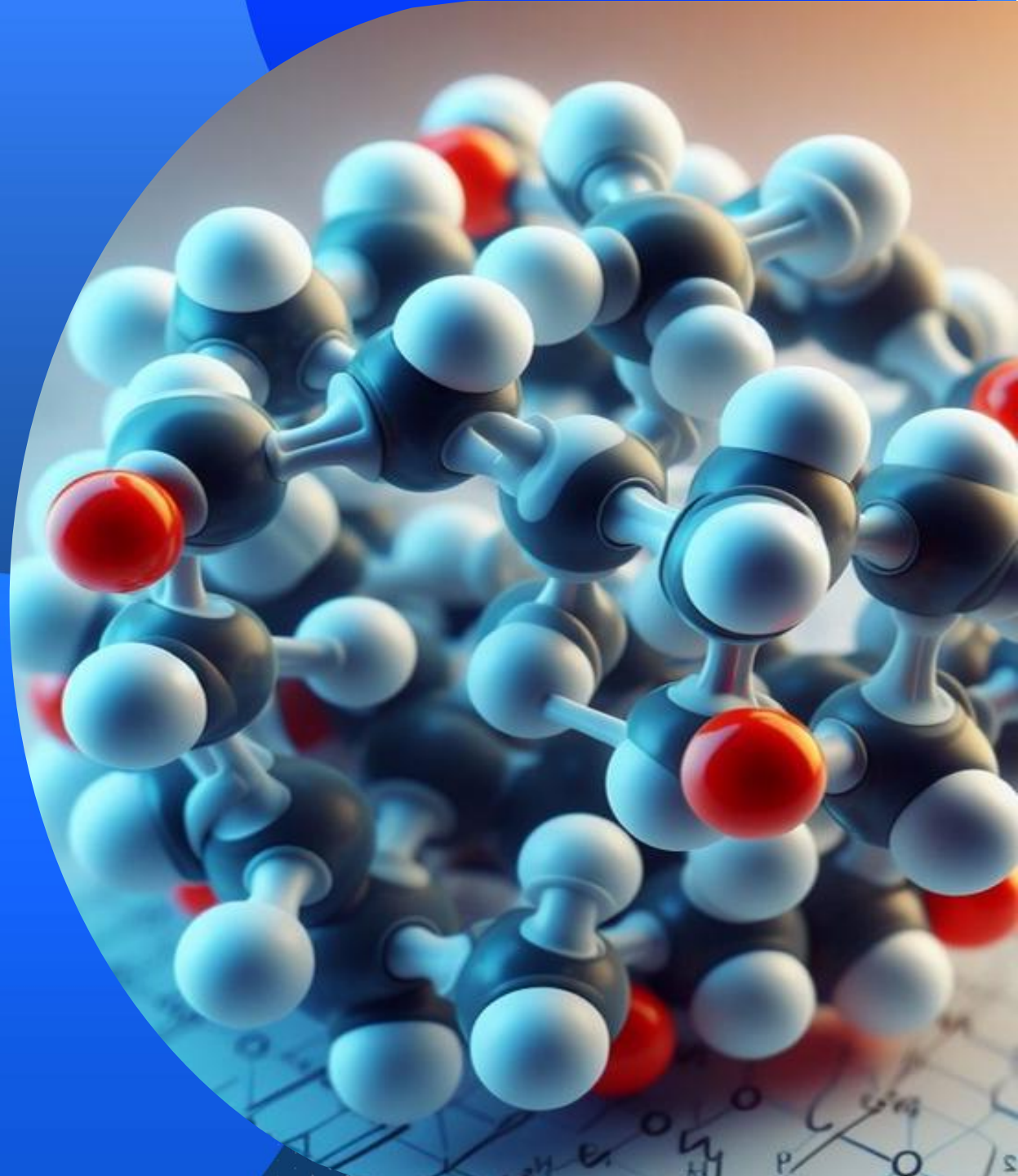


PFAS: Forever Chemicals

Janice Nieman

*Senior Manager Research and
Product Development*

AmericanAg [®]
Reinsuring your world



Navigating Both Ends of Risk: AmericanAg[®]'s Unique Market Position

US-domiciled
reinsurance company,
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company established in
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reinsurance support to
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enhancing their financial
stability and capacity

Provides direct
reinsurance to Farm
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companies

Participates in both U.S.
and international
reinsurance programs
through the broker
marketplace

One of the largest
buyers of reinsurance
globally

2024 Financial Highlights



GROSS PREMIUM WRITTEN
\$2,455,671,316



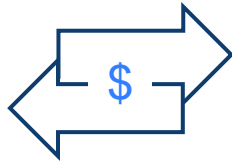
NET PREMIUM WRITTEN
\$533,791,872



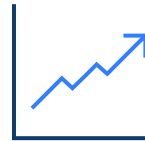
UNDERWRITING GAIN
\$59,881,304



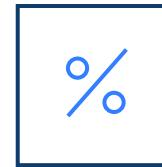
TOTAL ASSETS
\$2B



SURPLUS CHANGE
\$54,028,313



ENDING SURPLUS
\$766,404,599



COMBINED RATIO
89.26%



A.M.BEST RATING
“A” (Excellent)

Agenda

1

- What are PFAS?

2

- Global PFAS Regulatory Actions

3

- Litigation

4

- Reinsurance Risk

5

- Future Outlook

What Are PFAS?

Per- and Polyfluoroalkyl Substances Overview

- **Very large class of synthetic chemicals**
- **PFAS class includes over 10,000 known chemicals plus many unknown**
 - About 1,200 are registered in the US for use in industrial and consumer products
 - Primarily PFOA and PFOS have been the target of litigation



PFAS Overview



PFAS chemicals have been around since the 1940s in consumer products and facilities

- Stain resistant – e.g., **Scotchgard**
- Stick proof – e.g., **Teflon**

Almost everyone has been exposed to these chemicals and has some level of them in their bodies

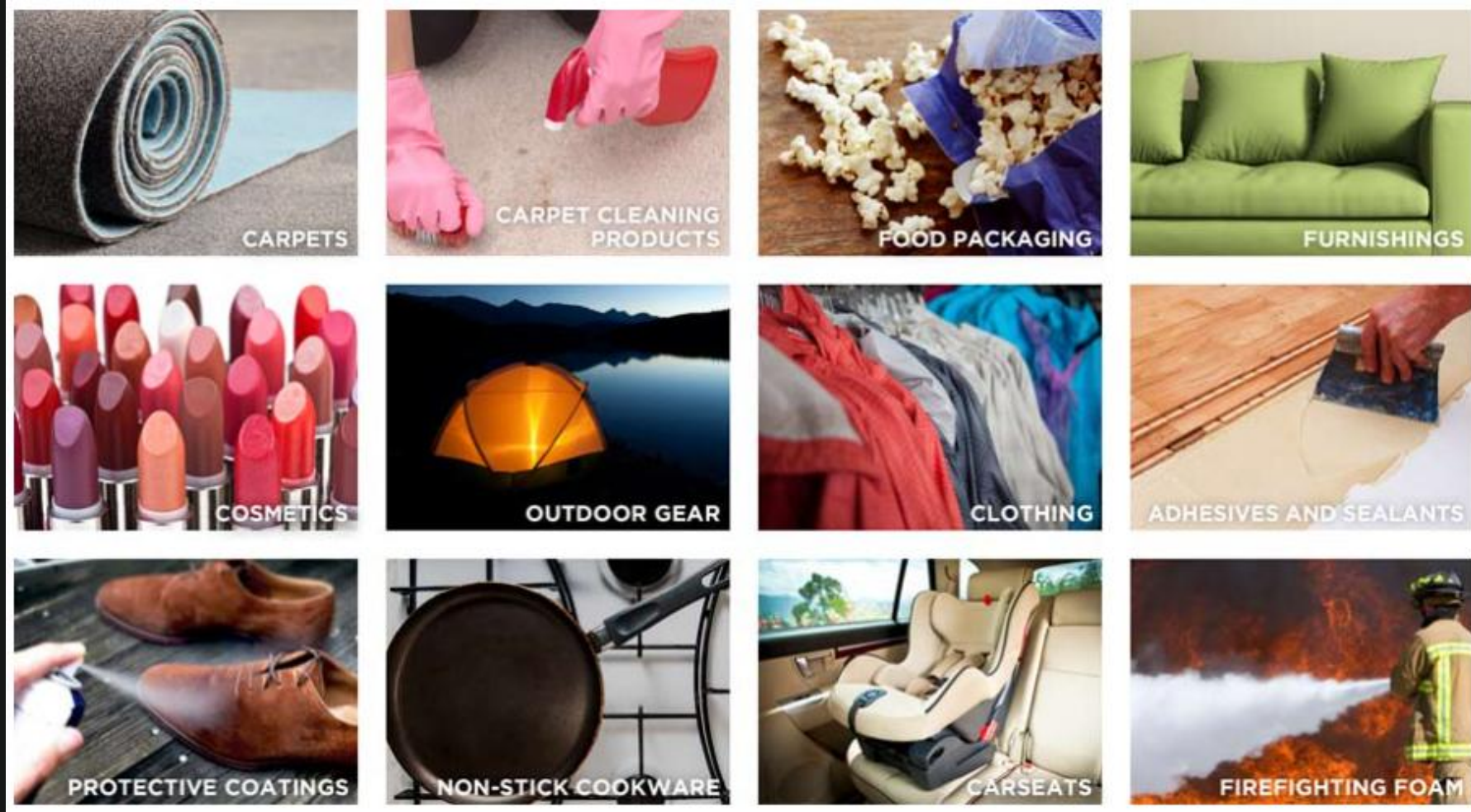
Some contributors of PFAS in air, soil, and water:

- PFAS manufacturing facilities
- Facilities using PFAS in production of other products
- Airports – e.g. Aqueous Film Forming Foam (AFFF)
- Military installations

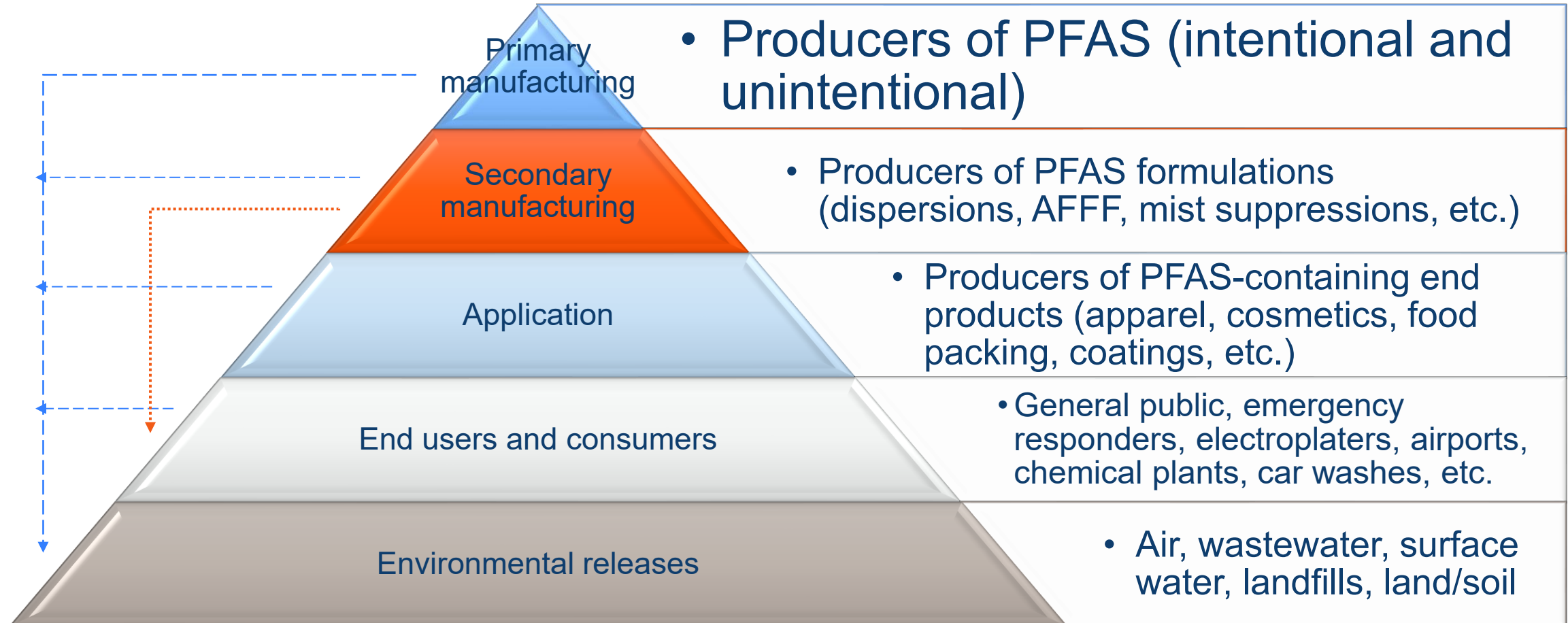
PFAS: Persistent, Bioaccumulative, Toxic (PBT)

- **Persistent** in the environment: can last centuries or thousands of years
- **Bioaccumulative** in organisms: they can stay in the body for some time
- **Toxic** at relatively low part-per-trillion (ppt) levels
- **Exposure**
 - Drinking contaminated municipal water or well water
 - Eating fish caught from water contaminated by PFAS
 - Swallowing contaminated soil or dust
 - Eating food grown or raised near places that used or made PFAS
 - Eating food packaged in material that contains PFAS
 - Using consumer products such as stain-resistant carpeting or water-repellent clothing

Which Products Use PFAS?



Sources and Releases



Effects of PFAS on Human Health

- Cancers
- Thyroid disease
- Cardiovascular health
- Liver damage
- Kidney disease
- Adverse reproductive outcomes
- Developmental effects affecting unborn children
- Mental health

Sources: US National Toxicology Program, (2016); C8 Health Project Reports, (2012); WHO IARC, (2017); Barry et al., (2013); Fenton et al., (2009); and White et al., (2011) via <https://www.eea.europa.eu/publications/emerging-chemical-risks-in-europe/emerging-chemical-risks-in-europe#:~:text=drinking%20water%2C%20food%2C%20consumer%20products%20and%20dust>

Global PFAS Regulatory Actions

United States: PFAS National Primary Drinking Water Regulation

Establishes enforceable standards, known as **Maximum Contaminant Levels (MCLs) that apply to public water systems**

Applies to six PFAS chemicals, including **PFOA, PFOS, PFNA, GenX chemicals, and PFHxS**

MCL = **4.0 ppt** (parts per trillion) for PFOS and PFOA
MCL = **10.0 ppt** for PFNA, PFHxS, and GenX

Public water systems will have **three years to test** for PFAS

Public water systems must **inform the public** of the level of PFAS in their drinking water and **remediate within five years**

U.S. EPA Rule Designates PFOA and PFOS as “Hazardous Substances” under CERCLA

- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
 - Expands the EPA’s Authority
 - EPA can compel Potentially Responsible Parties (PRPs) to conduct and pay for cleanups
 - Increases emergency response and removal actions for PFOA/PFOS releases
 - By enabling more cleanups, the designation aims to reduce human exposure to these “forever chemicals”
 - The designation will facilitate the cleanup of contaminated soil, groundwater, and surface water, leading to the restoration of natural resources.



Europe's Comprehensive PFAS Regulation

- Universal PFAS Restriction Proposal (REACH):
 - Near-total ban on manufacture, use, and placing on the market of all PFAS
 - Proposed by 5 EU countries (2023), currently under ECHA review
 - Focus on "essential uses" only; non-essential uses to be phased out.
 - If adopted, major disruption and innovation for industries.
- Drinking Water Directive (EU 2020/2184):
 - Strict thresholds for PFAS in drinking water by January 2026
 - 0.1 µg/L (micrograms per liter) for sum of 20 specific PFAS.
 - 0.5 µg/L for total PFAS.
 - Member States must comply and monitor

Existing & Emerging PFAS Regulations in Europe

Specific PFAS Restrictions (REACH and POPs)

PFOS:
Restricted for
over a decade

PFOA: Banned
since July 2020

Water Framework (WFD) & Urban Wastewater Directives (UWWTD)

WFD:
Considering
adding PFAS to
priority
substance list

UWWTD:
Establishes
PFAS monitoring
at wastewater
treatment plants

National Initiatives (examples)

France: National law
(2025) banning
PFAS in certain
consumer products
(makeup, textiles)

Denmark: Banned
PFAS in food
packaging (2020);
consumer
clothing/footwear
(2026)

Litigation

U.S. PFAS Multi District Litigation (MDL)

Public water suppliers

- Seeking costs for testing, monitoring, and remediating PFAS contamination in drinking water

Individuals

- Claiming personal injuries (e.g. specific cancers, like kidney, testicular, thyroid, liver, and conditions like ulcerative colitis, thyroid disease) due to PFAS exposure

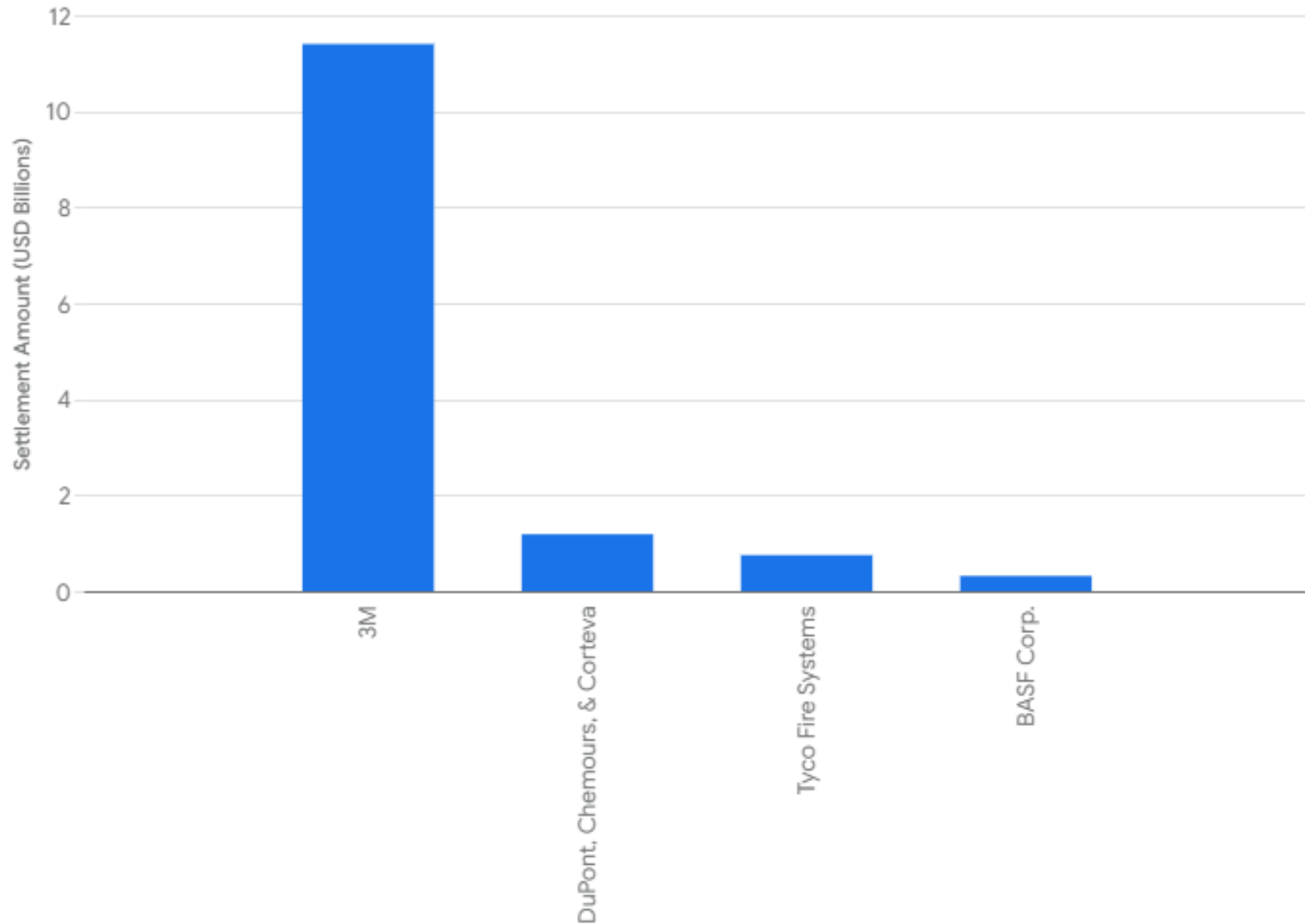
States' Attorneys General

- Suing for natural resource damages and cleanup costs

As of May 2025, over 9,300 active lawsuits as part of the AFFF MDL in U.S. District Court in South Carolina which started in 2018

Source: U.S. District Court, District of South Carolina, Aqueous Film-Forming Foams (AFFF) Products Liability Litigation, MDL No. 2873, <https://www.scd.uscourts.gov/mdl-2873/index.asp> AND <https://www.lawsuit-information-center.com/aff-firefighting-foam-lawsuit.html>

Major PFAS Settlements with Water Providers (Billions USD)



Lawsuits are expanding to **secondary users and downstream entities** — not just chemical manufacturers but also companies using PFAS-treated goods (e.g., packaging, coatings, cosmetics).

PFAS Settlements Outside of U.S.

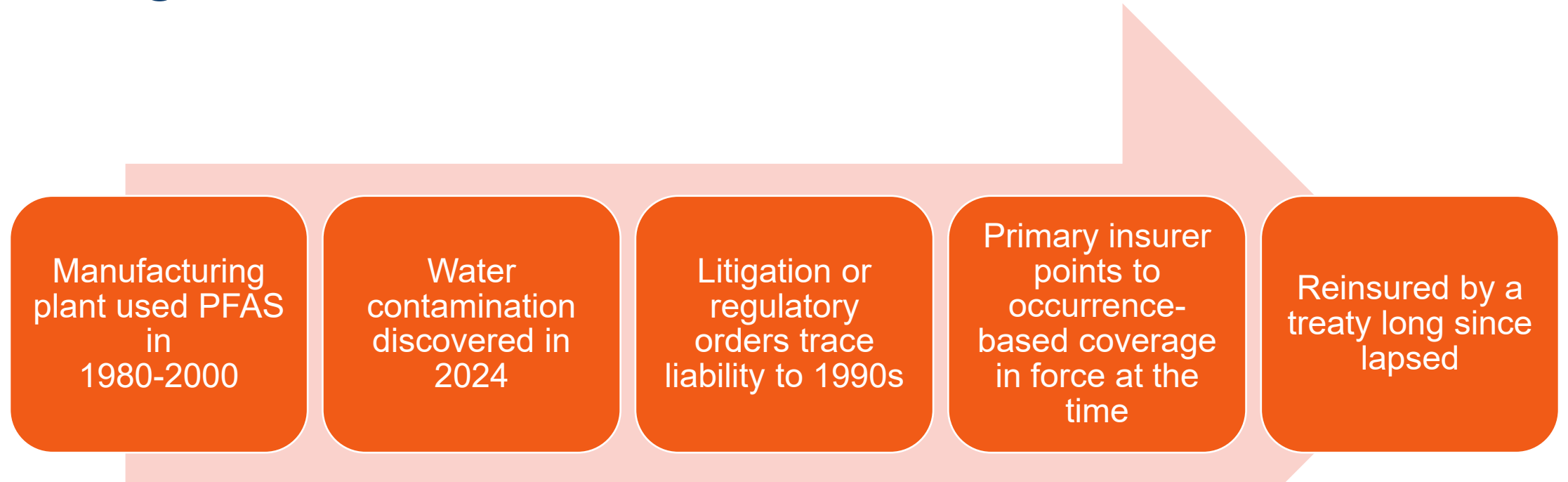
- Australia -- A\$132.7 million settlement
 - Australian Federal Government settled a class action lawsuit concerning PFAS contamination from firefighting foam, impacting approximately 30,000 claimants
- Belgium – €500 million+ settlement
 - 3M settled a civil action with the Flemish government for cleanup costs related to historic PFOS discharges into the Schelde river and air from the Antwerp plant
 - Ongoing litigation in the Netherlands, Sweden, France, Italy, and Germany focusing on contaminated drinking water due to manufacturers, military bases, and airfields

Reinsurance Risk

Retroactive Liability

- PFAS contamination can remain undetected for years before manifesting as:
 - Bodily injury (cancers, immune effects)
 - Property damage (tainted water supply)
 - Environmental cleanup liability
- The coverage year applicable to a PFAS claim may be decades in the past – potentially affecting expired primary and reinsurance treaties

Long-Tail Claim Scenarios



Reinsurer may receive a claim today tied to exposure that occurred under a treaty written 30+ years ago.

Runoff Exposure in Expired Treaties



- Even when treaties have ended, **obligations remain** for:
 - Claims-made policies still open
 - Occurrence-based losses first noticed today
- Reinsurers that wrote quota share or excess of loss in the 1980s–2000s may still be on the hook
- Especially if treaties had **no PFAS exclusions** (common pre-2020)
- Or if treaties had **vague pollution exclusions** not interpreted as barring gradual PFAS releases

Complicating Factors

- **Treaty Wording**

- Did the Treaty have a pollution Exclusion?
 - Was it **absolute** or **sudden and accidental**?
- How is the **allocation of defense costs** handled?
- Are PFAS considered “**pollutants**” under the treaty terms?

- **Aggregation Issues**

- Is a multi-year PFAS exposure at a site treated as **one occurrence or multiple**?
- Does it trigger **per occurrence or aggregate reinsurance limits**?

- **Claims Control and Settlement Clauses**

- Who has **authority to settle**, and how does that bind the reinsurer?

Practical Risks for Reinsurers

- Reserving Uncertainty
 - Difficult to model IBNR (incurred but not reported) for PFAS claims stemming from old treaties
- Surprise Liabilities
 - Treaties thought to be fully run off may suddenly see PFAS-related losses emerge
- Capital Adequacy
 - Long-tail PFAS losses may weaken historical reserving assumptions — especially for run-off books

Mitigation Approaches

- For Active Portfolios
 - Tighten treaty wording around pollution exclusions
 - Include specific PFAS exclusions or sublimits
 - Improve due diligence on ceding companies' historical exposures
- For Legacy Portfolios
 - Conduct PFAS exposure audits across old treaties
 - Explore adverse development covers or loss portfolio transfers (LPTs)
 - Engage claims counsel for interpretation of ambiguous wordings

Future Outlook

What to Expect in the Future

Determining Causation is Complex

- Infancy stage of litigation
- Difficult to determine likely future cost due to unknowns
- PFAS is everywhere – difficult for individuals to make a case

Outlook

- Increase in litigation against additional companies and industries
 - Pursue companies down the supply chain
 - Processors of materials containing PFAS
- Increase in regulation
- Contamination remediation



Final Thoughts and Questions



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Thank You

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