

Meeting:	FPP4EU Collaboration Platform workshop
Date & time:	15 June 2022; 10:00-15:30 (CEST)
Place:	Hotel Thon EU, Rue de la Loi 75, 1000 Brussels, Belgium <i>Virtual meeting via Microsoft Teams</i>
Attendance	List of attending organisations on pages 7-9
Workplace	Link to minutes and presentations are here

1. Welcome and Antitrust Guidelines

J. Crozier welcomed the participants of the Collaboration Platform ("the Platform") and reminded them that the meeting should be conducted in respect of the Cefic antitrust guidelines.

2. Approval of proposed Agenda

J. Crozier reviewed the key topics for discussion, as included in the agenda.

3. Keynote session and PANEL 1: Expert panel (Regulators/Cefic)

J. Crozier explained the procedure for raising questions, both for in person participants and people participating online. He also stated that the presentation slides will be shared with all participants in the future and introduced V. Bertato, the keynote speaker.

Regulating PFAS in the EU (Valentina Bertato)

V. Bertato, Policy Officer - Chemicals in particular REACH Regulation and international at DG ENV, described the policy framework and the background that led to the European Commission ("the Commission") taking action to regulate PFAS (meeting presentation attached in **Annex 1**). Mentioning the pressure that the Commission received since 2019 to regulate all non-essential uses of PFAS and how this translated to PFAS being explicitly mentioned in the Chemicals Strategy for Sustainability. V. Bertato said that there have been many cases of contamination of soil and water, including drinking water due to the use of PFAS and it is very challenging and expensive to decontaminate these media. Finally, V. Bertato gave an overview of the three main restrictions on PFAS, currently being developed, the PFHxA restriction, the PFAS in firefighting foams one and the wide PFAS restriction.

Questions and discussion:

- Will the wide PFAS restriction be included in the Stockholm Convention? V. Bertato responded that the Stockholm Convention regulates substances/chemicals or at least a group of closely related chemicals.

- Will the overlap and alignment between the different legislation, such as the Soil strategy and the Industrial Emissions Directive be addressed? V. Bertato responded that once the Soil strategy is ready, the Commission will coordinate to avoid possible overlaps. Since some PFAS are regulated under REACH and some under the POPs (Persistent Organic Pollutants) regulation, the Commission will have a better picture of the situation once the universal PFAS restriction dossier is ready.

Introduction to FPP4EU and Collaboration Platform (Dietrich Sinnaeve)

D. Sinnaeve, chairman of the FPP4EU, explained the sector group's membership, purpose, and recent actions (meeting presentation attached in **Annex 2**). The sector group has 13 members, and its main purpose is to act as a representative of producers, importers and users of the many potential substances that fall within the broad definition of PFAS. D. Sinnaeve presented the 5 different working groups within the FPP4EU, as well as the Collaboration Platform and explained their purpose. He highlighted the importance of collaboration for the group's work to be impactful and gave an overview on the FPP4EU website and the case studies featured there.

PFAS restriction in Europe (Martijn Beekman)

M. Beekman, Project Manager - PFAS REACH at RIVM (National Institute for Public Health and the Environment, Netherlands) explained the background that led to the universal PFAS restriction and the status of the dossier (meeting presentation attached in **Annex 3**). Mentioning the pressure from the European Parliament for a wide PFAS restriction and presenting cases of PFAS contamination from the Netherlands and other European countries. An overview of the status of the 6 most recent restrictions related to PFAS was also provided. In addition, M. Beekman described the reasoning behind the grouping approach and the OECD (Organisation for Economic Co-operation and Development) definition, used by the 5 Competent Authorities. Furthermore, M. Beekman discussed the main PFAS subgroups, the concerns related to common properties of various PFAS and the uses of those substances that have been identified by the authors of the dossier. Finally, M. Beekman provided some statistics on the feedback which has been submitted during the consultation rounds, the PFAS uses and emission in the EU.

Questions and discussion:

- Will the uses of PFAS and specifically the uses in the chemical industry and aerospace which were not identified in the consultation by the 5 Competent Authorities currently be addressed by the restriction? M. Beekman said that some remaining uses will potentially be included in the annexes.
- How are the authorities going to address the overlap between the universal PFAS restriction and the F-gases? M. Beekman said that based on environmental concerns, F-gases will not be excluded from the restriction.

The FPP4EU proposed decision tree (Marleen Pauwels)

M. Pauwels, Executive Director at Cefic, explained that the proposed decision tree offers a feasible way of dealing with the PFAS restriction (meeting presentation attached in **Annex 4**). Allowing derogations

that will safeguard human health, the environment, and the applications that society needs. She described the different branches/lines of the tree, highlighting that it will avoid double regulation and address the control of emissions to support derogations. The tree differentiates the treatment of industrial uses versus consumer ones and foresees derogations in cases where it can be proven that the emissions are controlled, and the safety of workers is assured. She mentioned that SEAC (Committee for Socio-Economic Analysis) will provide a socioeconomic assessment and Cefic will try to provide more data through an ongoing study that it is preparing with Ricardo. Finally, M. Pauwels highlighted the importance of addressing societal concerns and providing data to help promote an informed debate and overall collaboration in relation to the wide PFAS restriction.

Link between the firefighting foam restriction and the wide PFAS restriction (Peter Simpson)

P. Simpson, Senior Scientific Officer at the European Chemicals Agency (ECHA), presented the PFAS in firefighting foams restriction and its impact on the upcoming wide PFAS restriction (meeting presentation attached in **Annex 5**). He underlined the arrowhead approach concept that considers the hazard properties of a particular substance (the precursors) and its terminal degradation product (the arrowheads). Adding that the hazard/risk paradigm is used for first time. He also discussed ECHA's work on the firefighting foams restriction by providing some overall statistics. Finally, he encouraged all interested parties to participate in the public consultation which is currently ongoing.

Questions and discussion:

- Would PFAS which are persistent but not toxic or mobile be exempted from the restriction? P. Simpson responded that concrete cases could be put forward through the public consultation. Noting that the group as a whole is of sufficient concern to justify risk management as it is not possible to demonstrate the safe use of PFAS and is vital to minimize their releases.
- Will fluoropolymers used in the medical sector be differentiated from other sectors? P. Simpson answered that it is important to understand the whole life cycle of PFAS and to have a socioeconomic analysis showcasing which applications are considered essential for society.

Q&A session

- How is the Commission going to align the wide PFAS restriction and the REACH revision? V. Bertato responded that the wide PFAS restriction will be evaluated under the current version of REACH.
- How is ECHA going to evaluate the cumulative criteria attributed to PFAS and how is going to evaluate the information on their adverse effects? P. Simpson clarified that this is a hypothetical idea. If you have a very persistent substance which is constantly released in the environment, its concentration level will trigger adverse effects at some point.
- Why are F-gases included in the firefighting foams restriction if they are neither used nor have the properties to be used in firefighting foams? P. Simpson responded that they are in the scope of this restriction because they will be used as an example for the wide PFAS restriction.
- How is ECHA going to respond to the lack of analytical methods on PFAS? P. Simpson mentioned a survey conducted by ECHA where they approached all the contract laboratories in the EU that were doing PFAS analysis to ask about their capabilities and detection limits when it comes to PFAS.

- How is ECHA going to organise discussion within RAC (Committee for Risk Assessment) and SEAC (Committee for Socio-Economic Analysis) considering that it covers such a broad range of applications? P. Simpson noted that the issues will be discussed within the working groups and the plenary, thus allowing more time for RAC members to discuss all topics.
- How is the evaluation process of alternatives going to take place? M. Beekman responded that there are applications where the alternatives can perform on the same level as the products that contain PFAS.
- M. Beekman commented on the decision tree presented by M. Pauwels and said that the differentiation between consumer and industrial uses could be challenging.

4. PANEL 2: Expert panel case studies DUs

EFCTC work on the proposed REACH restriction (Angelica Candido)

A. Candido, EFCTC Sector Group Manager, presented the group's structure and work in terms of the proposed REACH restriction (meeting presentation attached in **Annex 6**). She described the differences between HFCs, HFOs, and non-fluorinated refrigerants and which F-gases are currently most used. Highlighting how the F-gases have already been regulated in the EU for a number of years and presenting some of their most important characteristics. They play a key role in decarbonising critical European industries relying on heating and cooling technology. She highlighted that most F-gases fall under the general scope of the firefighting foams restriction proposal. However, they are different than other PFAS groups and since they are already regulated in the EU they should not be included in the restriction. Finally, A. Candido gave an extensive outlook on practical examples of potential impacts of a ban on F-gases and described the actions currently undertaken by EFCTC to cooperate with the regulators and provide them with complete sets of data on F-gases.

Questions and discussion:

- Has EFCTC considered a study published by the Norwegian Environment Agency, which investigated the use of F-gases as refrigerants and other applications within the EU? A. Candido responded that this report has been analysed by the sector group and they are currently aiming to complete a literature search and compare all the limits that have been found in recent years. The goal of this exercise will be to better understand the situation and initiate an open dialogue with the authorities.

Harnessing energy from chemicals production: introducing HFOs as a Green Deal enabler (Bart Van Assche)

B. Van Assche explained how HFOs can enable a faster transition for Europe towards renewable energy sources (meeting presentation attached in **Annex 7**). He presented the actions from BASF to reduce CO₂ emissions until 2050, through their carbon management program. The company's plan is to achieve the electrification of steam generation by heat pumps with advanced heat recovery and energy efficiency. In this way heat pumps will eventually replace fossil-generated steam. B. Van Assche also described the different Coefficient of Performance (COP) for a heat pump and an E-boiler. The plan to develop a high-temperature heat pump to supply steam to the largest Verbund site in the BASF Group, which is located

in Ludwigshafen, Germany. He also explained that alternatives were thoroughly fully considered and discharged when evaluating the use of HFOs for these applications. Finally, B. Van Assche explained BASF actions to ensure minimised emissions of refrigerants from their plants and the company's plan to proceed with other projects, such as using natural refrigerants like ammonia or butane as alternative to HFOs.

Questions and discussion:

- How is BASF tackling the issue of uncertainty considering that this technology could be banned following the upcoming PFAS restriction? B. Van Assche explained they understand the importance of the upcoming wider restriction on PFAS, and they are closely monitoring all developments. He added that the technology is completely new, and the company needs to improve the cooperation with their suppliers and scale up the heat pumps.

PFAS in electronics (Kim Jansen)

K. Jansen provided a presentation on PFAS in electronics, as a representative from Digital Europe (meeting presentation attached in **Annex 8**). He gave an overview of the uses of PFAS within the electronics sector, showcasing that they are used in many different applications such as semiconductors, LCD displays and battery electrodes, among others. He described how ePTFE membranes allow for the passage of gas molecules for proper air and sound flow to prevent deterioration and destruction of the electrical parts in a portable internal speaker or a mic. He also showed the use of PTFE in antennas and broadcasting equipment for its excellent mechanical and dielectric properties. K. Jansen argued that even though some applications of PFAS have been replaced in the past years, PFAS often are the more expensive option and only used if no alternatives are available. Background on the issue of transition times required to create alternatives was provided. Noting that in most cases it will take more than ten years to find an equivalent alternative.

Electronics related case study: PFAS in the semiconductor industry (Giulia Mancini)

G. Mancini gave a presentation on behalf of ESIA (European Semiconductor Industry Association) on PFAS used in the semiconductor industry (meeting presentation attached in **Annex 9**). She argued that the semiconductor industry has very short innovation cycles, meaning that new products are brought onto the market frequently, but the development of those products can take between 10 and 20 years. According to G. Mancini the semiconductor industry has the most complex and sophisticated manufacturing process in the world since they must work in a very controlled environment. She continued with the different PFAS used for their unique properties within the industry and the potential risks and challenges projected to impact the sector due to the various PFAS restrictions in the EU.

Extensive value of fluoropolymers to European innovation and growth in key sectors (Nicolas Robin)

N. Robin, as the director for the Fluoropolymers group of Plastics Europe (FPG), presented the potential contribution of fluoropolymers to the European industry (meeting presentation attached in **Annex 10**). He began by rejecting some popular beliefs on fluoropolymers, such as that they are mainly used in

consumer products or that their persistency property results in an unacceptable risk to human health and the environment. He described the unique combined set of properties that characterises fluoropolymers and their use in many key economic sectors. According to N. Robin, replacing fluoropolymers by other materials has consequences and the trade-offs of replacing fluoropolymers are in areas of fire safety, weight savings and performance. Finally, he explained the group's commitments towards responsible manufacturing and proposed an open dialogue with ECHA and the authorities to discuss difficult issues such as the end of life (EoL).

Q&A session

- How could chips manufacturing be impacted if a restriction to use PFAS is adopted, considering that most of the supply for those materials comes from Europe? G. Mancini acknowledged the difficulty of answering such a question but noted that there will not be a replacement for transfer fluid.
- N. Robin was asked about the statistics on renewables and electronics mentioned during his presentation and whether most fluoropolymers are used in high tech industries? He replied that fluoropolymers are indeed mainly used on high tech and innovative products but are also vital in the chemical industry.
- How is Digital Europe dealing the complexity of the PFAS restrictions? Kim Jansen responded that part of the complexity comes from the supply chains. In addition, many of their suppliers might not be aware of the upcoming restriction.
- Digital Europe and ESIA were asked whether they are considering conducting a socioeconomic analysis for PFAS used in their industries. G. Mancini responded that the consortium is currently collecting data from semiconductor manufacturers in both Europe and the US and will advance with a socioeconomic assessment, as well as try to identify possible replacements.

5. Closure

J. Crozier reminded the participants that several case studies are now featured on the FPP4EU website (fpp4eu.eu), noted that the group is aiming to have another meeting of the Collaboration Platform in November, thanked the participants and closed the meeting at 15:30 CET.

LIST OF PARTICIPATING ORGANISATIONS

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Virtual meeting via Microsoft Teams

3M
ABB AG
AGC Chemicals Europe
Agency for Competitiveness and Innovation IAPMEI Portugal
AmchamEU
AnimalhealthEurope
APPLiA
Arkema
BASF
BASF Schweiz AG
BAuA Federal Institute for Occupational Safety and Health Germany
Bausch + Lomb
Bayer
BDI Federation of German Industries
Cefic
Chemical Industries Association
Chemours
Contamac Ltd
CropLife Europe
Daikin Chemical Europe GmbH
Daikin Europe NV
Department Omgeving Afdeling Strategie, Internationaal, Digitalisering en Organisatie SIDO Belgium
Department Omgeving Vlaams Planbureau voor Omgeving Belgium
DG Environment, European Commission
DigitalEurope
Direction générale des Analyses économiques et de l'Economie internationale Unité Economie Durable –
Cellule REACH Belgium
DuPont
EDANA
EFPIA - Eli Lilly
European Heating Industry
Environment Agency UK
European Partnership for Energy and the Environment EPEE
European Semiconductor Industry Association ESIA
EURATEX
Eurofeu

Euromcontact
European Chemicals Agency ECHA
European Phenolic Foam Association (EPFA)
European Safety Federation
European Semiconductor Industry Association (ESIA)
ExxonMobil Corporation
Fachverband der Chemischen Industrie Österreichs
Federation of the European Cutlery, Flatware, Holloware and Cookware industries FEC
Federation of Environmental Trade Associations
Federchimica Federazione nazionale Industria Chimica
Federación Empresarial de la Industria Química Española FEIQUE
Finnish Environment Institute
Gesamtverband Textil und Mode e.V.
Gujarat Fluorochemicals GmbH
Honeywell
Hydrogen Europe
Hyundai Motor Europe Technical Center GmbH
IPC International Inc.
Johnson Controls
Kabinet gouverneur Cathy Berx Belgium Projectcoördinator/PFOS-problematiek
Kreab
MedTech Europe
Merck KGaA
Merck Life Science
Mexichem
Ministry of Environment Miteco Spain
MSD Animal Health
National Institute for Public Health and the Environment RIVM The Netherlands
Olon S.p.A
Orgalim - Europe's Technology Industries
Plastics Europe - Fluoropolymer Products Group
PU Europe
Röhm GmbH
Serge Ferrari group
Service public de Wallonie SPW Agriculture Ressources naturelles Environnement Belgium
Smiths Group
Solvay
SPECTARIS e.V.
SPF Santé Publique - FOD Volksgezondheid Belgium
Sulzer Management AG
Swedish Chemicals Agency
Synthomer
The Danish Environmental Protection Agency
TotalEnergies Lubrifiants

VDMA The Mechanical Engineering Industry Association
VS FOCUM
VSI The German Lubricant Manufacturers Association
W. L. Gore & Associate GmbH
WILO SE
Wolf Group OÜ, member of Estonian Chemical Industry Association
ZVEI Zentralverband Elektrotechnik- und Elektronikindustrie e.V.