment by installing 30 million by 2030, to reduce the EU's dependency on Russian fossil fuels.

About JBCE

Founded in 1999, the Japan Business Council in Europe (JBCE) is a leading European organization representing the interests of about 90 multinational companies of Japanese parentage active in Europe. Our members operate across a wide range of sectors, including information and communication technology, electronics, chemicals, automotive, machinery, wholesale trade, precision instruments, pharmaceutical, textiles and glass products. For more information: <https://www.jbce.org/>
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