EHPA amendments on the revision of the f-gas regulation


The European Heat Pump Association welcomes the revision of the f-gas regulation in order to improve the European Union's action on the reduction of greenhouse gas emissions.

Aiming at a maximum possible impact we suggest integrating the following changes in the final version of the document.

### Legal basis

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<tr>
<th>Text proposed by the Commission</th>
<th>EHPA proposal</th>
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<tr>
<td>The primary objective of the Regulation is to provide a high level of protection for the environment, in particular by combating climate change. This proposal is therefore based on Article 192(1) of the Treaty on the Functioning of the European Union.</td>
<td><strong>The While the</strong> primary objective of the Regulation is to provide a high level of protection for the environment, in particular by combating climate change, <strong>it is obvious that its implementation has an internal market dimension.</strong> This proposal is therefore based on Article 192(1) of the Treaty on the Functioning of the European Union.</td>
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<td>Nevertheless, it is appropriate to take measures at Community level on the basis of Article 114 of the Treaty to harmonise requirements on the use of fluorinated greenhouse gases and the marketing and labelling of products and equipment containing fluorinated greenhouse gases. Marketing and use restrictions for certain applications of fluorinated greenhouse gases are considered appropriate where viable alternatives are available and improvement of containment and recovery is not feasible. Voluntary initiatives by some industry sectors should also be taken into account, as well as the fact that the development of alternatives is still on-going.</td>
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### Justification

The current F-Gas Regulation (2006/842/EC) has a dual legal basis based on articles 95 (internal market) and 175 (environment) of the TEC. This approach should be maintained, as neither the aim of the revised regulation has changed, nor the impact of this revision on the internal market can be declared negligible. At the same time, stricter national measures should be allowed pending notification to and approval by the commission as foreseen in article 114 (ex. article 95 of the TEC) of the TFEU. Maintaining provisions governing the establishment and functioning of the internal market would also be consistent with other legislative approaches taken by the European Commission. A dual legal basis should thus be kept for consistency reasons.
### Article 1 (7)

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<td>(7) ‘hermetically sealed system’ means a system in which all parts that contain fluorinated greenhouse gases have been hermetically sealed during their manufacturing by welding them, brazing them or otherwise making them tight by permanently connecting them and for which the refrigerant circuit does not need to be opened for placing the system into operation;</td>
<td>(7) hermetically sealed system’ means a system in which all parts that contain fluorinated greenhouse gases have been hermetically sealed in accordance with EN 16084:2011.</td>
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### Justification

In order to avoid double legislation, technical aspects of the f-gas regulation should be based as much as possible on existing standards. The EN 16084:2011 (Refrigerating systems and heat pumps. Qualification of tightness of components and joints) defines systems to be hermetically sealed if "all refrigerant containing parts are made tight by welding, brazing or a similar permanent connection which may include capped valves and capped service ports that allow proper repair or disposal and which have a tested tightness control level of less than 3 g per year under a pressure of at least a quarter of the maximum allowable pressure".

The EN explicitly mentions sealed systems as defined in EN 378-1:2008 to be identically (i.e. also hermetically sealed). The updated EN 378-1:2012 uses the same wording and explanatory notes as the EN 16084:2011. Today’s heat pumps are equipped with capped valves (Schrader valves) for testing, maintenance and dismantling. **They enable an efficient maintenance of the unit during operation and are essential to allow for a safe evacuation of the refrigerant at the end of life of the unit.**
### Article 2 paragraph 2 subparagraph a.

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<td>(4) ‘Persons and undertakings carrying out the following tasks shall be certified in accordance with Article 8:</td>
<td>(4) ‘Persons and undertakings carrying out the following tasks shall be certified in accordance with Article 8:</td>
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<tr>
<td>(a) installing, servicing, maintaining, repairing or decommissioning equipment referred to in Article 3(1);</td>
<td>(a) installing, servicing, maintaining, repairing or decommissioning equipment referred to in Article 3(1); installations of hermetically sealed heat pumps shall be excluded from this requirement</td>
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</table>

**Justification**

A hermetically sealed unit is only connected to the hydronic system and to the electric grid. As the installer does not break into the refrigerant cycle, this requirement is placing an unnecessary burden on this type of installation.

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### Article 12

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<tr>
<td>1. From [dd/mm/yyyy] [insert date 3 years after entry into force of this regulation], refrigeration, air-conditioning and heat pump equipment shall not be charged with hydrofluorocarbons before it is placed on the market or before it is made available to the end-user for its first installation. The equipment shall be charged where it is intended to be used, by persons certified in accordance with Article 8.</td>
<td>delete</td>
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<tr>
<td>2. Paragraph 1 shall not apply to hermetically sealed equipment or to equipment that contains a quantity of hydrofluorocarbons corresponding to less than 2 % of the equipment's foreseen maximum capacity.</td>
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**Justification**

Equipment charging during manufacturing is essential to test and eventually to warrant - proper functioning and - efficiency of heat pumps. **Charging in a controlled production environment provides the highest accuracy and helps to minimize refrigerant loss to the atmosphere.**

While the proposed ban may be appropriate to safeguard the integrity of the Commission proposal, it will create a variety of problems for governments, users and industry that may
even be counter-productive to the goal of emission reduction as have a negative impact on emissions, costs, safety and access to products.

1. **Increase of emissions and of energy consumption:**
   - Charging in the field is less precise and will lead to an increase of emissions of at least 1 million tonnes of CO2-equivalent\(^1\) in 2020 (air-conditioning and heat pump applications).
   - Over or under charging of the equipment has a potential negative impact on energy efficiency, which may lead to a 10% loss in energy efficiency\(^2\) and thus further increase emissions.
   - Over or under charging might negatively influence the lifetime of the unit, resulting in increased service and replacement frequency, increased emissions and higher total cost for the end user.
   - Transport refrigeration equipment (which comes also pre-charged and is thus in the scope of this ban), is not even included in these figures.

2. **Higher costs:**
   The cost for society would increase by at least €500 million in 2020\(^3\) due to higher refrigerant costs and increased manpower. Again, this does not even include transport refrigeration applications.

3. **Resource efficiency:**
   De facto, the proposed ban implies adding two steps to the lifecycle as the refrigerant will first be filled in the factory for testing purposes. It will then have to be removed again and will be contaminated with compressor oil or waste. Before it can be used again, it would need to be sent back as waste to the gas suppliers for cleaning. This would dramatically increase the amount of waste gas in the supply chain as well as the need for additional transport and related emissions.

4. **Delayed access to products:**
   End-users risk to be faced with delayed access to the products of their choice, due to the fact that installation will be more lengthy, costly and intensive, whereas the number of qualified installers will not increase in the short term.

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**About the European Heat Pump Association | EHPA**

EHPA is a Brussels based industry association which aims at promoting awareness and proper deployment of heat pump technology in the European market place for residential, commercial and industrial applications. EHPA provides technical and economic input to European, national and local authorities in legislative, regulatory and energy efficiency matters. All activities are aimed at overcoming market barriers and dissemination of information in order to speed up market development of heat pumps for heating, cooling and hot water production.

EHPA coordinates a quality initiative including a Quality label for heat pumps and Certification standards for heat pump installers. The association compiles the annual heat pump statistics and organizes a number of events, among them an annual heat pump conference.

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\(^1\) Investigation into proposed ban on pre-charged equipment, SKM ENVIROS, December 2012

\(^2\) Impacts of Refrigerant Charge on Air Conditioner and Heat Pump Performance, Kim & Braun, 2010

\(^3\) Investigation into proposed ban on pre-charged equipment, SKM ENVIROS, December 2012