

Meeting with stakeholders on PFAS restriction dossier

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

Date: 20 May 2021

Place: Online (1 hour)

Reporting Member State:

- NO

Participants (names and organization):

- Linde:
 - Tage Tyskeberget, [REDACTED]@linde.com
 - Christoffer Marklund, [REDACTED]@linde.com
 - Niclas Andersson, [REDACTED]@linde.com
 - Company website: <https://www.linde-gas.no/no/index.html>
- Norwegian Environment Agency (NEA):
 - Alice Gaustad
 - Audun Heggelund

Role of stakeholder/company:

- Linde (previously AGA) is a company within the refrigerants sector and is aware of the ongoing initiative with a PFAS restriction. The company is therefore interested in learning more about the regulatory process and at which points they can contribute with information as a stakeholder. Linde primarily serves the Nordic countries and the Baltic area.

Specific PFAS substance (if applicable):

- PFAS used in refrigerants (HFC's and HFO's). The company also offers natural refrigerants.

Specific subject (if applicable):

- NA

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

Report

- Round of introduction of participants, as well as of the company Linde, see above.
- Linde has been in contact with the F-gas consultant Exponent and provided information, especially on fluorine-free alternatives.
- Linde asked about the PFAS restriction proposal and its timelines and organization, including the following questions that were provided before the meeting (translated to English):
 - How is the PFAS project organized?
 - Current status of restriction proposal work and what are the timelines for the future process? What is the next milestone?
 - A description of the restriction work?
 - Is there any published information from the project so far, like e.g. with regards to different applications and products within refrigeration?
 - Any products/applications with particular focus within the group of the five countries?
 - Any reports that stakeholders may have a look at at this point?
 - Anything Linde can do to support the process further?
- NEA explained that five countries (NL/DE/DK/SE/NO) are cooperating on the restriction proposal for PFAS with a broad scope. A key point with addressing the whole PFAS class is to avoid regrettable substitution that may arise if PFAS are regulated substance-by-substance or in small subgroups. F-gases is an application which is assessed by NO together with DK.
- The plan is to submit the restriction proposal in mid 2022. After that the proposal will follow the usual process in the committees in the European Chemicals Agency (ECHA): the Socioeconomic Assessment Committee (SEAC) and the Risk Assessment Committee (RAC), and public consultation. The next milestone is a 2nd Call for Evidence that will be launched in July wherein we are seeking to quality check our current information and assessment. In this call for evidence a summary of the different applications will be published together with some specific questions. In addition, we intend to publish a summary report of the findings of the Norwegian projects.
- Linde is very much encouraged to give their input both in the 2nd call for evidence (July), as well as in the later public consultation (tentatively second half of 2022).
- NEA explained that one of the challenges with information in this particular project is to find a balanced assessment of for which applications fluorine-free alternatives may be introduced or when we can expect that such alternatives have been developed.
- NEA further explained that there are two different regulations that are relevant for F-gases: the F-gas regulation that addresses climate effects, and the chemicals regulations REACH which relate to environmental concerns following from degradation products from F-gases, like e.g. TFA.
- Linde explained that from a technical point of view fluorine free alternatives can be used for most applications within refrigeration, while other concerns may need to be considered as

well, like safety issues from using equipment at 120-130 bars pressure in houses. Alternatives to F-gases in foam blowing agents are not suitable.

- Linde pointed out that F-gases collected when equipment is decommissioned are typically incinerated at 1600-1700 C with complete destruction, while PFAS in textile waste is incinerated usually at lower temperatures with the potential for formation of PFAS byproducts.
- From a market perspective, there is a balance between price and technical function. Customers are often not willing to pay a very high price for fluorine free alternatives, if e.g. expensive equipment is needed. In such cases a regulation may accelerate the transition.
- Linde offered to assist with information or advise in the further process with the restriction proposal.