Für Mensch & Umwelt

Umwelt Bundesamt

REACH-Kongress 2024

10. und 11. September 2024
Vortragsfolien

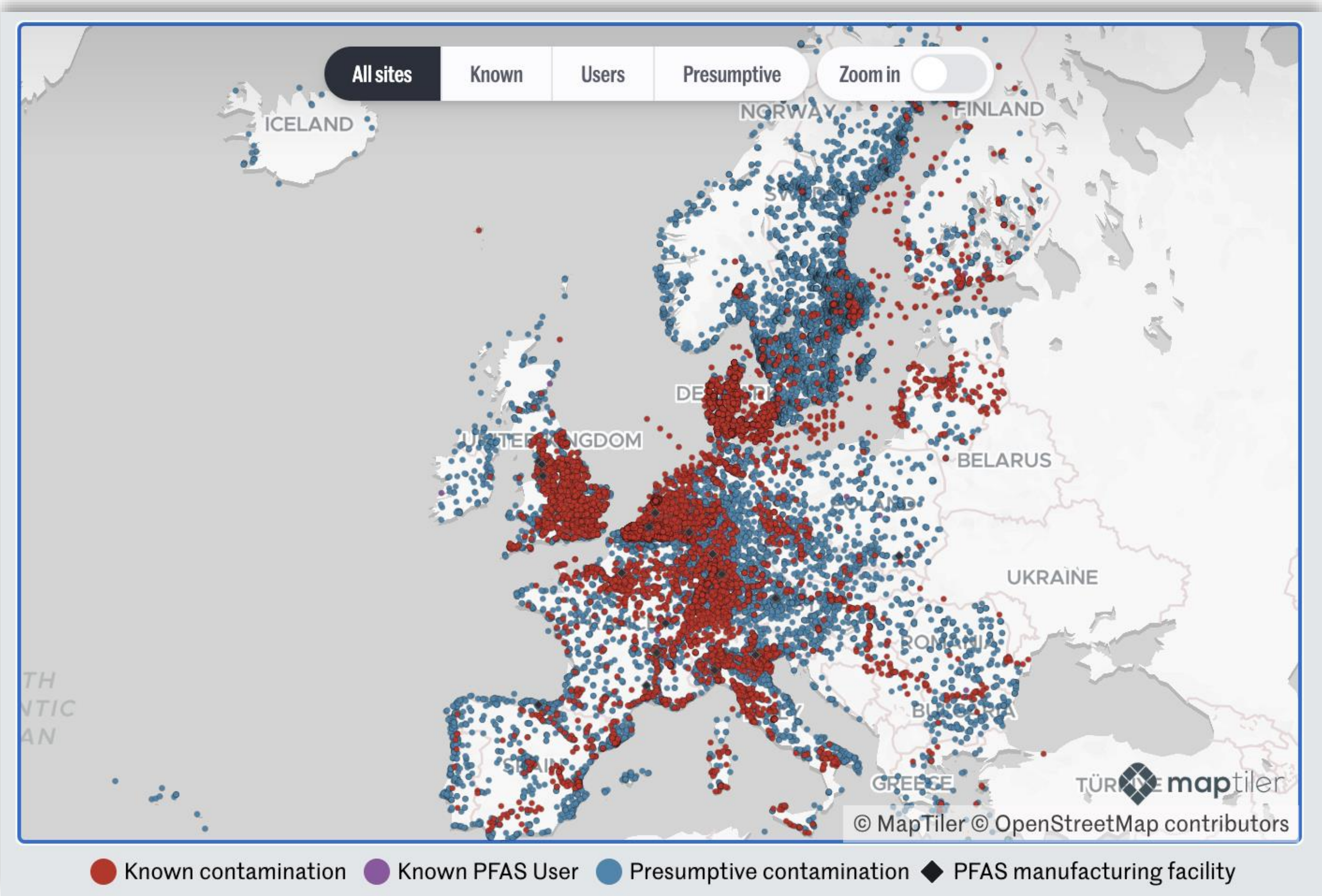
the Forever Pollution Project

Mapping PFAS pollution across Europe

Stéphane Horel
Le Monde

10-11 September 2024
UBA 6.Reach Congress

the map of Forever Pollution in Europe



a cross-border investigation

Le Monde — France

Süddeutsche Zeitung, NDR, WDR — Germany

RADAR, le Scienze — Italy

The Investigative Desk, nrc — The Netherlands

Knack — Belgium

Deník Referendum — Czechia

DR, POLITIKEN — Denmark

yle — Finland

REPORTERS UNITED — Greece

Latvijas Radio — Latvia

DATADISTA — Spain

SRF — Switzerland

WATERSHED, The Guardian — United Kingdom

12 countries, 16 media
February-July 2023

Work grants: journalismfund.eu, IJ4EU

Coordination: Arena for journalism in Europe

Map design: Le Monde

Mapping partner: maptiler

how it started (April 2022)

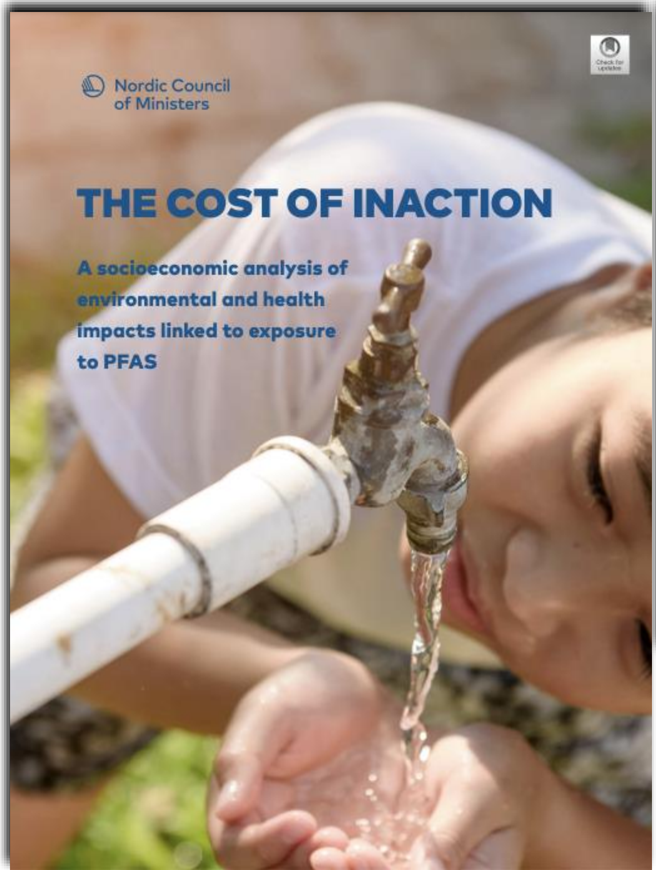


Table 10: List of manufacturers of fluorochemicals and/or fluoropolymers

Country	Company and site of plant	What is being produced
Belgium	3M (Zwijndorf)	Fluorochemicals
France	Arkema (Pierre-Bénite)	Fluoropolymers (PVDF)
	Solvay Solexis (Tavaux)	Fluoropolymers (PVDF)
	Daikin Chemical France S.A.S.[1]	Fluorochemicals
Germany	Dyneon (Gendorf)	Fluorochemicals, fluoropolymers (PTFE, FEP, PFA, THV)
	BASF (Ludwigshafen)	n.a.
Italy	Solvay Solexis (Spinetta-Argeno	Fluoropolymers) – PTFE, MFA
	Heroflon S.p.A. (Collebeato)	Fluoropolymers (PTFE compounds and micropowders)
	Miteni (Trissino) [2]	Fluorinated intermediates; performance fluorinated products
Netherlands	Chemours (Dordrecht)	Fluoropolymers (PTFE, FEP)
	Daikin Chemical Netherlands (Oss) – Pre-compounding of fluoroelastomers	Fluorochemicals
United Kingdom	AGC (Blackpool)	Fluoropolymers – PTFE, PFA

“Based on this list, it is further assumed that the number of PFAS production sites in Europe is between 12 and 20 plants”.

7 “expert-reviewers”


Sociologists

Alissa Cordner (Whitman College, Walla Walla, USA)

Phil Brown (Northeastern University, Boston, USA)


Environmental scientists

Kimberly K. Garrett (Northeastern University, Boston, USA)

Derrick Salvatore (Massachusetts Department of Environmental Protection, USA)


Ian Cousins (Stockholm University, Sweden)

Martin Scheringer (ETH Zürich, Switzerland)

Environmental lawyer

Gretta Goldenman (Global PFAS Science Panel, Brussels)

Detectives of the anthropocene

Investigative methods: OSINT, FOI, extreme persistence

- ECHA list of registrants
- Corporate material (annual reports, websites...)
- Trade associations member companies
- List provided by Ian Cousins (Stockholm University)
- Google maps
- Consultant intelligence reports
- Scientific papers
- Freedom of information requests
- Right to reply emails to companies

The power of FOI | Example

Ref. Ares(2022)5578121 - 04/08/2022

From: [redacted]@kreab.com>
Sent: vendredi 3 juin 2022 10:25
To: [redacted] (GROW)
Cc: [redacted] (GROW); [redacted] (GROW); [redacted] (GROW); [redacted]; [redacted]; [redacted]
Subject: Archroma Letter / C6 transported intermediates under PFOA POP regulation & C9-C14 REACH restriction
Attachments: Archroma-Letter_DG GROW_C6 transported intermediates.pdf; CONFIDENTIAL_C6 telomer products line_Archroma_June2022.pdf

Dear [redacted],

We're writing to you on behalf of Archroma, producer of speciality chemicals and notably the only European producer of C6 fluorinated telomer products, a sub-category of PFAS. Archroma's production facility is located in Germany (Gendorf, Bavaria).

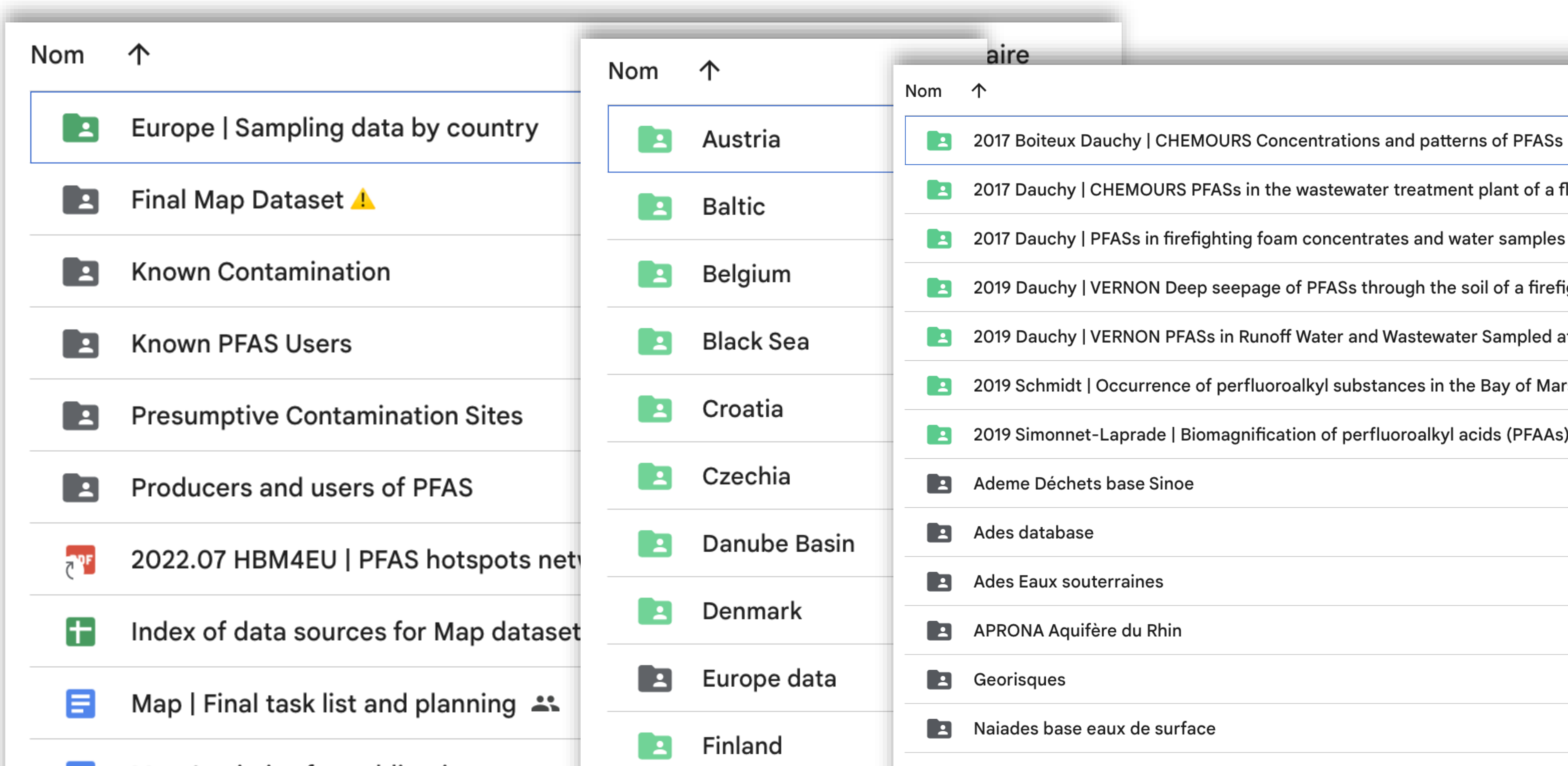
allow continued production of C6 telomer chemistry according to state of the art techniques. The C6 telomer chemistry continues to remain necessary in a number of downstream sectors, as shown by the ongoing discussions on the REACH PFHxA restriction dossier.

Among the specificities inherent to a production process established in the EU, there are in particular

20 PFAS manufacturing facilities

Company	Town	Country
Dyneon / 3M	Gendorf	🇩🇪
Solvay	Bad Wimpfen	🇩🇪
Archroma	Gendorf	🇩🇪
Gore	Gendorf	🇩🇪
Daikin refrigerants	Frankfurt am Main	🇩🇪
Lanxess	Leverkusen	🇩🇪
Arkema	Pierre-Bénite	🇫🇷
Daikin	Pierre-Bénite	🇫🇷
Solvay	Tavaux	🇫🇷
Solvay	Salindres	🇫🇷
Chemours	Villers Saint-Paul	🇫🇷
AGC	Thornton-Cleveleys	🇬🇧
F2	Preston	🇬🇧
Mexichem/Koura	Runcorn	🇬🇧
Miteni	Trissino	🇮🇹
Solvay	Spinetta-Marengo	🇮🇹
3M	Zwijndrecht	🇧🇪
Chemours	Dordrecht	🇳🇱
Grupa Azoty	Tarnów	🇵🇱
Arkema	Zaramillo	🇪🇸

Known contamination sites



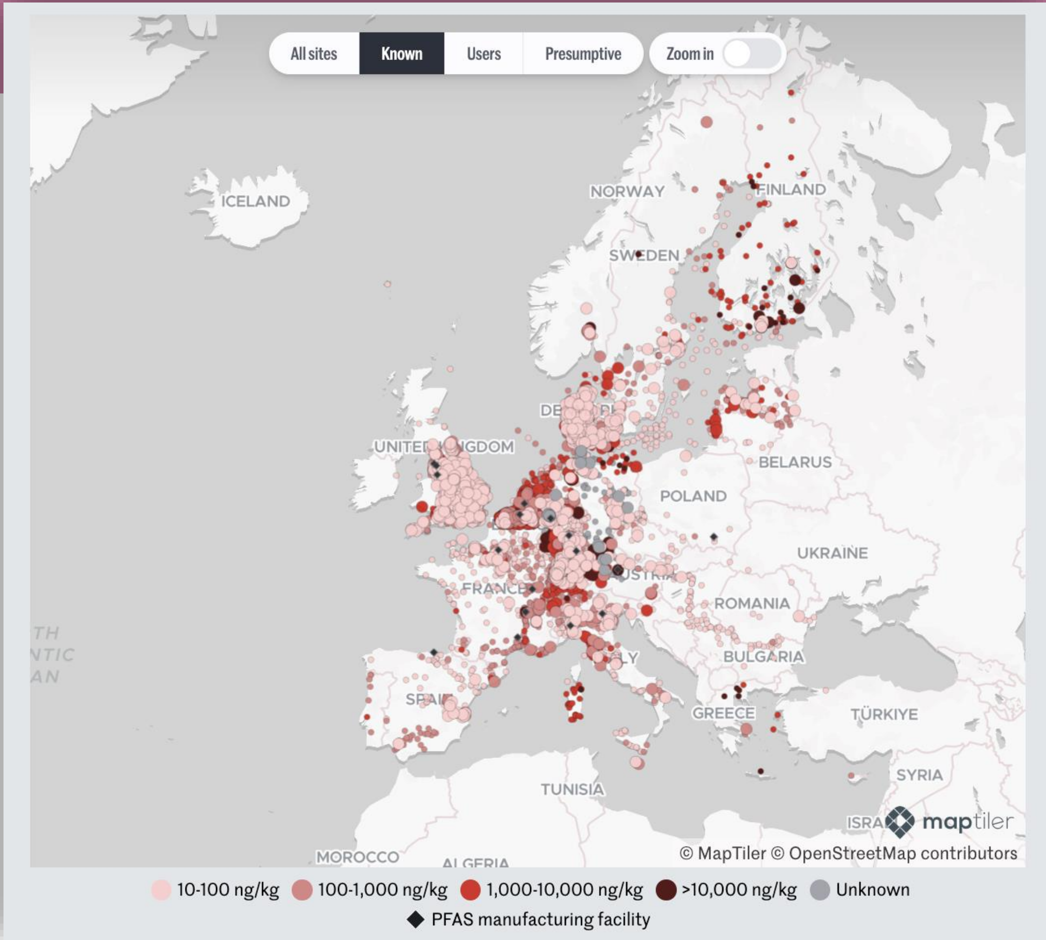
Sorting apples, pears and kiwis

F	country	ID	category	Name	Blocking problems	Status	Automated checks	Link to final data	source_type	source_text
	Spain	68	Known	Valencia region		Done	OK	https://docs.google.com	Scientific art	Campo 2016, Campo 2017, Lorenzo 2019
	Sweden	69	Known	Groundwater contamination from firefighting foam		Done	OK	https://docs.google.com	Authorities	Swedish Environmental Protection Agency/Swedis
	Sweden	70	Known	Arlanda airport		Done	OK	https://docs.google.com	Authorities	Sveriges geologiska undersökning
	Sweden	71	Known	500 Groundwater and surface water samples		Done	OK	https://drive.google.con	Scientific art	Gobelius 2018
	Switzerland	72	Known	Surface water, 16 sampling locations 2018-2020		Done	OK	https://drive.google.con	Authorities	Swiss Federal Office for the Environment
	Switzerland	73	Known	Rhine in Schwebstoffe		Done	OK	https://drive.google.con	Authorities	Amt für Umwelt und Energie
	Switzerland	74	Known	Groundwater sampling campaign 2007		Done	OK	https://drive.google.con	Authorities	Swiss Federal Office for the Environment
	England	75	Known	Water quality monitoring		Done	OK	https://drive.google.con	Authorities	Environment Agency
	Scotland	76	Known	Water quality		Done	OK	https://drive.google.con	FOI	Scotland Scottish Environment Protection Agency (
	Wales	77	Known	Wales PFOA-PFOS 2016 - 2022		Done	OK	https://drive.google.con	Authorities	Natural resources Wales
	United Kingdom	78	Known	Watershed's DW sampling: drinking water samples we took across England		Done	OK	https://docs.google.com	Own samplir	
	United Kingdom	78_1	Known	Watershed's SW sampling: drinking water samples we took across England		Done	OK	https://docs.google.com	Own samplir	
	United Kingdom	79	Known	EA water for potable supply FOI: Environment Agency sampling data, mostly from 2005-2008, a few from 2011-2021		Done	OK	https://drive.google.con	FOI	Environment Agency
	United Kingdom	80	Known	Watershed Manual data		Done	OK	https://docs.google.com		
	United									

22,934 known contamination sites
2,300 hotspot clusters

EU limit value
= 100 ng/l (20 PFAS)
= 500 ng/l (sum PFAS)

Hotspot according to experts
= 100 ng/l



Presumptive contamination sites


Environmental Science & Technology LETTERS

pubs.acs.org/journal/estlcu

Presumptive Contamination: A New Approach to PFAS Contamination Based on Likely Sources

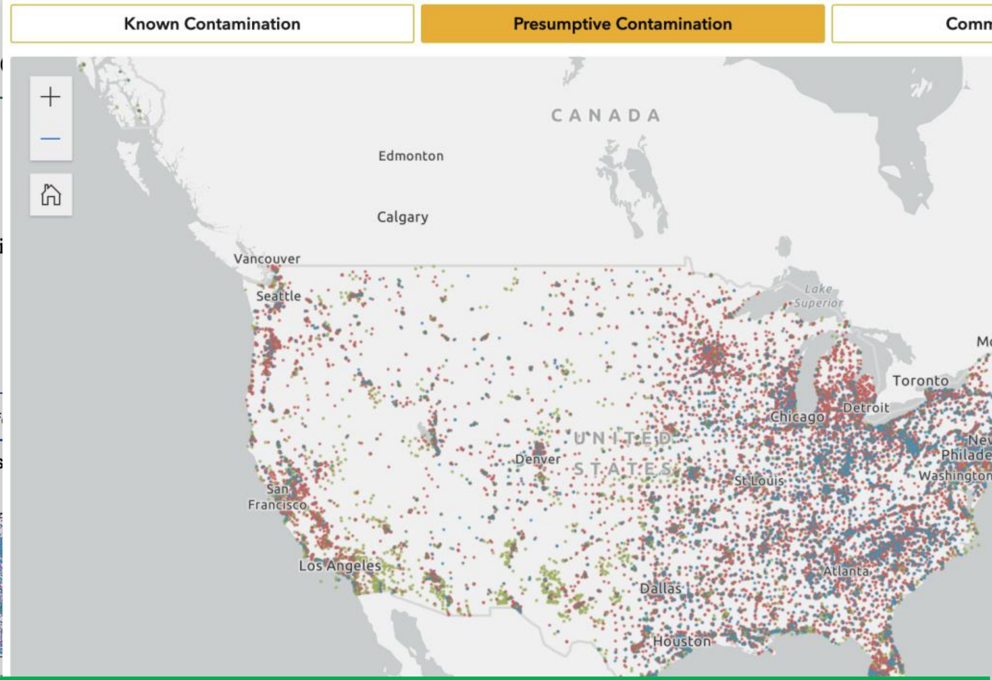
Derrick Salvatore, Kira Mok, Kimberly K. Garrett, Grace Poudrier, Phil Brown, Linda S. Bi
Gretta Goldenman, Mark F. Miller, Sharyle Patton, Maddy Poehlein, Julia Varshavsky,
and Alissa Cordner*

Cite This: *Environ. Sci. Technol. Lett.* 2022, 9, 983–990 Read Online

ACCESS | Metrics & More | Article Recommendations | Supporting Inf

ABSTRACT: While research and regulatory attention to per- and polyfluoroalkyl substances (PFAS) has increased exponentially in recent years, data are uneven and incomplete about the scale, scope, and severity of PFAS releases and resulting contamination in the United States. This paper argues that in the absence of high-quality testing data, *PFAS contamination can be presumed* around three types of facilities: (1) fluorinated aqueous film-forming foam (AFFF) discharge sites, (2) certain industrial facilities, and (3) sites related to PFAS-containing waste. While data are incomplete on all three types of presumptive PFAS contamination sites, we integrate available geocoded, nationwide data sets into a single map of presumptive contamination sites in the United States, identifying 57,412 sites of presumptive PFAS

Presumptive Contamination S



Sites without sampling results, but presumed to be contaminated based on scientific studies and expert advice.

Presumptive contamination sites

1– Fluorinated aqueous film-forming foam (AFFF) discharge sites

642 Military sites
978 Airports
1096 Firefighting training sites (Flanders, Sweden, Norway)
Firefighting incidents (10,774 in Sweden, 279 in Flanders)

2– Sites related to PFAS-containing waste

2,620 Wastewater treatment plants treating >3,700m3/day
2,167 Waste management sites (landfills for non-hazardous and hazardous waste and incinerators)

Presumptive contamination sites

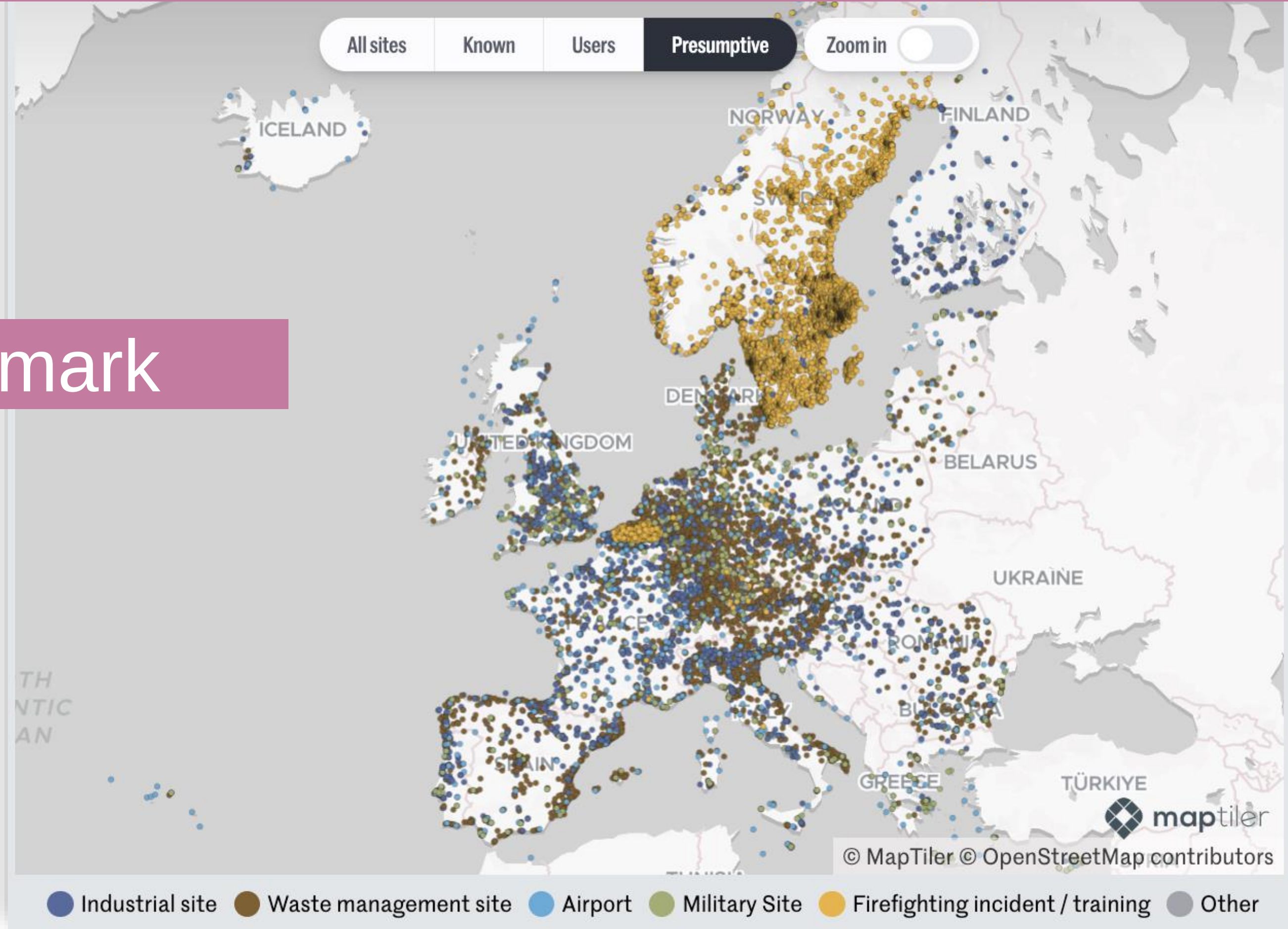
3- 2,911 industrial sites

!! largely underestimated

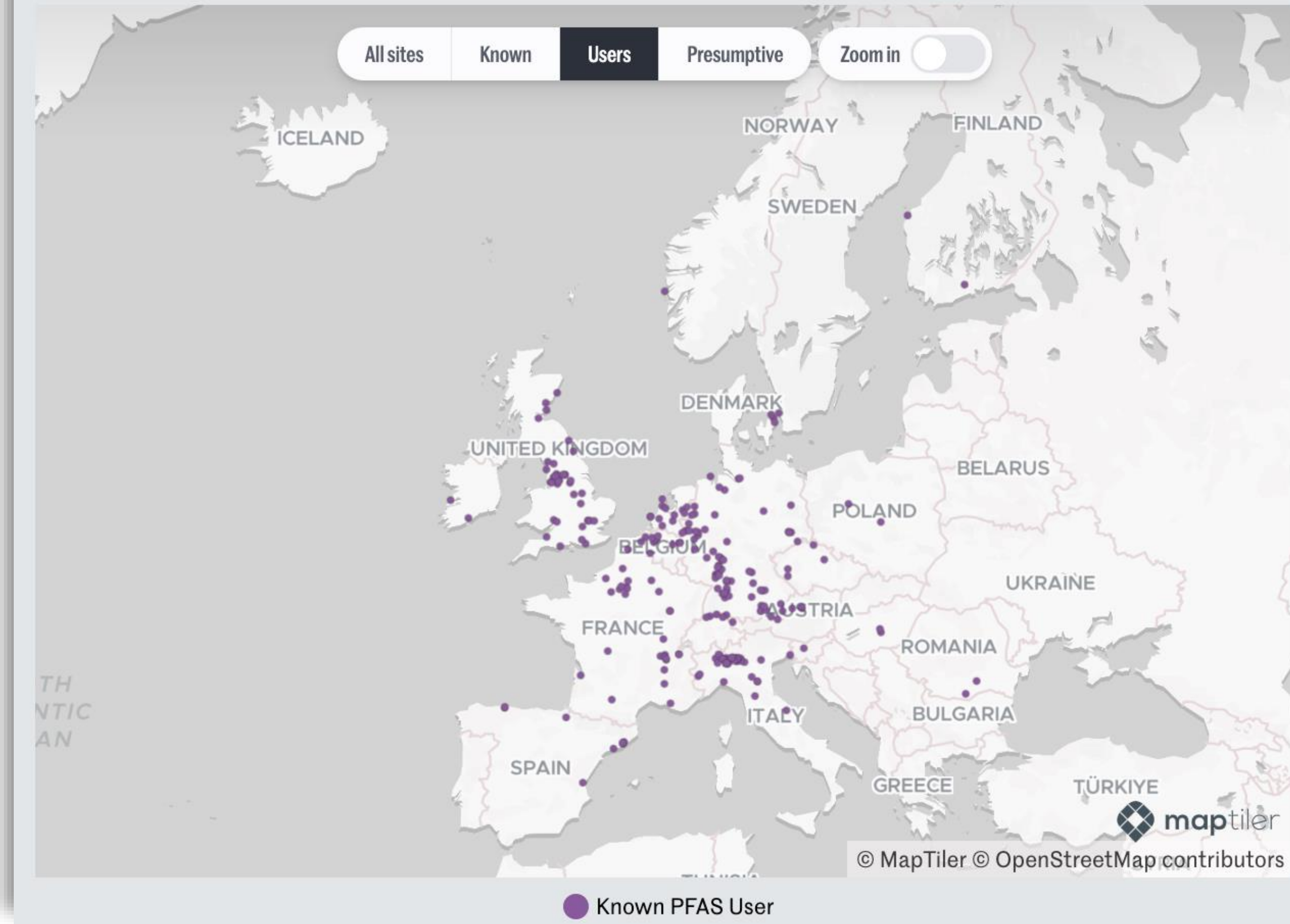
Industrial activity	Sites
Manufacture of pulp, paper and paperboard	1,120
Treatment and coating of metals	680
Manufacture of articles of paper and paperboard	302
Manufacture of plastics in primary forms	221
Manufacture of refined petroleum products	213
Manufacture of other fabricated metal products n.e.c.	132
Finishing of textiles	126
Manufacture of other organic basic chemicals	45
nan	45
Manufacture of rubber and plastic products	16
Tanning and dressing of leather; dressing and dyeing of fur	11
Treatment and disposal of hazardous waste	1

21,429 presumptive contamination sites

+ 15,000 in Denmark



231 PFAS known users



Sites where there is evidence of PFAS use.
(New category)

methodology > submitted to scientific journal

map > transmission to cnrs

ENVIRONMENTAL Science & Technology

pubs.acs.org/est Article

PFAS Contamination in Europe: Generating Knowledge and Mapping Known and Likely Contamination with "Expert-Reviewed" Journalism

Alissa Cordner, Phil Brown, Ian T. Cousins, Martin Scheringer, Luc Martinon, Gary Dagorn, Raphaëlle Aubert, Leana Hosea, Rachel Salvidge, Catharina Felke, Nadja Tausche, Daniel Drepper, Gianluca Liva, Ana Tudela, Antonio Delgado, Derrick Salvatore, Sarah Pilz, and Stéphane Horel*

Cite This: https://doi.org/10.1021/acs.est.3c09746 Read Online

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ABSTRACT: While the extent of environmental contamination by per- and polyfluoroalkyl substances (PFAS) has mobilized considerable efforts around the globe in recent years, publicly available data on PFAS in Europe were very limited. In an unprecedented experiment of "expert-reviewed journalism" involving 29 journalists and seven scientific advisers, a cross-border collaborative project, the "Forever Pollution Project" (FPP), drew on both scientific methods and investigative journalism techniques such as open-source intelligence (OSINT) and freedom of information (FOI) requests to map contamination across Europe, making public data that previously had existed as "unseen science". The FPP identified 22,934 known contamination sites, including 20 PFAS manufacturing facilities, and 21,426 "presumptive contamination sites", including 13,[...] with fluorinated aqueous film-forming foam (AFFF) discharge, 2911 industrial facilities, and 47[...] waste. Additionally, the FPP identified 231 "known PFAS users", a new category for sites with [...] PFAS use and considered likely to be contamination sources. However, the true extent of [...] significantly underestimated due to a lack of comprehensive geolocation, sampling, and pub[...] knowledge production and dissemination offers lessons for researchers, policymakers, and journalists about cross-field collaborations

https://pdh.cnrs.fr

PDH PFAS Data Hub — Map | Data | About

Welcome to PFAS Data Hub

We currently have 332,675 rows in the database:

- 13,112 of category "Presumptive",
- 231 of category "Known PFAS user",
- 319,332 of category "Known", including 303,494 with precise location (some other points only have the city but no coordinates, these are not shown on the map)

This data is coming from 103 different datasets (see here), including 14 scientific articles and 77 datasets coming from authorities.

http://foreverpollution.eu

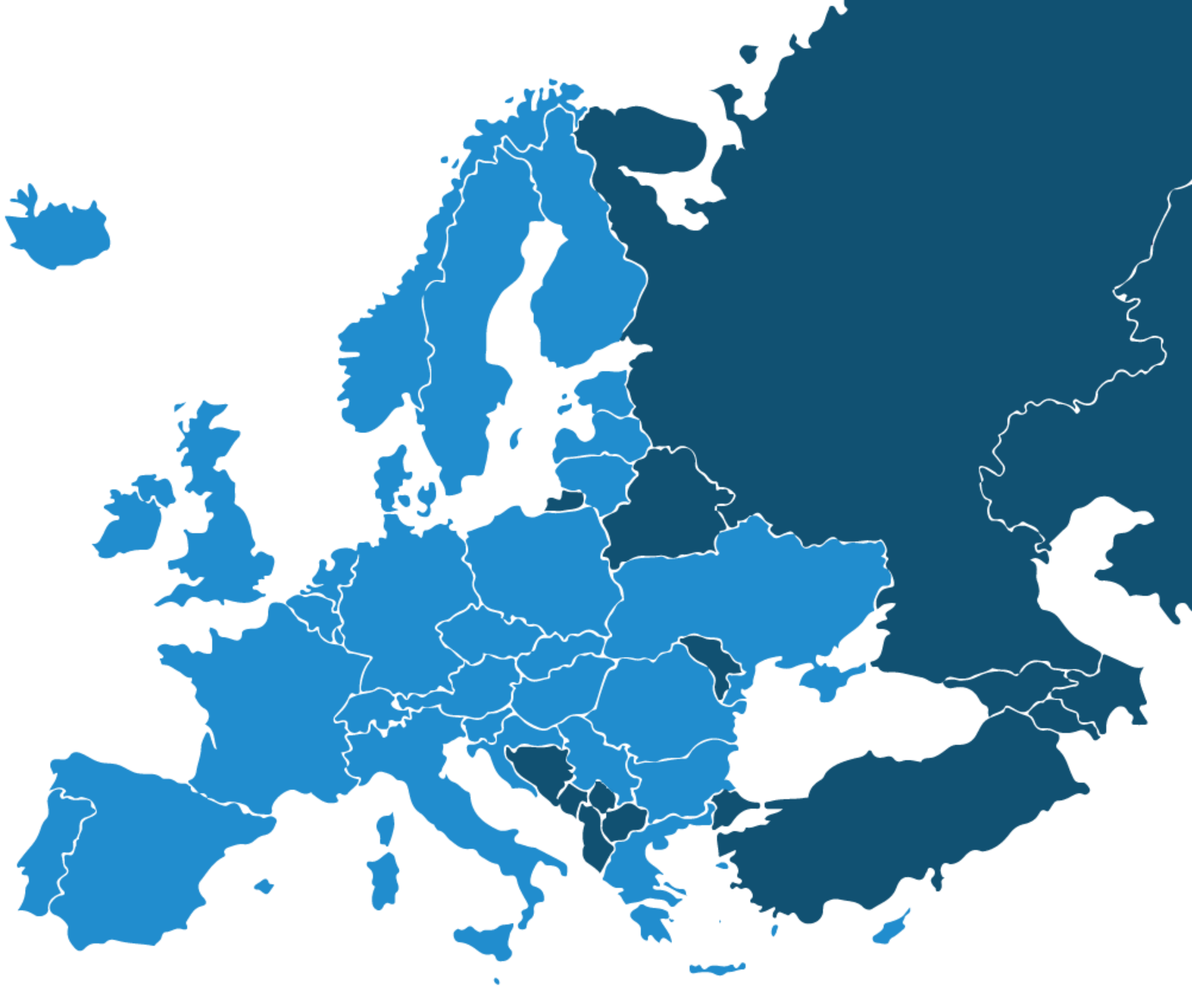
horel@lemonde.fr
Signal +33 686 92 77 18

THE FOREVER POLLUTION PROJECT

Challenges for drinking water suppliers due to persistent and mobile substances

Dr. Gesche Grützmacher (Co-Chair EurEau Committee Drinking Water)

Who We Are



- European federation of water services
- Members: 38 national associations from 33 European countries
- Public and private sector
- 470,000 direct jobs

Europe’s Water in Figures

The European drinking water and waste water sectors (2021)

EurEau

507 MILLION people are connected to a drinking water network across Europe*.

We supply 45.9 billion m³ of water per year.

This includes water to homes, businesses and industry for all our drinking, cooking, cleaning, hygiene and manufacturing needs as well as firefighting.

124 LITRES PER DAY

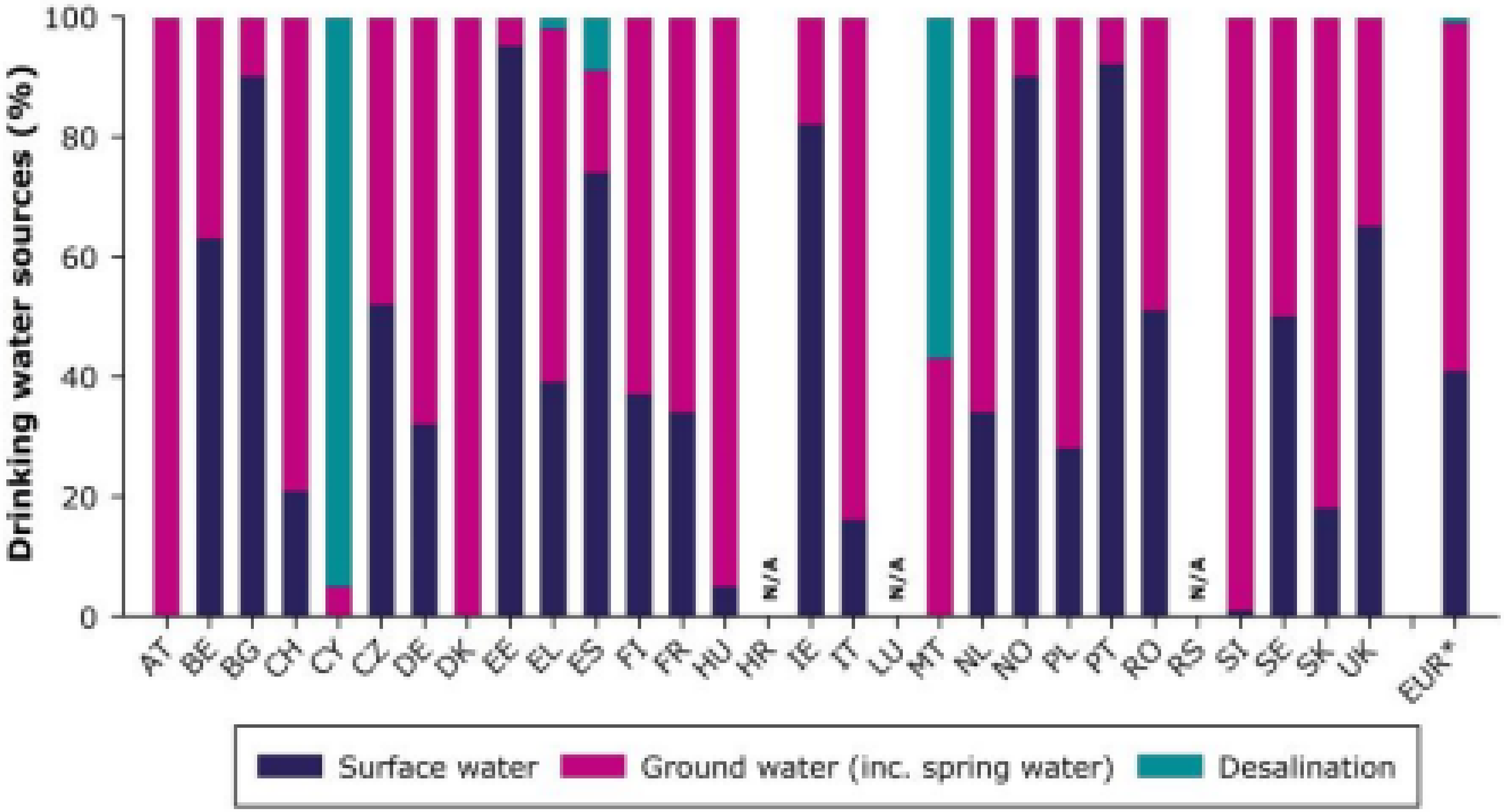
This is the average consumption based on the water production and ranges from 77 litres in some countries to 223 litres in others!

105 M³ PER YEAR

Each household uses around 105m³ annually. That's about 2.5 domestic swimming pools!

24 hours a day, 7 days a week

Your water service providers work around the clock to keep your drinking water safe and healthy while taking away waste water before treating it and returning it to the environment!



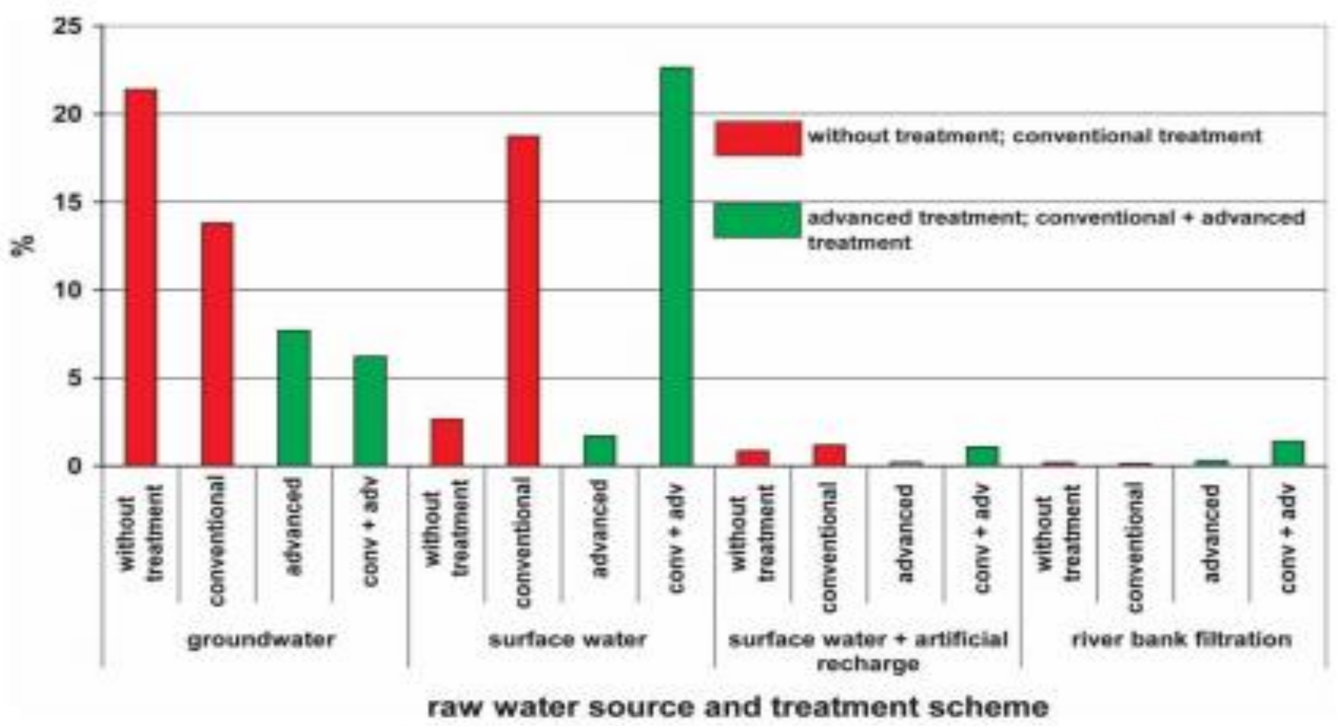
Groundwater and surface water are our major sources (> 90%)

Drinking Water Quality Requirements

- Wholesome and clean
- Colorless, clear and cool
- Free of suspended solids
- Free of pathogens and toxic chemicals
- Neural taste and smell
- Non-corrosive
- Appetizing and compelling to drink

EurEau

Drinking Water Treatment in Europe



Drinking water treatment technologies in Europe: state of the art – challenges – research needs

J. P. van der Hoek, C. Bertelkamp, A. R. D. Verliefde and N. Singhal

Groundwater:

- 71% untreated or with a conventional system

Surface water:

- 47% is untreated or only with only a conventional system

59% of our total drinking water resources are **untreated** or only treated with **conventional** treatment schemes.

Conventional treatment:
Aeration; rapid sand filtration; coagulation – sedimentation – filtration; artificial recharge

2020 Drinking Water Directive – New Requirements

23.12.2020 EN Official Journal of the European Union L 435/1

I

(Legislative acts)

DIRECTIVES

DIRECTIVE (EU) 2020/2184 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

of 16 December 2020

on the quality of water intended for human consumption

(recast)

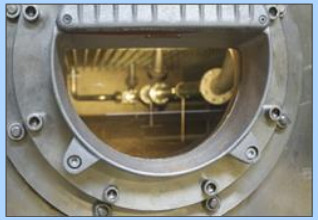
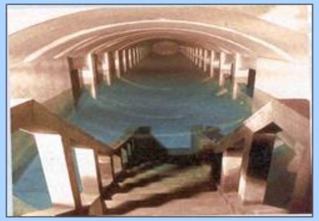
Drinking Water Quality Requirements

EurEau

World Health Organization

Risk assessment and management from catch2tap



All stakeholders to be involved in preventive and mitigating measures to protect drinking water resources

Drinking Water Quality – PFAS

EurEau

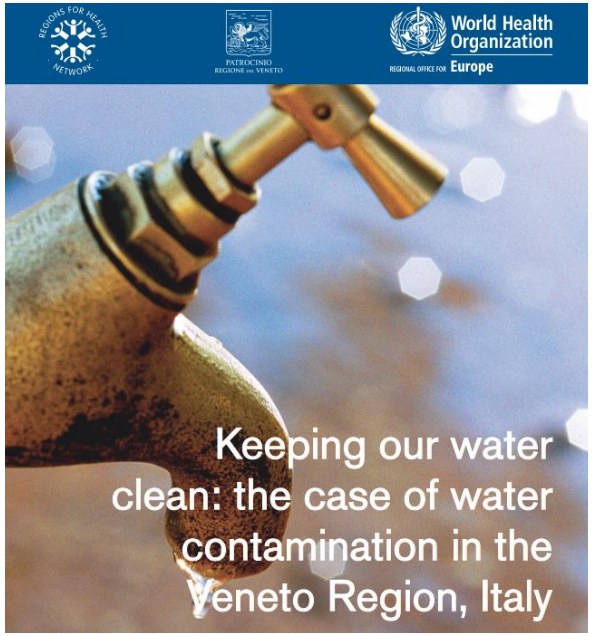
PFAS Total	0,50	µg/l	'PFAS Total' means the totality of per- and polyfluoroalkyl substances. This parametric value shall only apply once technical guidelines for monitoring this parameter are developed in accordance with Article 13(7). Member States may then decide to use either one or both of the parameters 'PFAS Total' or 'Sum of PFAS'.
Sum of PFAS	0,10	µg/l	'Sum of PFAS' means the sum of per- and polyfluoroalkyl substances considered a concern as regards water intended for human consumption listed in point 3 of Part B of Annex III. This is a subset of 'PFAS Total' substances that contain a perfluoroalkyl moiety with three or more carbons (i.e. –CnF2n–, n ≥ 3) or a perfluoroalkylether moiety with two or more carbons (i.e. –CnF2nOCmF2m–, n and m ≥ 1).

Substances that **are likely to be present in a given water supply system** according to the **risk assessment and risk management of the catchment areas** for abstraction points carried out in accordance with Article 8 **have to be monitored.**

Target substances:

Sum of PFAS (PFAS-20)	
Perfluorobutanoic acid (PFBA)	Perfluorobutane sulfonic acid (PFBS)
Perfluoropentanoic acid (PFPA)	Perfluoropentane sulfonic acid (PFPS)
Perfluorohexanoic acid (PFHxA)	Perfluorohexane sulfonic acid (PFHxS)
Perfluoroheptanoic acid (PFHpA)	Perfluoroheptane sulfonic acid (PFHpS)
Perfluorooctanoic acid (PFOA)	Perfluorooctane sulfonic acid (PFOS)
Perfluorononanoic acid (PFNA)	Perfluorononane sulfonic acid (PFNS)
Perfluorodecanoic acid (PFDA)	Perfluorodecane sulfonic acid (PFDS)
Perfluoroundecanoic acid (PFUnDA)	Perfluoroundecane sulfonic acid
Perfluorododecanoic acid (PFDoDA)	Perfluorododecane sulfonic acid
Perfluorotridecanoic acid (PFTrDA)	Perfluorotridecane sulfonic acid

Cases



Belgium:

- *PMT substances (1,4-dioxane, diisopropylether, EDTA, NTA, pyrazole, TFA, benzotriazole, methenamine, urotropine, MTBE, atrazine) found in surface waters in a µg/L range, even exceeding 10 µg/L in rivers such as Meuse and Rhine.*
- *Much less PMT in groundwater despite individual contamination plumes of carbon tetrachloride, chloroform and other chlorinated solvents in different aquifers.*
- *High likelihood for the presence of other, yet unmonitored substances*

EurEau

Chemours

In 2012, the DuPont/Chemours chemical plant converted its production to GenX technology and phased out PFOA because of associated hazard concerns. The change involves the discharge by the plant of the FRD-903 compound into the water. Since 2013, the plant has had a license to discharge into Dordrecht's wastewater treatment system; in April 2017, the permitted discharge volume was reduced. The measurement results now analysed confirm that this chemical plant is by far the most important source of the FRD-903 present. The RIVM-KWR study shows that the presence of GenX is not widespread in drinking water in the Netherlands.

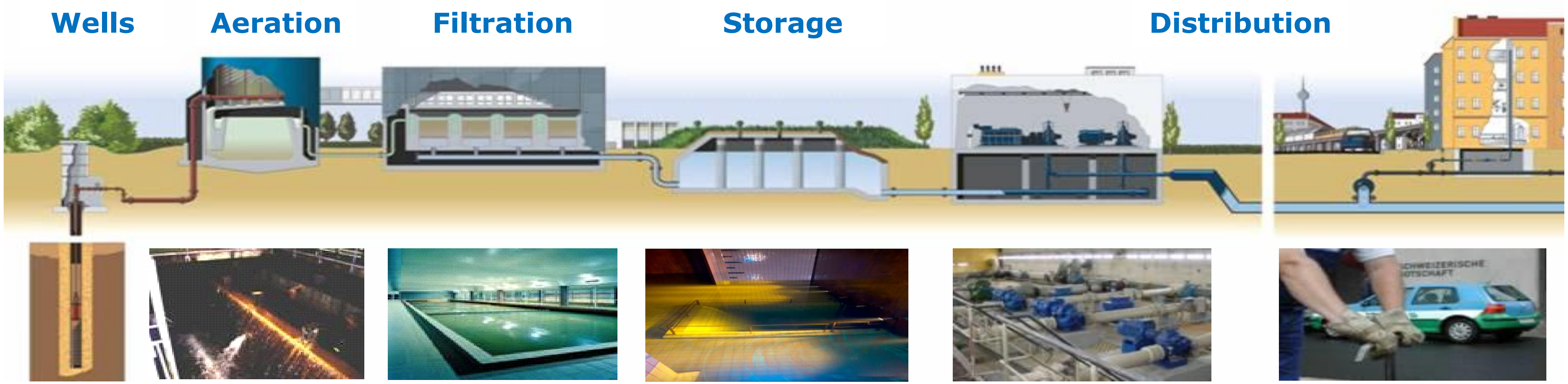
Fachbeiträge

L. Lesmeister, M. Scheurer, F. Th. Lange, C. K. Schmidt — Belastungssituation des Rheins mit Per- und Polyfluoralkylsubstanzen (PFAS)

Germany (GWDB BW):

- *In 3.0 % of the groundwater monitoring wells, the sum of PFAS exceeded the new EC limit value of 0.1 µg/L (56 monitoring wells contaminated out of 1841).*

Drinking Water Treatment



Conventaional drinking water treatment in Berlin [BWB]

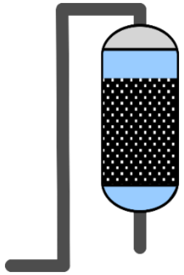
B U T all treatment steps have limits

- Never 100% effective
- Non selective
- Efficiency fluctuations over time
- Possible occurence of tranformation products
- Problem is transferred to the concentrate that has to be disposed of
- Compromises natural characteristics of drinking water
- High energy consumption

Removal of PMT/vPvM-Substances by Drinking Water Treatment

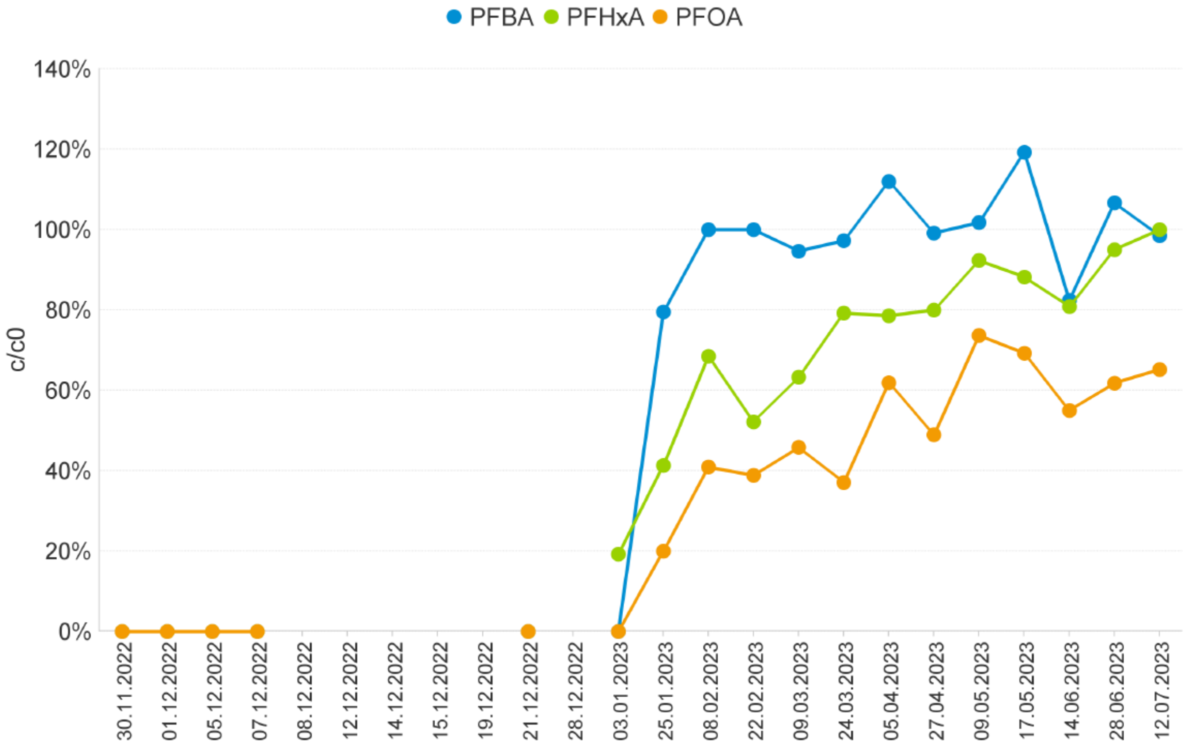
EurEau

Berliner Wasserbetriebe



Activated carbon filtration

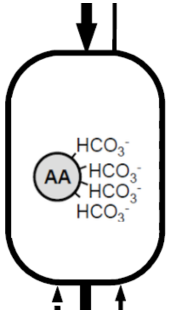
- Fast breakthrough (4-8 months) for short chain PFAS like PFBA but better performance for longer chains like PFOA
- Pre-treatment required
- No indication of saturation / exhaustion => analyses required (difficult/costly)
- vPvM substances → low elimination potential



vM-substances and GAC filtration (data from PFAS decontamination plant in Tegel; first of 4 GAC Filters)

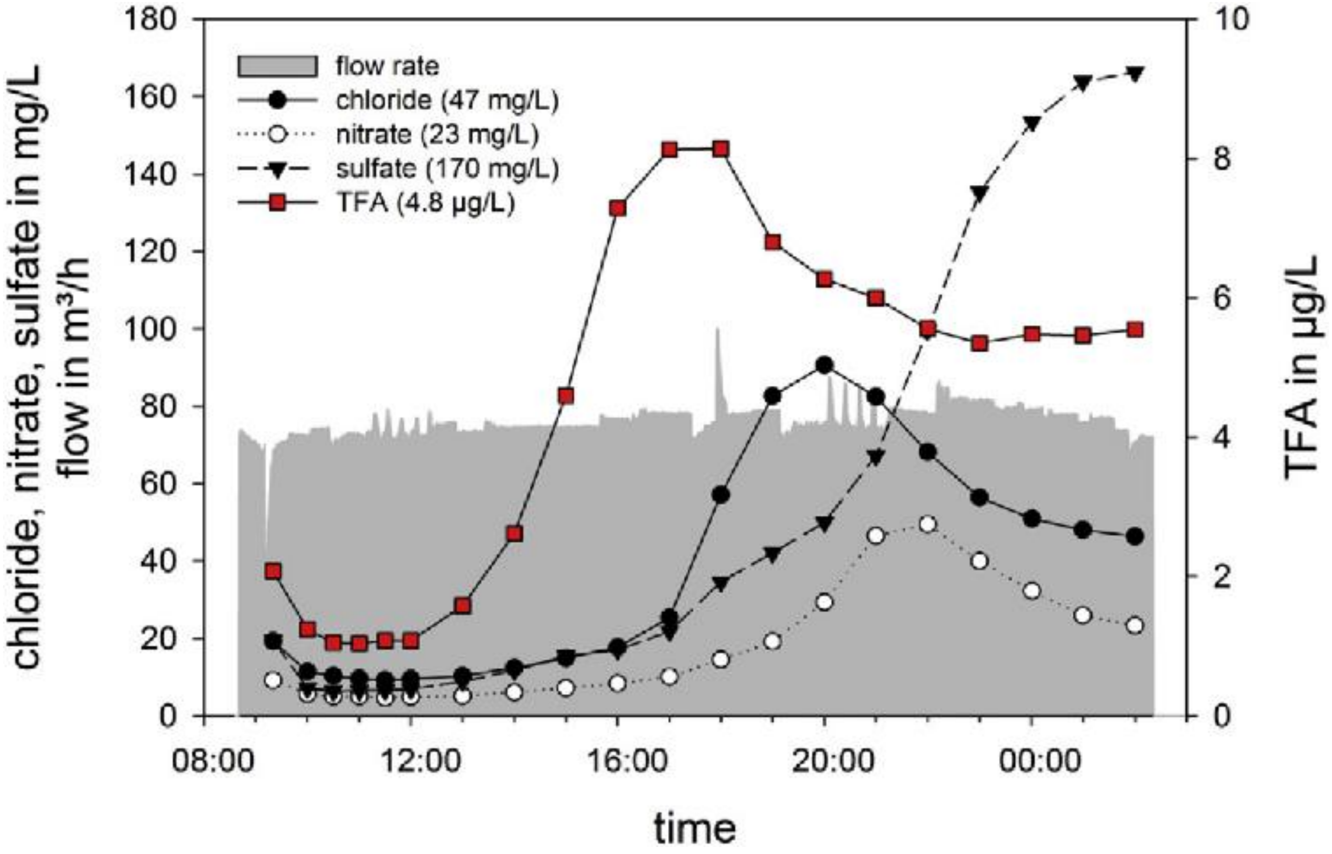
Removal of PMT/vPvM-Substances by Drinking Water Treatment

EurEau



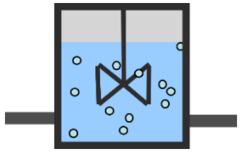
Anion exchange

- Pre-treatment required
- Limited regeneration (only partial reg. from PFAS)
- Problematic disposal of regenerative solutions
- Removal of competitive ions (nitrates, sulphates)



Scheurer et al. (2017) Water Res. 126, 460–471.

Removal of PMT/vPvM-Substances by Drinking Water Treatment



Ozonation

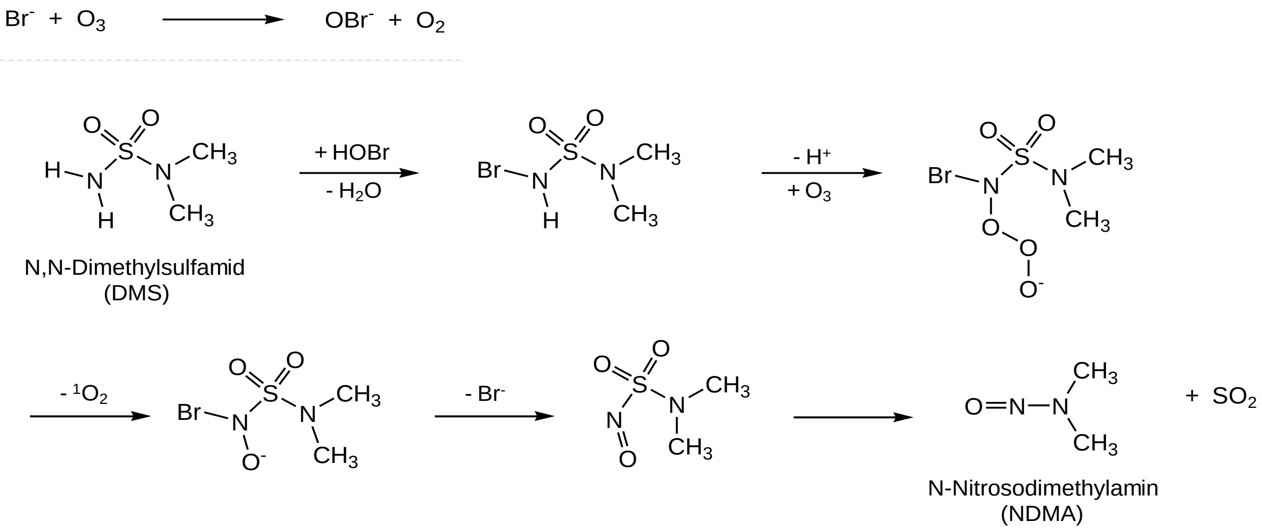
- Fast reaction of substances with ozone = pre-treatment
- Often: persistence is related to high chemical stability

Examples

- C-C double bond
- C-C triple bond
- Aniline-*N*

- vP substances → low elimination potential
- Addtional AC-treatment required after each O_3-treatment
- Possible formation of toxic by-products (e.g. NDMA)

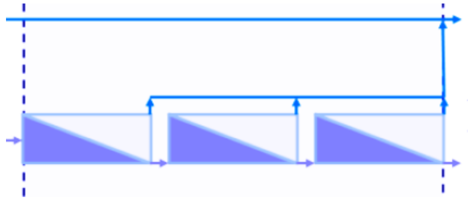
NDMA formation from N,N-dimethyl-sulfamid



von Gunten et al. (2011), EST

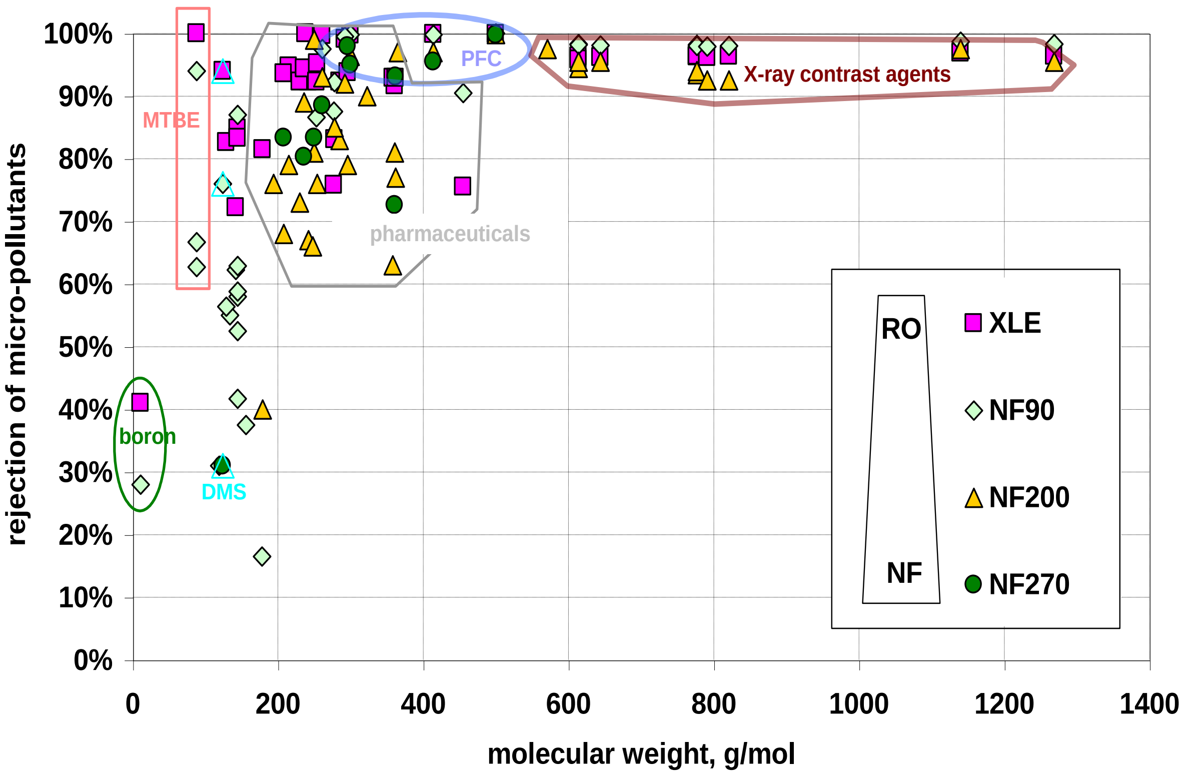
Removal of PMT/vPvM-Substances by Drinking Water Treatment

EurEau



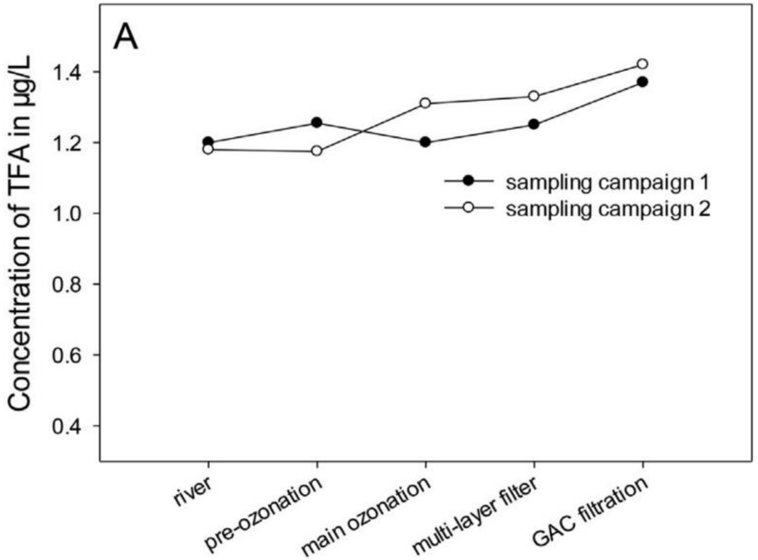
Reverse Osmosis

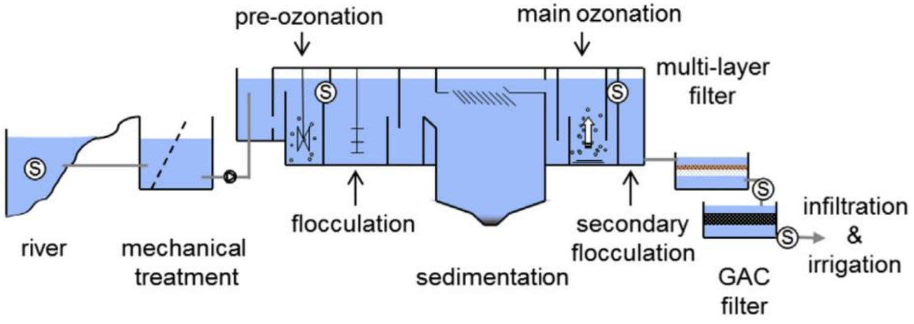
- Low molecular weight substances (MW) → low elimination potential
- MW > 200 Da → high elimination potential
- Expensive (> 0.5 €/m³ vs. 0.1 €/m³ for conventional treatment steps)
- Energy-intensive
- Waste (brine) difficult to manage
- Re-mineralisation required → artificial water

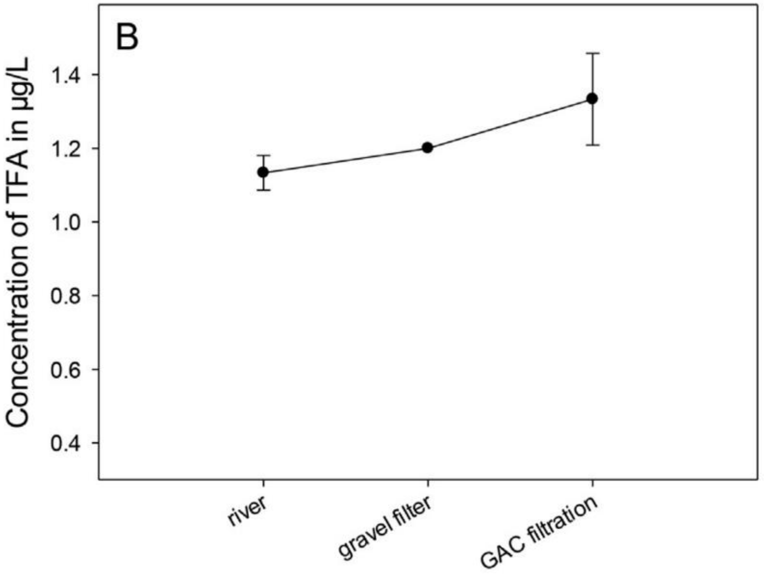


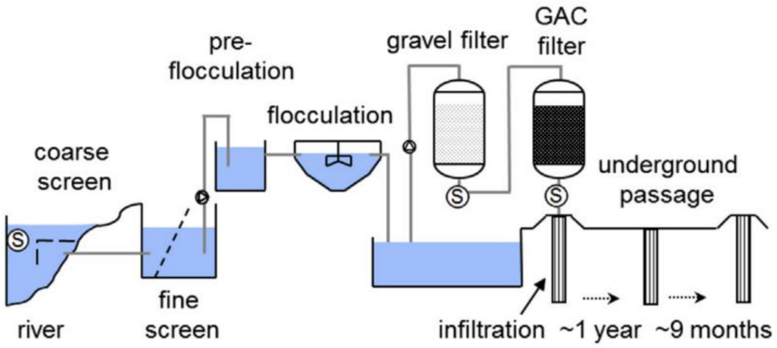
Lipp et al. (2010) Desalination and Water Treatment 13, 226–237

Specific case: TFA









No removal with ozonation or activated carbon!

Scheurer et al. (2017) Water Res. 126, 460–471.

Removal of PMT/vPvM-Substances by Extensive Treatment Technologies - Conclusions

EurEau

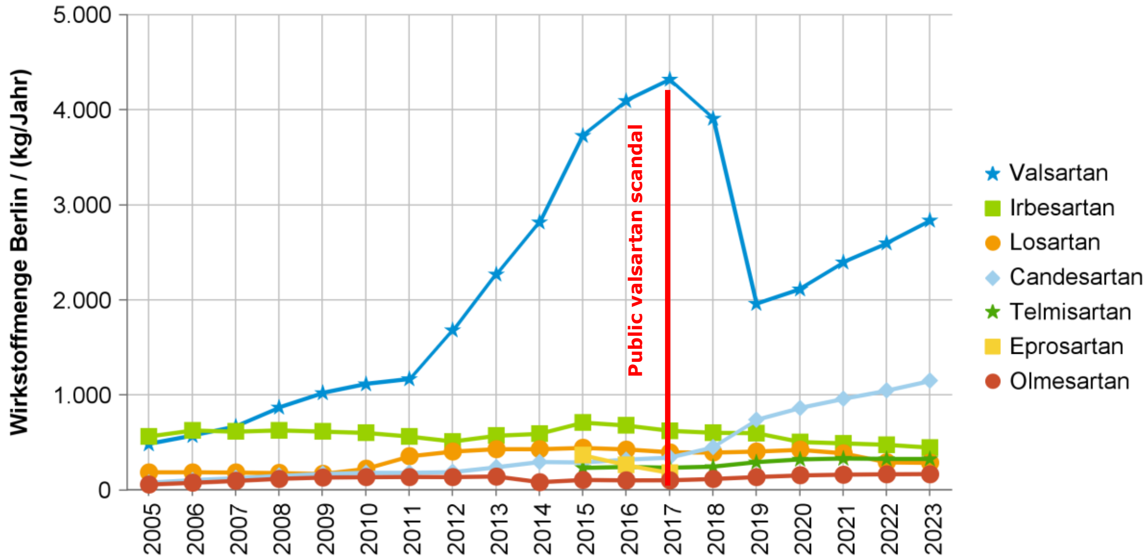
PMT substances difficult/impossible to remove through conventional treatment

- Biological treatment does not work for persistent substances
- GAC or PAC filtration does not work for mobile substances
- Most PMT/vPvM substances persistent towards chemical oxidation

Reverse osmosis removes some (but not all) PMT/vPvM-substances but

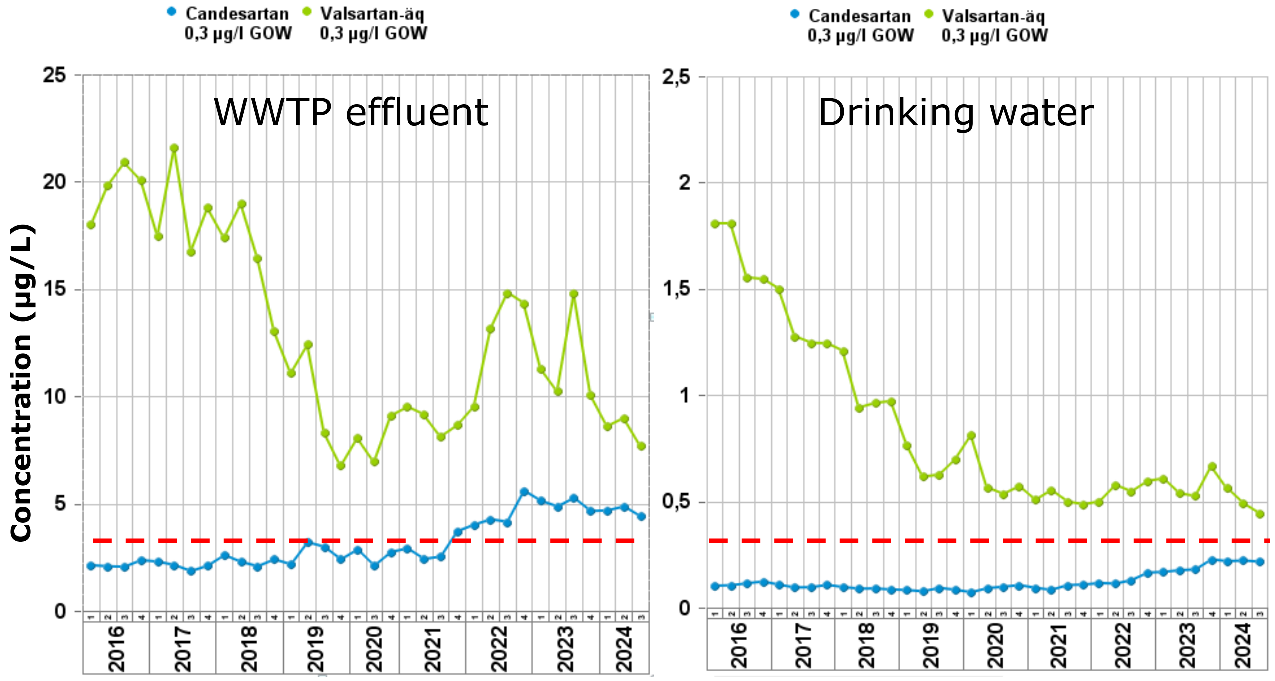
- Limitations for Low molecular weight compounds (< 200 Da)
- Expensive (> 0.5 €/m³ vs. 0.1 €/m³ for conventional treatment steps)
- Energy-intensive
- Brine management issues
- Need for re-mineralisation

Effects of Bans and Regulations
Berlin-specific Case Study: Valsartanic Acid



Prescription of AT II drugs in Berlin [S.Schimmelpfennig]

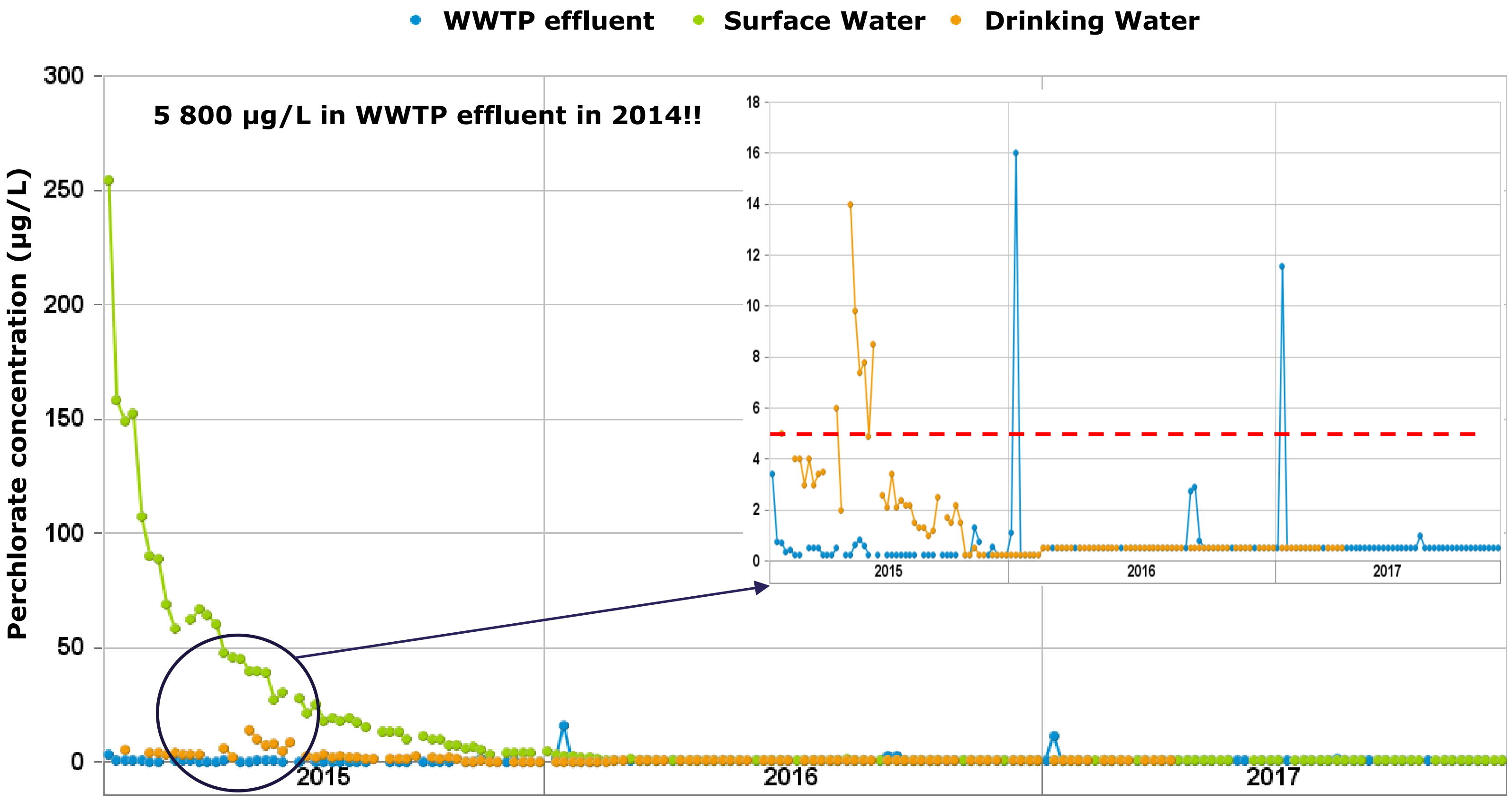
- Media turmoil around Valsartan in 2017
- Gradual substitution of Valsartan prescriptions with candesartan (lower doses) as a result



Valsartan equivalents in the Tegel Waterworks and Schönerlinde WWTP effluent [S.Schimmelpfennig]

- Fast response in concentrations of Valsartan equivalents in WWTP effluents and drinking water

Effects of Bans and Regulations
Berlin-specific Case Study: Perchlorate



Perchlorate concentrations in the Tegel lake and Waterworks and Schönerlinde WWTP effluent [S.Schimmelpfennig]

- Undocumented discharge of perchlorate containing wastewater from a waste treatment facility to a WWTP upstream from Tegel waterworks until 2014
- Discharge ban in 2014
- Immediate response in perchlorate concentrations in WWTP effluent, surface water and drinking water
- Yearly peaks due to NYE fireworks remain

Conclusions

- Including PMT and vPvM substances in the CLP (classification, labelling and packaging) ordinance was a decisive step, thanks to the contribution of the German federal environmental agency (UBA)
- The next step is to include them in REACH, in order to facilitate their classification as substances of very high concern. This is necessary for a proper regulation and limitation of their use and their production
- If this is not yet the case, other substances with low tonnage such as cosmetics and pharmaceutical drugs should be included and regulated as well
- Past experiences showed and highlighted the positive effects that bans and other instruments of regulation for certain substances can have on the drinking water quality
- In this context, the key principles are the precautionary and the polluter pays principle.

Thank you for your attention

Dr. Gesche Grützmacher (EurEau, BWB)
Oliver Loebel (Secretary General EurEau)
Sofienne Zerelli, Dr. Sebastian Schimmelpfennig (BWB)

Rue du Luxembourg 47-51,
B-1050 Brussels, Belgium
Tel: +32 (0)2 706 40 80
secretariat@eureau.org

Für Mensch & Umwelt

Umwelt Bundesamt

REACH-Kongress 2024

11. September 2024
Beginn 09:00 Uhr

REACH Kongress 2024

RÜCKBLICK AUF DEN ERSTEN KONFERENZTAG
UND HINWEISE DER MODERATION

ANTONIA REIHLEN & DIRK JEPSEN
Moderation, Ökopol Institut GmbH

Umsetzung der Chemikalienstrategie für Nachhaltigkeit

- Neue KOM: der Green Deal wird weitergeführt

- Umsetzung der CSS
  - 🙂 CLP-Gefahrenklassen, SSbD Rahmen & Essential use (veröffentlicht)
  - Begonnen: OSOA, PFAS-Aktionsplan, Beschränkungen …
  - 😡 REACH Revision, most harmful chemicals in consumer products (Fokus Erzeugnisse)

- Was zeigt die Verschmutzung mit PFAS darüber, wie gut REACH funktioniert?
  - Unterschiedliche Einschätzungen

Umsetzung der Chemikalienstrategie für Nachhaltigkeit

- Geschwindigkeit:

Mensch und Umwelt schützen, aber es dauert zu verstehen, wofür Stoffe eingesetzt werden

- Herausforderungen
  - Kreislaufwirtschaft verhindert Kontrolle von Verwendungen (in Recyclingmaterial)
  - Konsistenz und Kohärenz (Begriffe, Anforderungen, Überwachung)
  - Informationsfluss über Stoffe in Erzeugnissen
  - Downstream user (mehr) in die Prozesse integrieren
  - …

- Projekte für die Zukunft: REACH-Revision und Stoffe in Verbraucherprodukten (Menti)

Schnittstellen REACH/CLP und weitere Regulierungen

- Behörden brauchen Informationen über Stoffeigenschaften und **Verwendungen** (Priorisierung Regulierungsbedarf; sachgerecht regulieren)

- Informationsquellen / Signale an den Markt:
  - Registrierungsdossiers, relativ allgemeine Verwendungsinfo;
  - ECHA - Assessment of regulatory needs (ARN)
  - Call for evidence
  - RMOA / Dialog
    - Wissen über Betroffenheit und Prozesse fehlt (Sorge: Info → mehr Regulierung)
    - Schlechte Erfahrungen, starre Fragen, unklar was mit Infos passiert
  - Neue gemeinsame Datenplattform (OSOA)?

Schnittstellen REACH/CLP und weitere Regulierungen

- Arbeitsschutz
  - Informationen aus CLP und Sicherheitsdatenblätter → Grundlage für Arbeitsschutz
  - 🙂 Isocyanate, Empfehlung 409 GefStoffVO
  - Aktivitäten laufen (noch) oft parallel, nicht genug Austausch
  - 😡 Akteure aus Arbeitsschutz nicht ausreichend mitgenommen; Erkenntnisse CMRs

- Helpdesk
  - Selbst Schnittstelle, wichtige Informationsquelle, bes. für KMU
  - KMU – Fragen betreffen (zunehmend) Schnittstellen
  - Unterstützungsstruktur, die der CSS gerecht wird
  - Umsetzung von Regelungen komplex

Stimmungslage und Intentionen

- Die chemische Industrie leistet einen wichtigen Beitrag für Wirtschaft, gesellschaftlichen Wohlstand und die Transformation

- Der regulatorische Rahmen ist gut
  - basierend auf soliden wiss. Fakten über Stoffeigenschaften und Anwendungen im strukturierten Prozess regulatorische Entscheidungen Treffen
  - Strukturen absichern (z.B. ECHA)
  - Und - es gibt bereits erkannten Verbesserungsbedarf

- Dialog und Kommunikation auf Augenhöhe sind zentral, um gemeinsam Lösungen für die anstehenden Probleme zu finden

Eintrag persistenter Stoffe in die Umwelt (Teil 1)

- Forever Pollution: Flächendeckende Kontaminationen mit PFAS, ca. 10% „hot spots“ in Europa
- Persistenz in Kombination mit Bioakkumuliarbarkeit/Mobilität (Wasser/Atmosphäre) ist problematisch
- Beispiele aus der Vergangenheit zeigen Erfolg von Regulierung … und den Ersatz mit (neuen) persistenten Verbindungen
- Herausforderungen
  - Transformationsprodukte
  - Datenverfügbarkeit und –qualität zur Persistenz

Eintrag persistenter Stoffe in die Umwelt (Teil 1)

- PMT/vPvM – Stoffe werden in Grund- und Oberflächenwasser für die Trinkwassergewinnung gefunden

- Wirksamkeit von Maßnahmen kann in aktuellen Daten gezeigt werden (Verschreibung von Medikamenten, Sanierung von kontaminierten Flächen)

- Entfernung der Stoffe aus Trinkwasser mit bestehenden Technologien nicht/kaum möglich und verbunden mit
  - hohen Kosten
  - Ressourcenverbrauch

The Transition Pathway for the Chemical Industry

Kristin Schreiber
Direktorin der Abteilung Chemikalien
Generaldirektion Binnenmarkt, Industrie, Unternehmertum und KMU
Europäische Kommission

European Commission

The Transition Pathway for the Chemical Industry

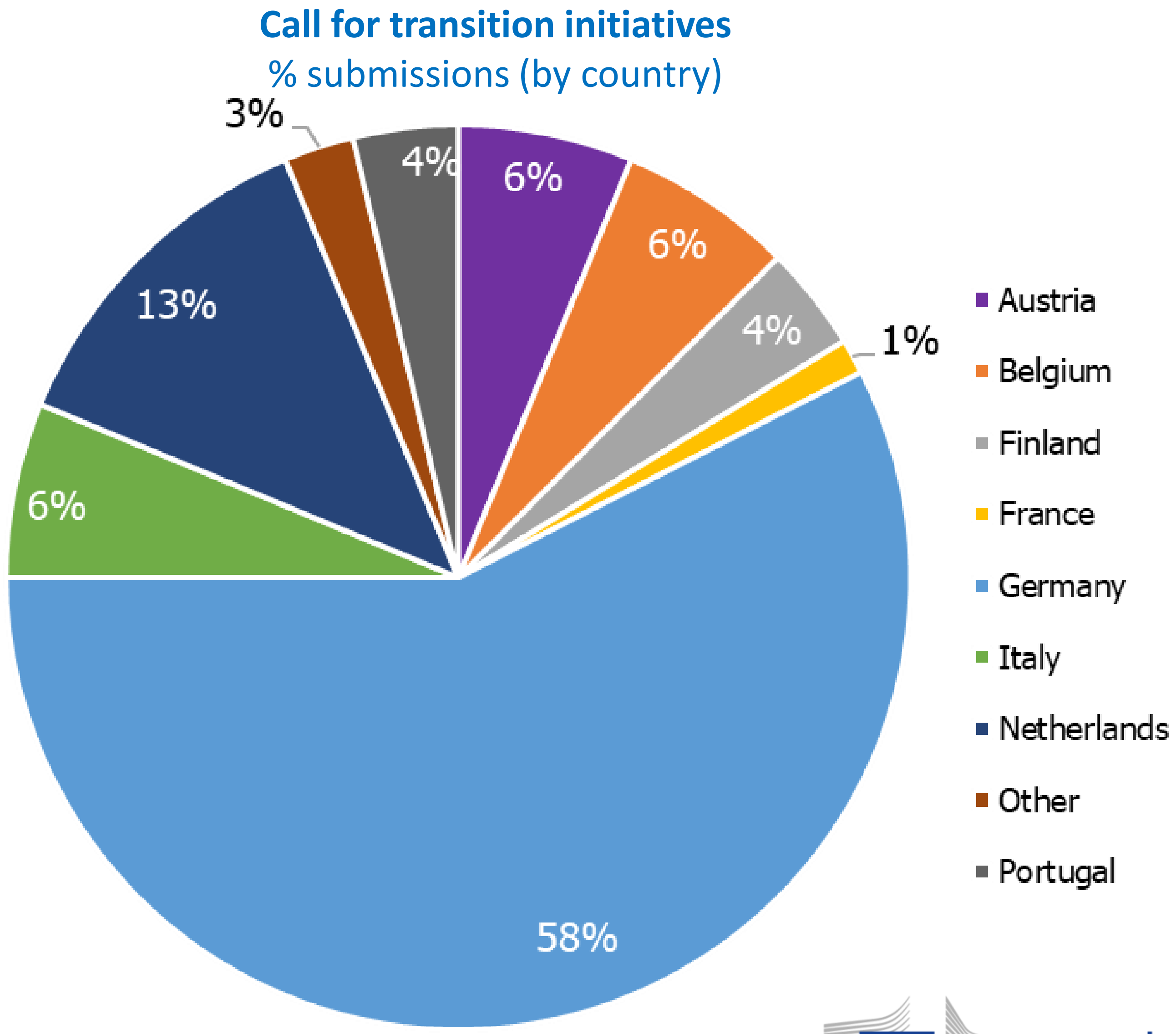
- Publication: 27 January 2023
- It is an **actionable plan co-created** by the European Commission with EU countries, industry, NGOs and other stakeholders
- Based on **8 building blocks**

Sustainable competitiveness | Investment and funding | Research and Innovation | Regulation and Public Governance | Access to energy and feedstock | Infrastructure | Skills | Social dimension

- It identifies about **190 actions, grouped in 26 topics**, needed for the **twin transition and increased resilience** of the EU Chemical Industry

Co-implementation of the Pathway: key elements

- **Continuous dialogue** with stakeholders to **inform policy making**
- **Dedicated Task Forces** on high priorities, e.g. **energy and feedstock needs**;
- Call for **transition initiatives** to map relevant projects and investments: around **110 projects** published on COM's website.
- Guide on **EU Funding Opportunities** published in Feb 24
- **Annual Progress Report** published in May 24



European Commission

Timelines of substitution planning and next steps

- Ongoing **Commission study on Substitution planning** until December 2024 on policy options
  - Second and final Workshop 1 October 2024, web streamed.

- **Pilot project starting early 2025**:
  - EU substitution centre or network of substitution centres
  - Testing how support to substitution can be most efficient/effective on the basis of concrete substances in concrete uses:
    - PFAS in batteries, Chromium (VI) in hard chrome plating and Substances in paints (focus on avoidance of regrettable substitution)

European Commission