PFAS

WINNERS AND LOSERS

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Background

- PFAS: per- and polyfluoroalkyl substances
- “Forever chemicals” used in many products
- Studies show PFAS may be linked to harmful health effects, but can’t prove all because there are 15,000+ chemicals within the PFAS group
- PFAS ends up in our drinking water

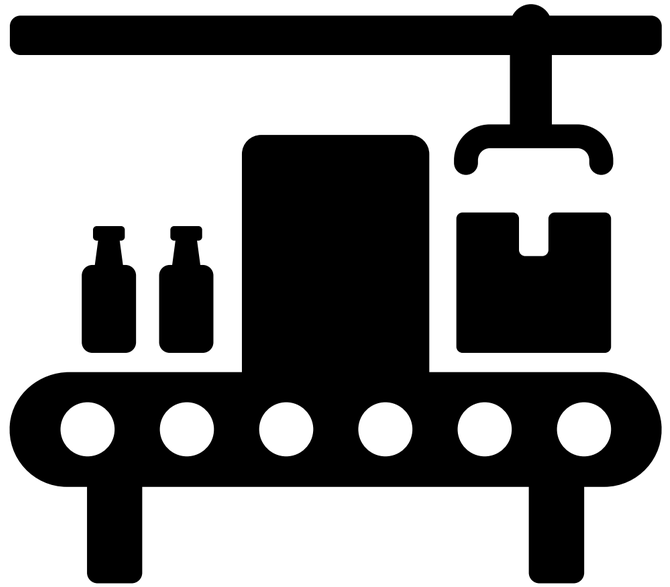
firefighting foam

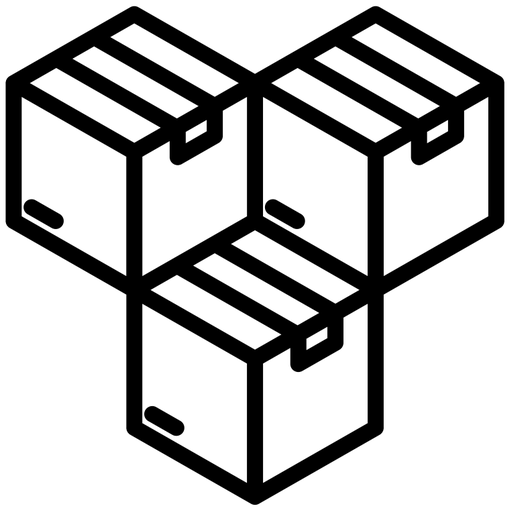
non-stick products

waterproof products

Who Wins?

- PFAS manufacturers:
  - 3M, AGC Inc., Archroma, Arkema, BASF, Bayer, Chemours, Daikin, Dongyue, Honeywell, Merck and Solvay
  - Estimated global profit around $4 billion to all manufacturers
- Producers who use PFAS in their products
- Consumers benefit from cheaper longer lasting products





Who Loses?

- Everyone
- Especially: fishermen, communities near military bases, private well owners, and low-income communities
- Woburn is spending $23 million on a water treatment plant that is projected to come online in July of 2026. Once constructed, “the city will likely never again have to worry about the common forever chemicals leeching their way into the water supply” (Blais, 2025).

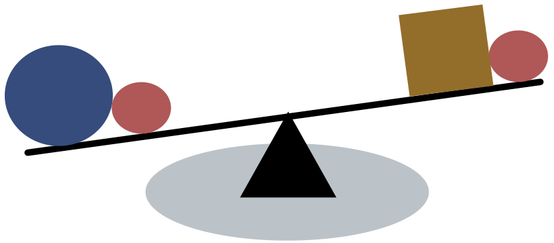
Why can winners impose costs on losers?

PFAS power imbalance in 3 concepts:

- **Informational asymmetry**
- **Unequal distribution of wealth**
- **Ill-defined environmental property rights**

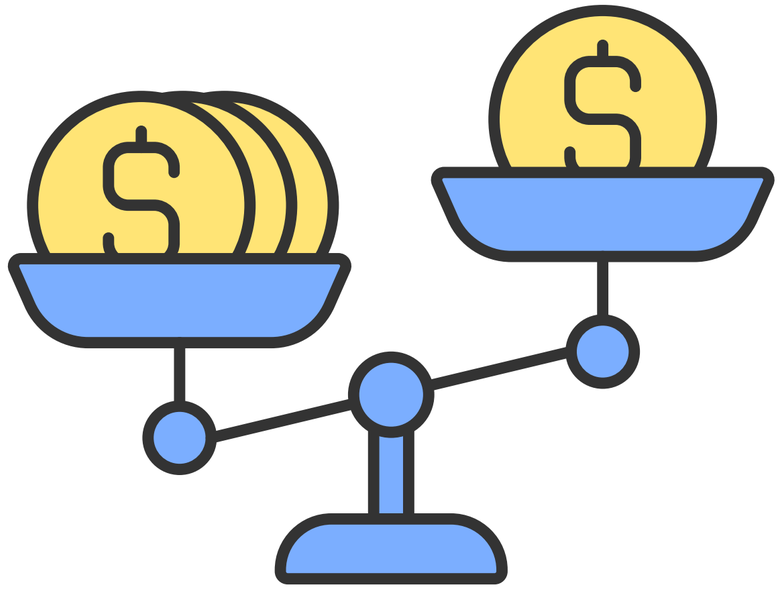
Informational asymmetry

- **Coase Theorem's** assumption of perfect information: without knowledge of the risks, the "losers" cannot negotiate for compensation or demand stricter standards.
- PFAS manufacturers possessed scientific information decades before the public did, and in many cases actively suppressed it. Internal memos released in litigation show companies were aware of toxicity, persistence, and bioaccumulation long before regulators or communities were.
- When the people being harmed don't know they're being harmed, they cannot bargain against the winners.



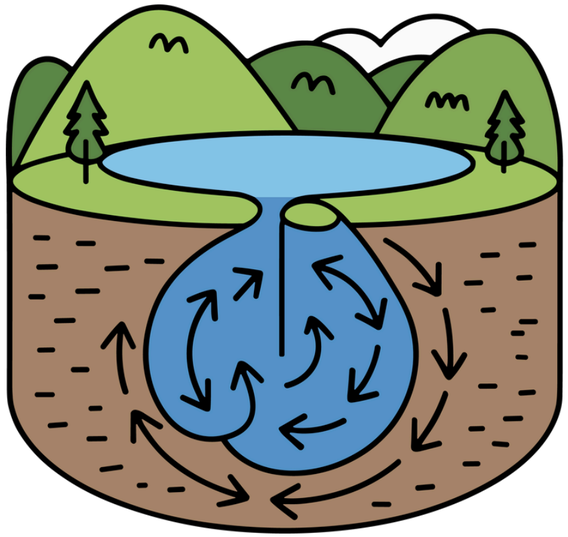
Unequal distribution of wealth

- PFAS manufacturers and industrial users have money for lobbying capacity, legal teams, and political access.
- Communities harmed by PFAS, such as rural private well owners, low-income towns, etc., all lack the money needed to alter regulatory outcomes.
- Result: PFAS producers are able to continue profitable production while communities absorbed the health burdens. This is an example of Boyce's "**pollution is dumped on the poor**" dynamic.



Ill-defined environmental property rights

- **Coase's framework**: If property rights are well-defined and transaction costs low, efficient outcomes can be negotiated.
  - Groundwater and aquifers are common-pool resources: no individual has exclusive rights to protect them.
  - Companies dumped PFAS or used PFAS-containing foams on their own property.
  - Contamination migrated into public aquifers and private wells.
  - The harmed parties have no clear legal mechanism to prevent the pollution beforehand, only expensive litigation afterward.
- PFAS pollution resembles **Hardin's Tragedy of the Commons** problem, where when given open access firms internalize benefits and externalize social costs onto society.



What can be done?

- Ostrom's solution to Boyce's Twin Tragedies: self governance and institutional design.
  - This only works when institutions have enough scientific information to establish Ostrom's 8 design princples.
- PFAS has a clear lack of information, so the best solution is:
  - Command-And-Control (CAC) regulation to stop all PFAS production until enough research is done.
- CAC should be followed for all current and future chemicals as well. If a chemical is mass produced, all of its properties need to be fully understood before its economic value can be determined. In other words, the burden of proof must shift from communities to corporations: industry must demonstrate safety before profit.

THANK YOU

Any questions?