



Collaborating to remove PFAS

Ali Pajooman
Veolia PFAS Program Manager



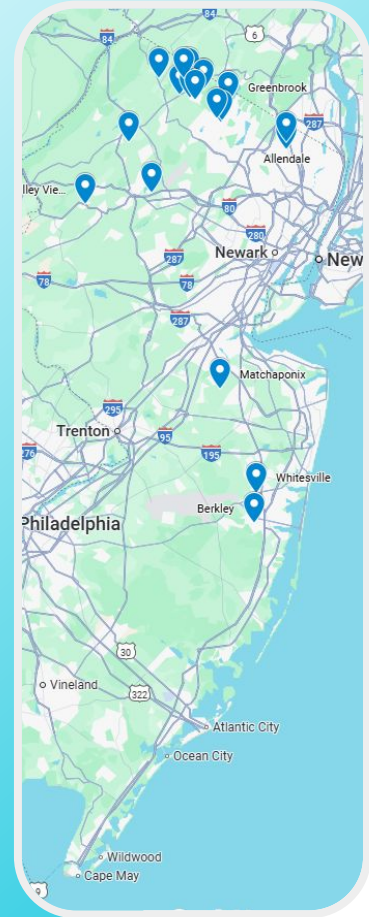
Disclaimer

The information contained herein is based on the Veolia group's understanding and know-how of the scientific, regulatory and technical fields discussed herein as of the time of publication. No contractual undertaking or offer is made on the basis hereof and no representation or warranty is given as to the accuracy, completeness or suitability for the purpose of the relevant information.

The PFAS Journey at Veolia

PFAS TREATMENT SITES

- 10 Sites in service with PFAS treatment as part of the NJ State PFAS MCL in 2020
- 3 Sites with Phase 1 PFAS Treatment in place and in progress towards Phase 2
- 18 Projects currently in design to meet the EPA PFAS MCL in 2029





We foster internal collaboration to help define our path forward



TREATMENT CONSIDERATIONS

- Bench testing of GAC and AIX media
- WQ considerations
- Capex Vs Opex
- Real estate
- Waste water treatment



TECHNOLOGY SELECTION

Assuming water quality is not a factor, waste management and real estate impact are significant practical considerations that affect technology selection.



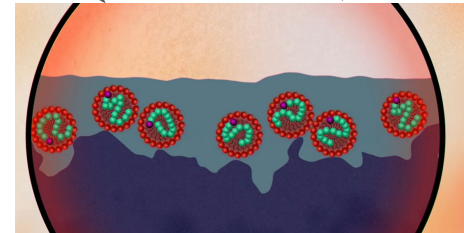
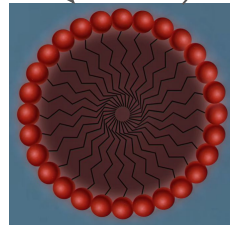
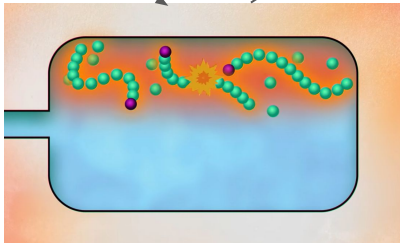
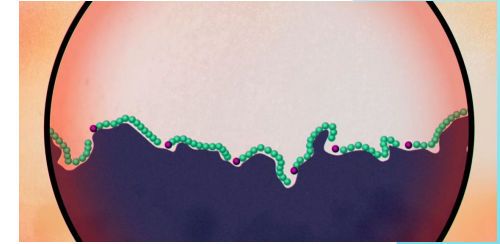
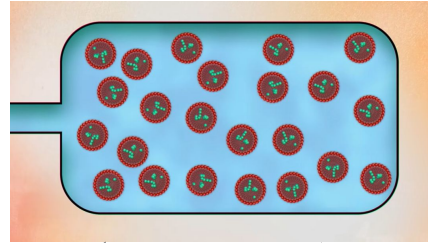
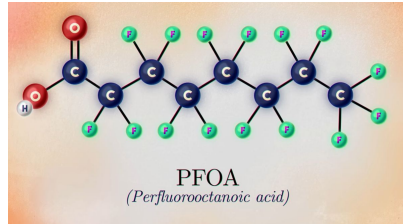
Why do we need to remove PFAS?

How PFOA was first created

Explosion in Arlington Plant Fatal to Two Men

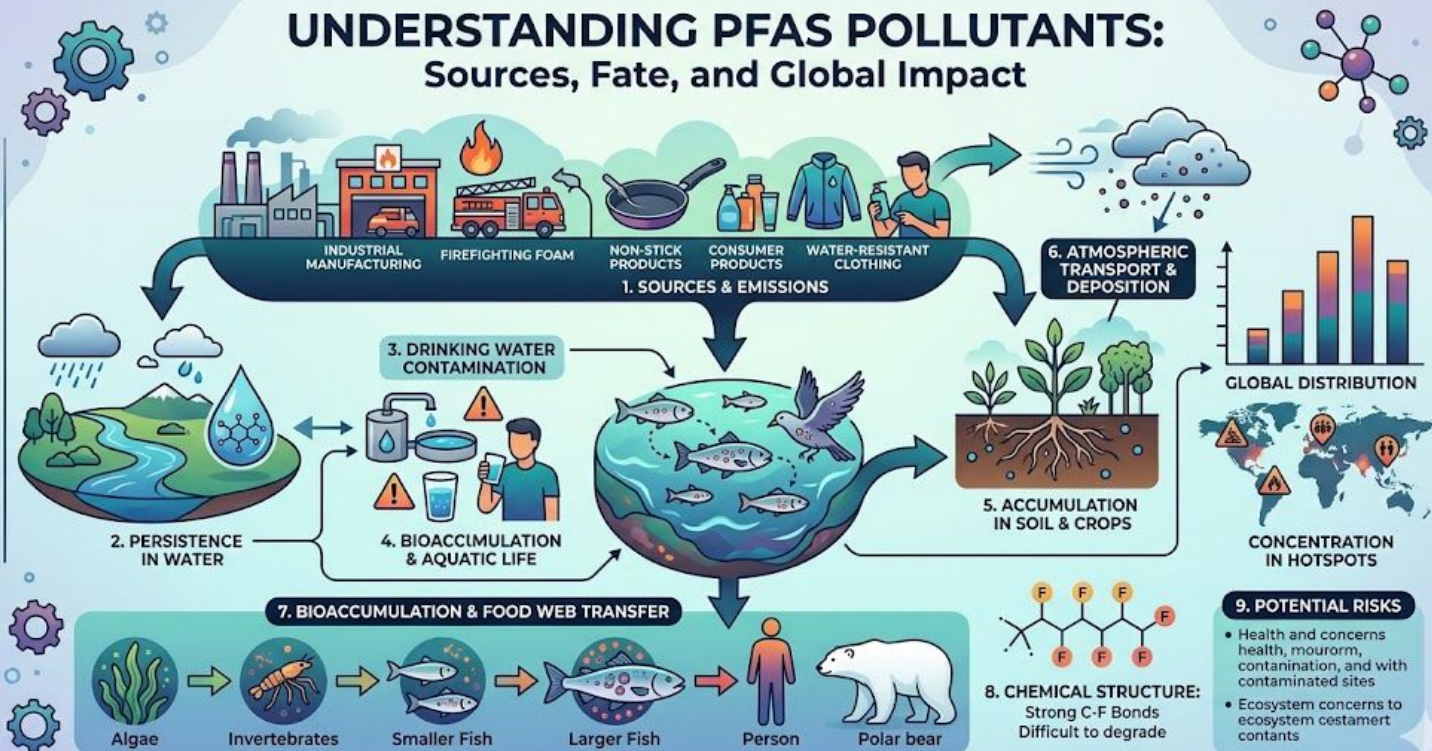
Two men died in West Hudson Hospital, Kearny, N. J., from burns suffered in an explosion of gaseous vapors at 12:55 a. m. today at the plant of the plastics department of the DuPont Company at Arlington, N. J.

The dead men are: William Colan Johnson, 24, of 91 Beech Street Arlington, a shift supervisor, and Stanley Domeraski, 34, of 160 Ivy Street, Kearny, an operator and father of two small children. Johnson was unmarried.

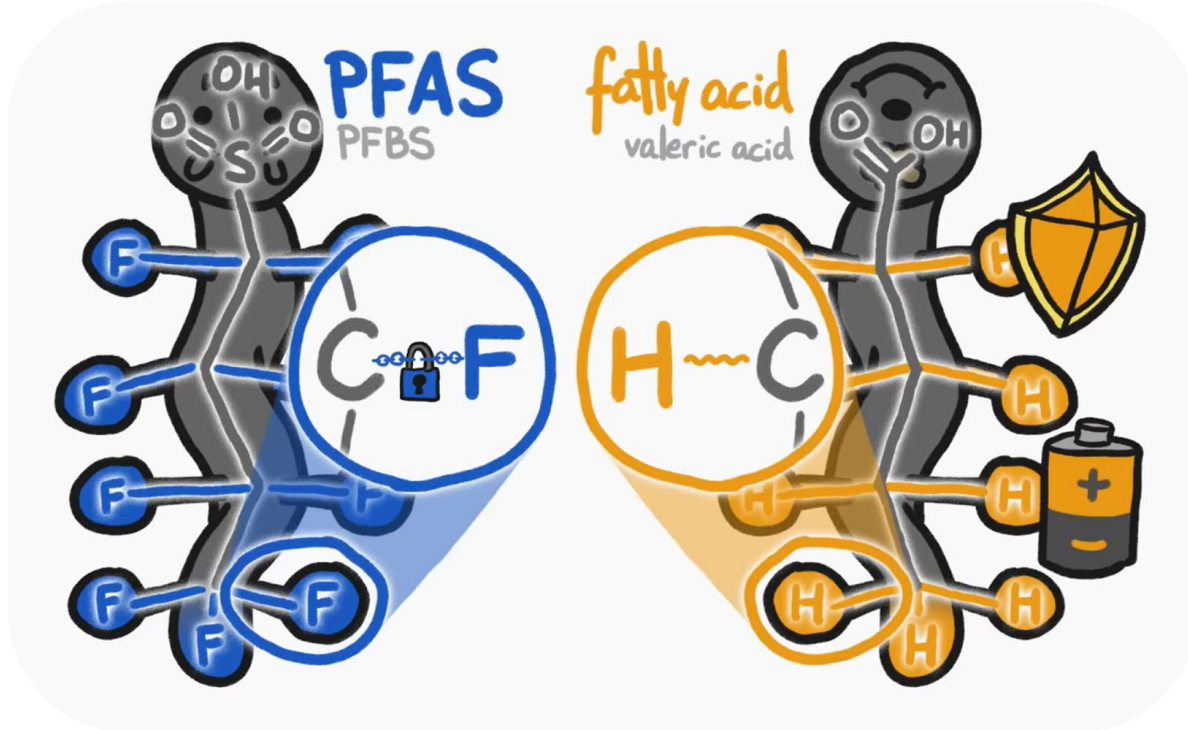


How it became ubiquitous

UNDERSTANDING PFAS POLLUTANTS: Sources, Fate, and Global Impact



WHAT MAKES PFAS HAZARDOUS ACCORDING TO THE NATIONAL INSTITUTE OF HEALTH



Finding The Path

Who is going to pay of this?

3M

Vanguard Group (8.1%)
State Street (6.1%)
BlackRock (5.1%)

AGC

Nomura (5.2%)
Sumitomo Mitsui Trust (3%)
Vanguard Group (2.2%)

ARCHROMA
LIFE SCIENCES

SK Capital Partners
—
—

ARKEMA
INNOVATIVE CHEMISTRY

Norway's Oil Fund (5.9%)
Vanguard Group (2.3%)
Janus Henderson (2%)

BASF

Vanguard Group (2.7%)
Amundi (1.7%)
Norway's Oil Fund (1.7%)

BAYER

Temasek Holdings (3.5%)
Norway's Oil Fund (3.1%)
Vanguard Group (2.7%)

Chemours™

Vanguard Group (12.3%)
BlackRock (11.4%)
Fidelity M&R (6.6%)

DAIKIN

Nomura (6%)
Nikko (2.9%)
Daiwa (2.9%)

DF
DONGYUE FEDERATION

Vanguard Group (1.7%)
Dimensional Fund Adv. (1.7%)
HuAn Fund Management (1.7%)

Honeywell

Vanguard Group (8.8%)
State Street (4.8%)
BlackRock (4.4%)

MERCK

Massachusetts Financial Serv. (5%)
Amundi (3.3%)
Fidelity M&R (3%)

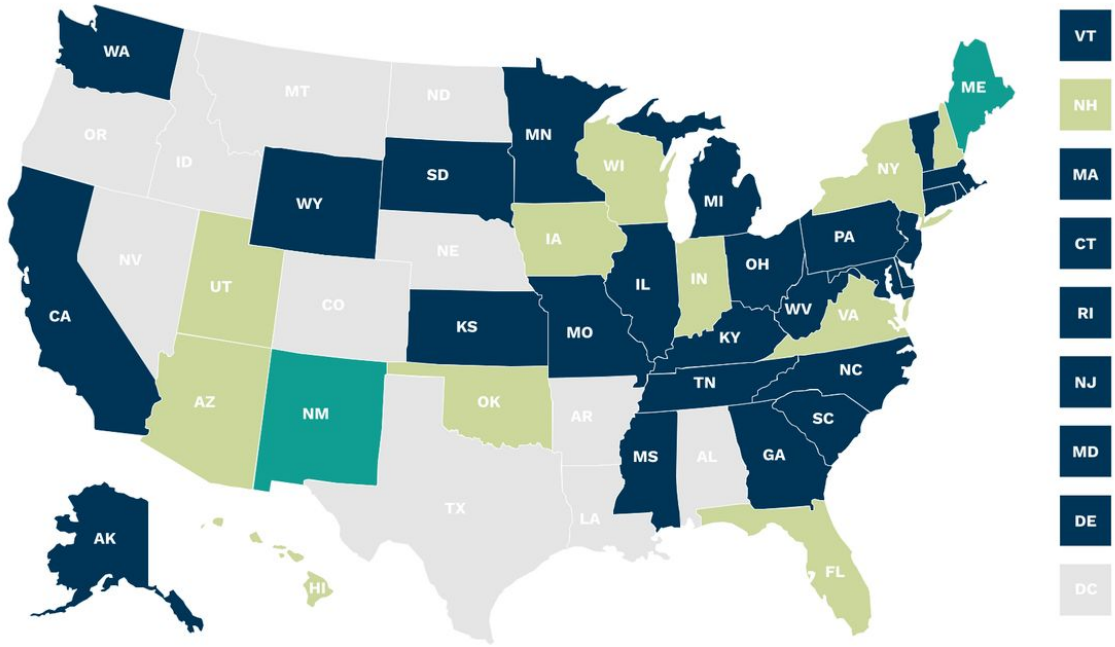
SOLVAY

Vanguard Group (1.8%)
Janus Henderson (1.6%)
Norway's Oil Fund (1.2%)

How do we stop PFAS production?

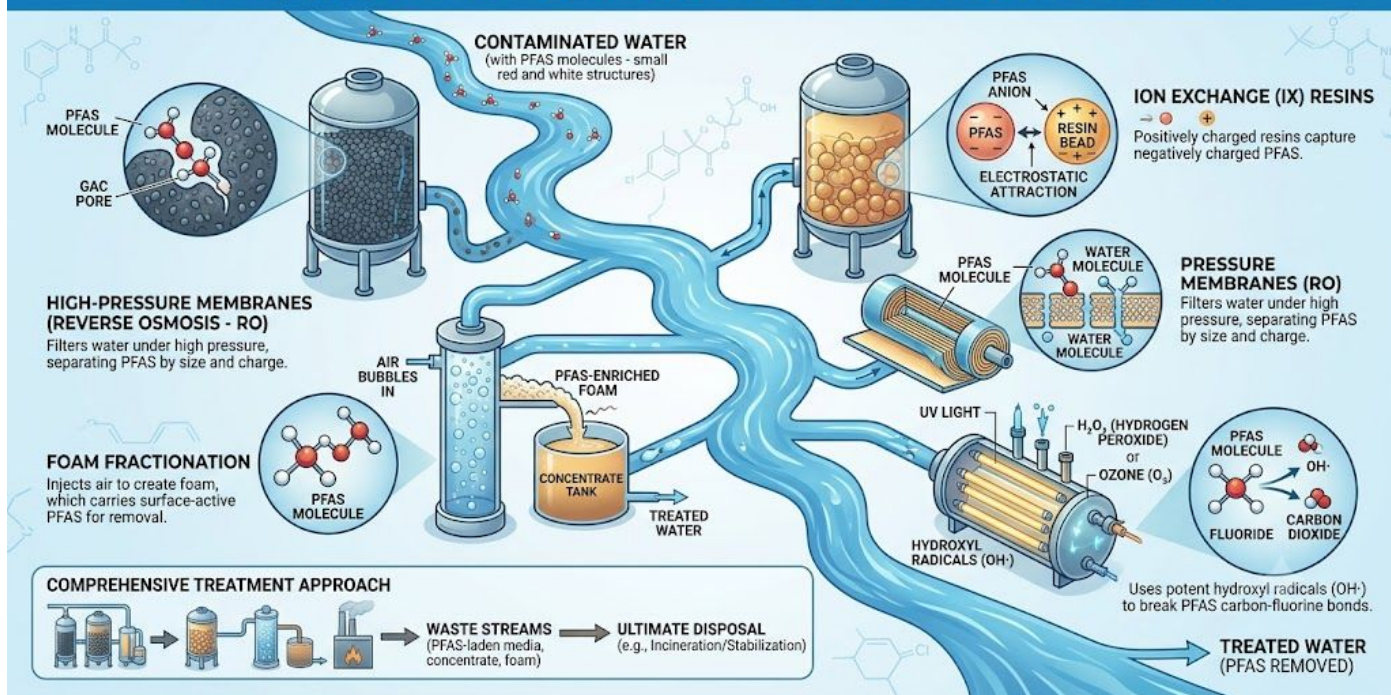
Which states have considered PFAS legislation in 2026?

■ Introduced ■ Passed at least one chamber of legislature ■ Enacted

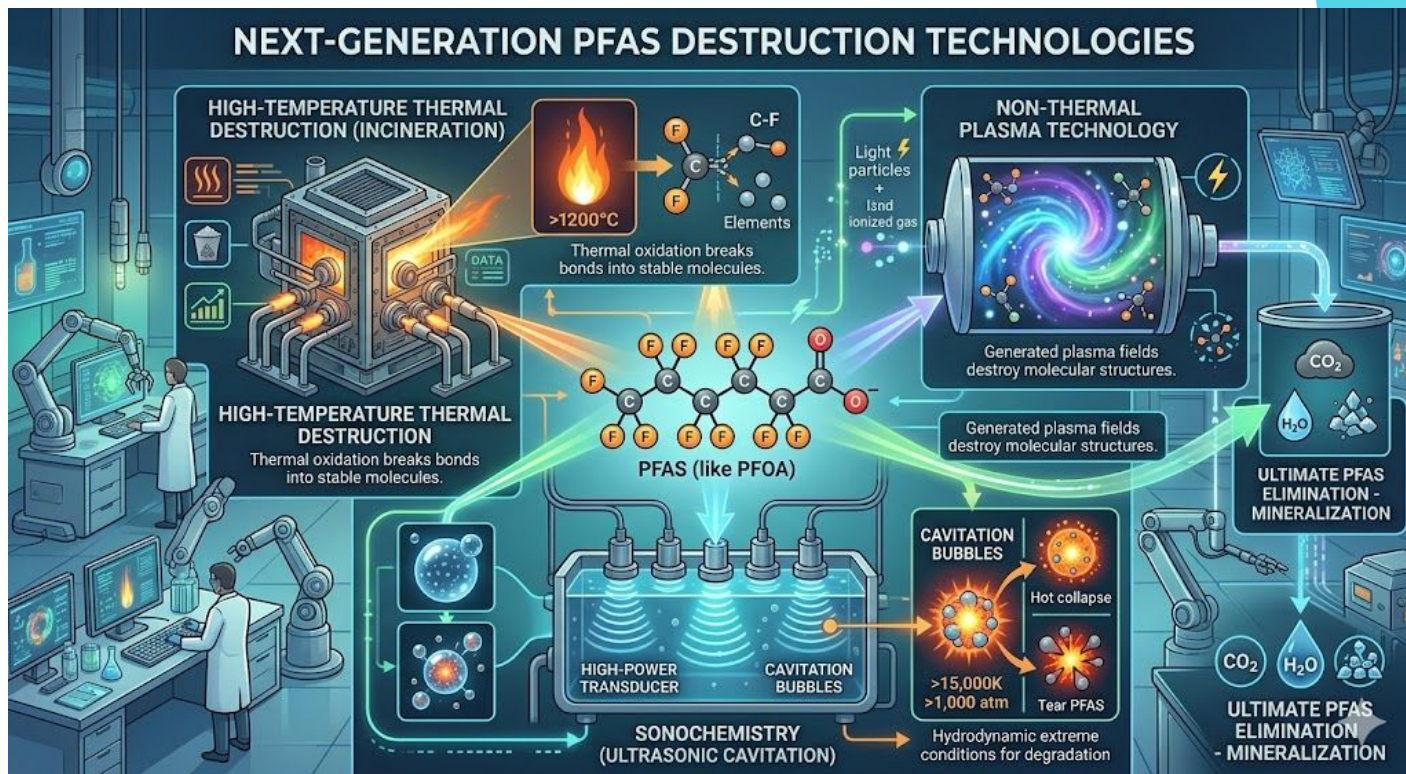


How Do we remove it?

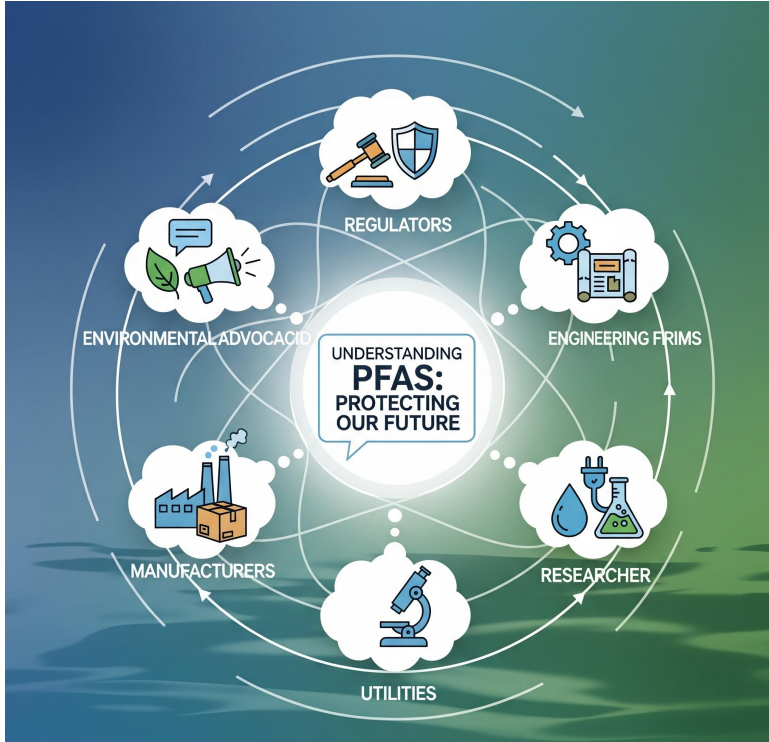
METHODS TO REMOVE PFAS FROM WATER



How Do we remove it?



EVERYONE, EVERYWHERE ALL AT ONCE!



- All Water Utilities
- Same Regulations
- Fixed Timeline
- Fixed Resources
 - Materials
 - Funds
 - Land

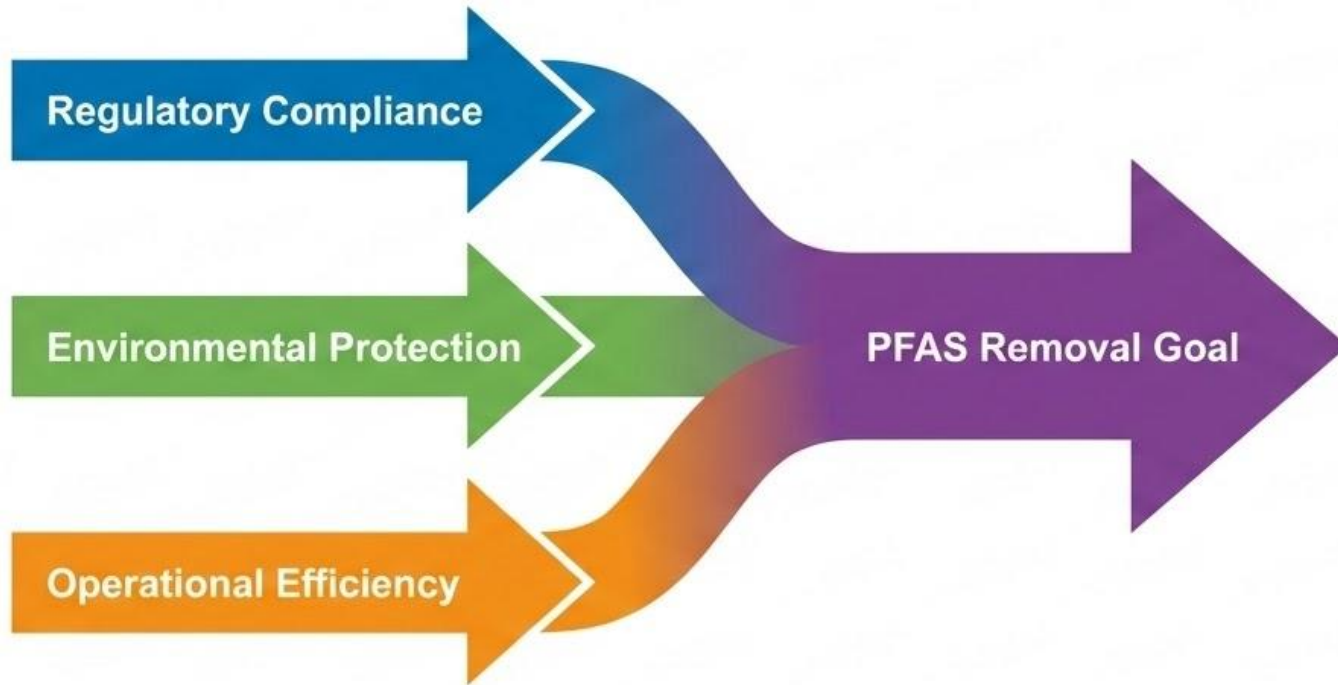
Can lead to a Zero Sum Game

Now what?

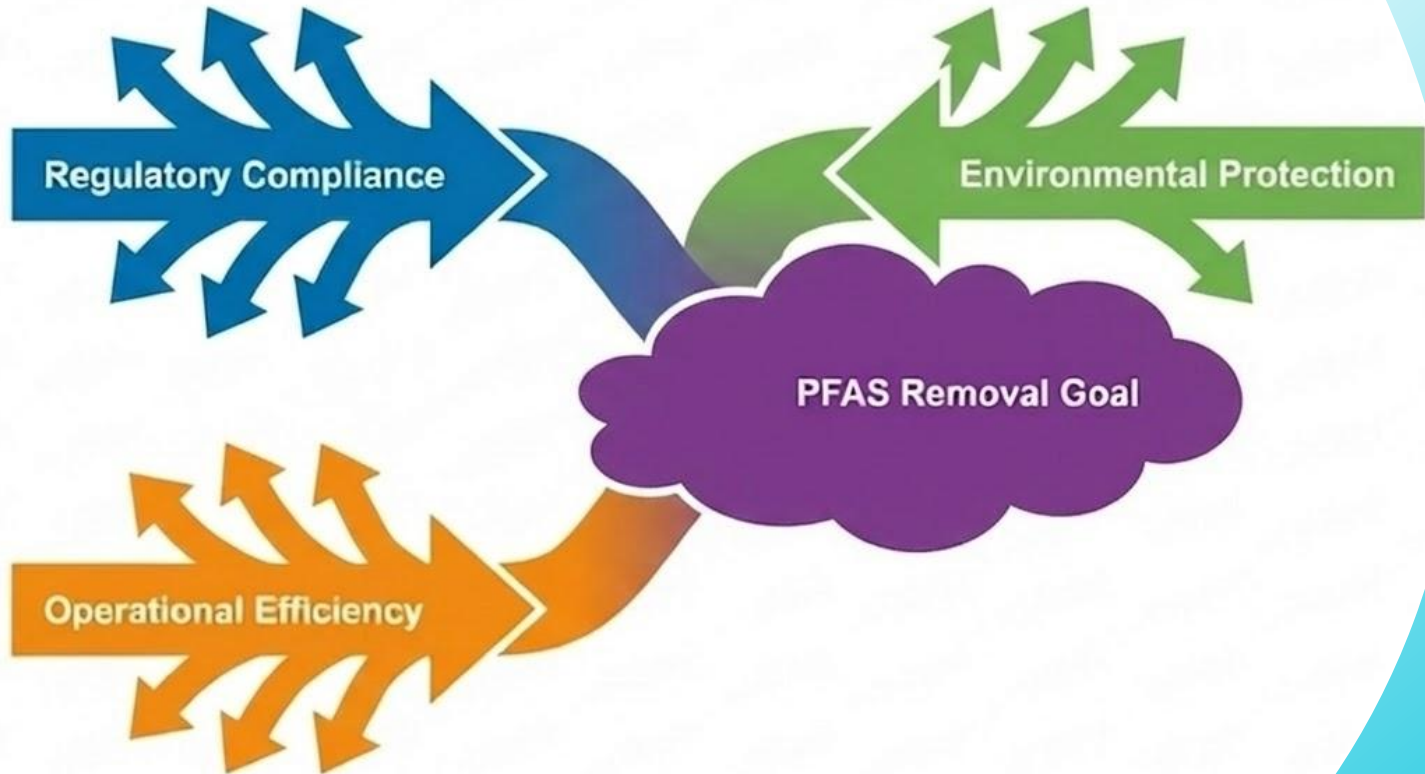


“A compass will point you True North from where you’re standing, but it’s got no advice about the swamps and deserts and chasms that you’ll encounter along the way. If in pursuit of your destination, you plunge ahead, heedless of obstacles, and achieve nothing more than to sink in a swamp, what’s the use of knowing True North?”

ALIGNMENT WITH DIFFERENT AGENDAS?



ALIGNMENT WITH DIFFERENT AGENDAS



TURN OVER EVERY STONE



- You don't know what you don't know
- Bring in your unique perspective
- Look for a different approach
- Seek information
- Agree on a single version of the truth

LET'S COLLABORATE!

Ali Pajooman, P.E.
Senior Program Manager
VEOLIA Water New Jersey, Inc.
Municipal Water
VEOLIA NORTH AMERICA, UNITED STATES

Cell 201-846-7022 / Office 201-514-1552
200 Lake Shore Drive, Haworth, NJ 07641
ali.pajooman@veolia.com
www.veolianorthamerica.com



**Thank
You**

