

Meeting with stakeholders on PFAS restriction dossier

Short report to be shared with PFAS restriction group and the relevant stakeholder

Date: 25 March 2021

Place: Online (1 hour)

Reporting Member State:

- NO

Participants (names and organization):

- NOVAP:
 - Rolf Iver Mytting Hagemoen [REDACTED]@novap.no
 - Einar Gulbrandsen [REDACTED]@novap.no
- VKE:
 - Espen Rønning [REDACTED]@vke.no
- Norwegian Environment Agency (NEA):
 - Sandrine Benard
 - Alice Gaustad
 - Audun Heggelund

Role of stakeholder/company:

- NOVAP = Norsk Varmepumpeforening (Norwegian Heat Pump Association)
- VKE = Foreningen for Ventilasjon, Kulde og Energi (Norwegian HVAC Association)

Specific PFAS substance (if applicable):

- PFAS used in heat pumps.

Specific subject (if applicable):

- The heat pump industry is very divided in the view on regulation of PFAS-based F-gases used in heat pumps. For some propane, CO₂ and ammonia are the refrigerants of the future, while others are concerned for the flammability of propane, the reduced availability of products, and requirements that could weaken the heat pump market.
- Limited knowledge in the sector of releases of HFOs that degrade to TFA in the atmosphere and effects of this on human health and the environment.

Stakeholder invited to provide the information presented in call for evidence or public consultation?

Yes.

Report

- NOVAP explained the background for contacting NEA and asking for a meeting. The heat pump industry is very divided in the view on the news that a regulation of PFAS-based F-gases used in heat pumps is in preparation. Some support such a transition from an environmental point of view and see opportunities for adaptation. Others are opposed to such a proposal due to e.g. safety reasons (propane is highly flammable, and ammonia is toxic). The restriction proposal is also regarded as a threat to heat pumps, which are foreseen to have a growing market uptake, as a consequence of possible upcoming restrictions on the use of fossil energy. Several fear that strict regulations may lead to a failure to phase out fossil heating as the market for heat pumps may be weakened. The debate in this sector is getting increasingly polarized.
- These points are also relevant for VKE who mainly represents downstream users, although the economic impact is not equally large.
- NOVAP has a lot of contacts internationally within this sector and is also represented in the European Heat Pump Association.
- Ammonia and CO₂ are well known from similar applications but are not expected to be refrigerants for the mass market for smaller heat pumps in buildings and houses. CO₂ is suitable for tap water, but not for ordinary heating only. CO₂ is more common in refrigerators and freezers, but current technology is less efficient when outdoor temperatures are above 30 °C and is therefore less attractive in warmer climates e.g. southern Europe. Propane and isobutane are regarded as suitable alternative refrigerants to HFOs in many applications, although there is big concern for its flammability.
- It is known that Chinese companies offer air-conditioners with propane as refrigerants. Some think propane is a suitable refrigerant for heat pump split units, while others think the risk with flammability is too big. E.g. the company Fraunhofer has research programs on propane in heat pumps, see webpage:
- <https://www.ise.fraunhofer.de/en/press-media/press-releases/2020/consortium-develops-compact-refrigeration-circuit-for-heat-pumps-using-propane.html>
- NEA explained that in the restriction proposal the different hazard aspects of the substances in scope will be assessed, including the degradation products from PFAS-based F-gases like HFOs. Neither the scope of the restriction proposal nor conditions for specific applications have been decided yet. They will be developed during the drafting of the restriction dossier. The intentions are to submit the restriction proposal in 2022, probably around mid-2022. After submission, the proposal will be subject to a public consultation. NOVAP and VKE were encouraged to provide their comments to the consultation. However, additional information already at this stage is also appreciated.
- For the dossier submitter group useful input would be fact based and justified assessments of for which specific applications alternatives are available or not available, and for which applications additional time is needed until acceptable alternatives are developed. Input on

possible measures for reducing emissions of PFAS-based F-gases from equipment would also be useful.

- For the stakeholders in this sector predictability is important (NOVAP). And in order to develop a predictable restriction proposal, the authorities need correct and relevant information input from the stakeholders (NEA).
- NOVAP suggested that NEA participates with a presentation of the environmental concerns of HFOs and in discussions in the European Heat Pump Association. NEA will need to consider this internally, including the timing in relation to the hazard assessment work in the restriction, and will get back to this in due course.