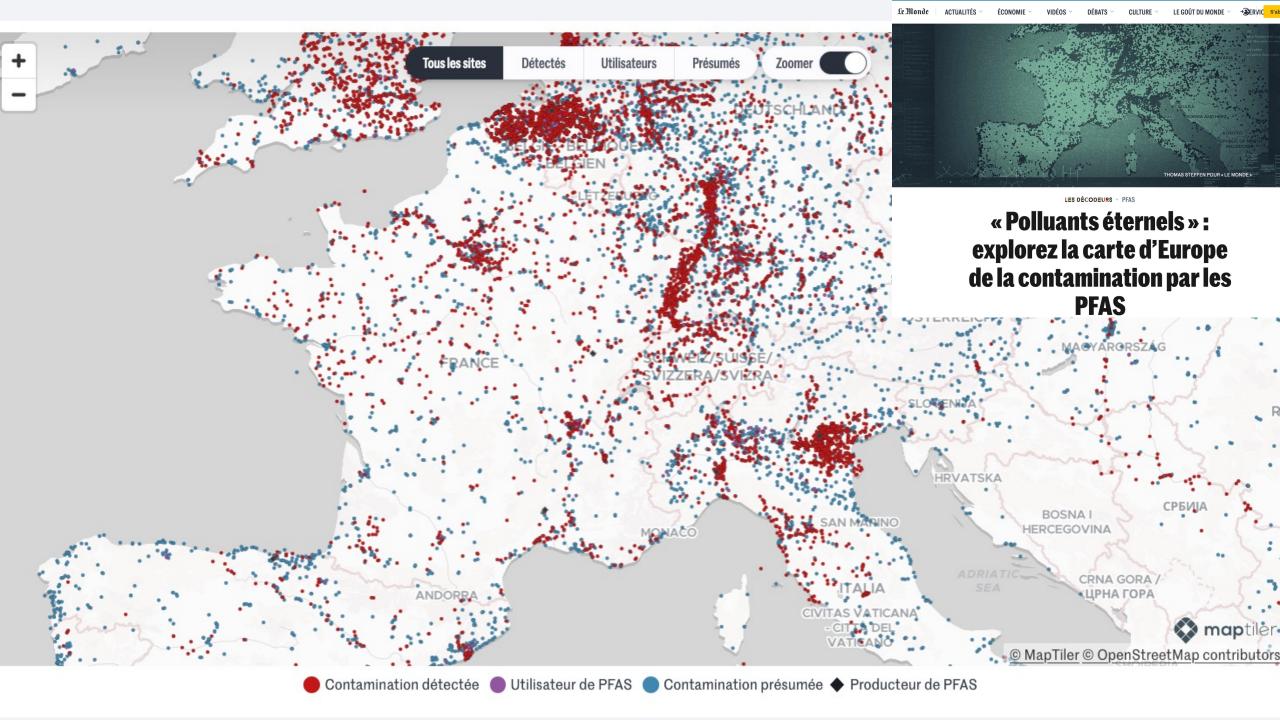


## WHAT WE DO AT CHEMSEC

- Drive the political discussion on hazardous chemicals
- Challenge companies to improve their chemicals management
- Develop online tools to help companies switch to safer chemicals
- Inform investors about risks and opportunities in the chemical industry









## **GLOBAL PFAS CRISIS**

- 17,000 contaminated sites in EU
- Concentrations above the safe levels in the blood of most humans
- Omnipresent in food and water
- Overstepped the planetary boundaries
- Persistency, in combination with many other hazard classifications



Whale vs dolphin. The profits of PFAS are not even in the same ballpark as the societal cost.

PFAS market price: €19 per kg

### True cost\*: €18,374 per kg

\*Including societal costs

ARKEMA

Norway's Oil Fund (5.9%)

Vanguard Group (2.3%)

Janus Henderson (2%)

Nomura (6%)

Nikko (2.9%)

Daiwa (2.9%)

The average market price for PFAS is €19 per kilogram. However, if you include all the societal costs, the real price is something completely different.



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

#### □-BASF

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



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

#### **AGC**

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



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

#### Honeywell

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



SK Capital Partners



Chemours'

#### DAIKIN

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



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



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

## THE PRICE OF PFAS

- Health effects
- Remediation costs
- In total: huge social costs
  - \$16 trillion annually!
- Negative impact on businesses
- Adverse effects on biodiversity

Link to ChemSec research



# THERE CAN BE NO GREEN TRANSITION WITH PFAS

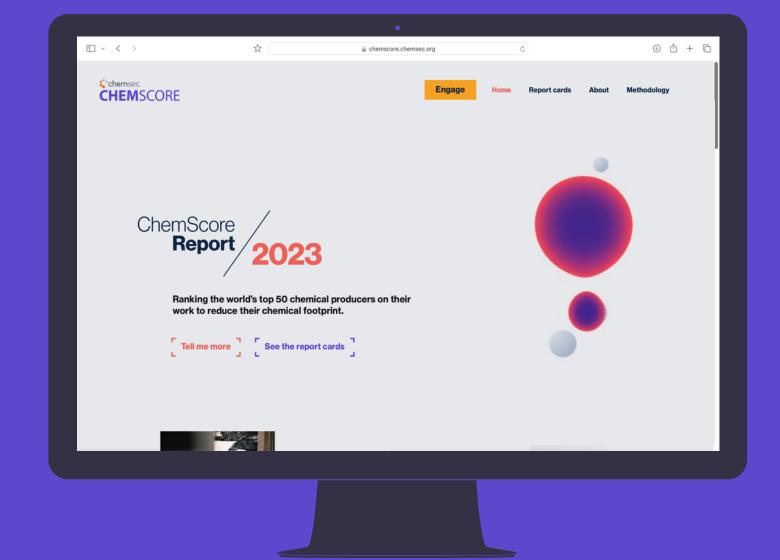
- Only a small part of PFAS uses are attributed to critical uses for society
- For many uses there are alternatives available, or under development
- Derogations for uses give time for development of alternatives
- No transition can be called green if it contributes to the PFAS crisis
- Fluoropolymers and F-Gases are also PFAS



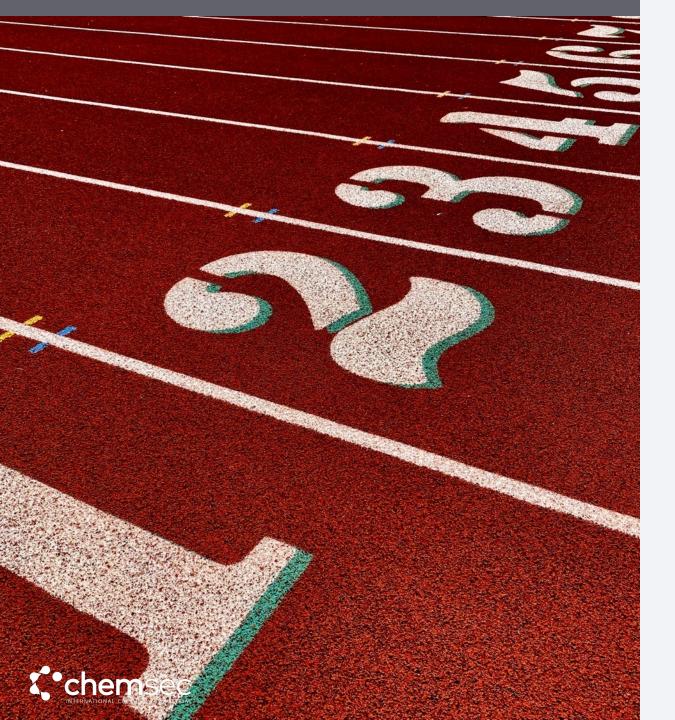
ChemScore ranks the 50 world's largest chemical producers on their efforts to reduce their chemical footprints.

#### Aim:

Investment transfer from worst to the best performers
 Chemical Sector
 Benchmark







## **CHEMSCORE 2023**

- Four points of view
  - 1) Hazardous product portfolio (18 points)
  - 2) Development of safer products (12)
  - 3) Management & transparency (12)
  - 4) Lack of controversies (6)
- Only use public information
- Maximum score 48 points

The aim is to fill the gap in ESG rankings

## **DETAILS CATEGORY 1**

- Production of hazardous chemicals
  - Most hazardous substances + PFAS

- The aim is to highlight financial risk
  - Regulatory risk
  - Future litigations







## **ADDED PFAS FOCUS**

COMPANY	PFAS CHEMICALS
Chemours •	63
3M	54
Solvay	36
AGC •	15
Honeywell •	15
Bayer	13
Daikin •	12
BASF	12
Arkema	10

Companies added in 2023



## CHEMSCORE – DETAILS CATEGORY 2

- Development of safer products
  - Hazard assessments
  - Hazard-based cut-off criteria
  - Biobased feedstocks
  - Recycled feedstock

#### Aim:

Is the company fit for the future?

## CHEMSCORE – DETAILS CATEGORY 3

- Management & Transparency
  - Corporate strategies
  - Circular economy
  - Transparency

#### Aim:

 To see if the management is ready to change







## CHEMSCORE – DETAILS CATEGORY 4

- Controversies
  - Ability to follow regulation
  - Ability to obey own policies
  - Walking the talk

#### Aim:

The control station of practise

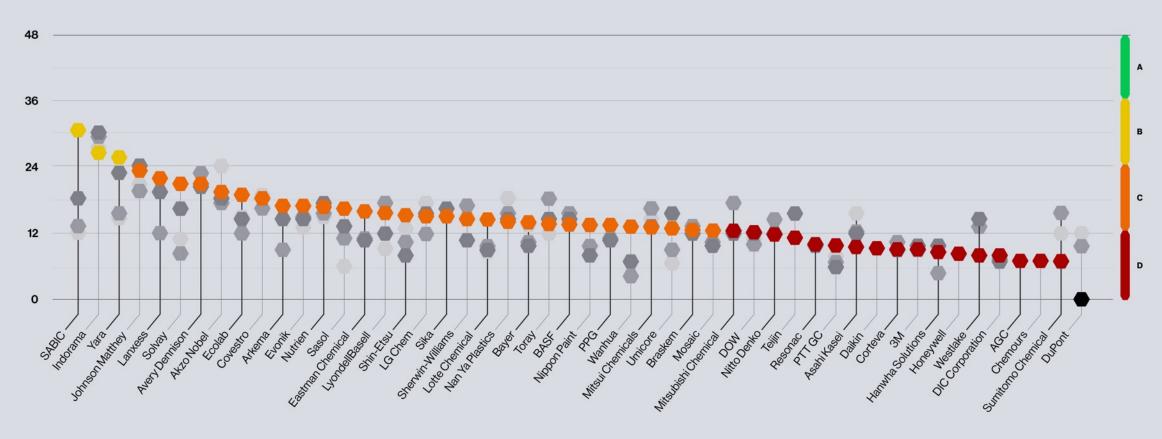
### ChemScore: year to year













### **ChemScore: Europe**













### **ChemScore: Europe**













## ARKEMA'S BUSINESS

- Advanced materials (38%)
  - high-performance polymers, surfactants
- Coatings (28%)
  - resins, absorbents
- Adhesives (25%)
  - sealants, waterproofing products
- Intermediates (9%)
  - thermoplastic polymers and F-gases
- Largest market
  - Industry (28%)
- According to <u>our report</u>, one of the 12 largest PFAS producers in the world.





## 03. SOLUTIONS

'Most of the solutions and materials

we offer contribute to meeting

the sustainable development goals"

## **CHEMSCORE**

**Progress from 2021 – 2023** 

Upward move 9 points – 14 points, now 17 points

**Category 1 Hazard Portfolio** 

15 persistent chemicals (0 points all years)

**Category 2, Safer Alternatives** 

Good product assessment, have biobased and circular products

**Category 3, Management & Transparency** 

Global SVHC disclosure including revenue

**Category 4, Controversies** 

Some PFAS litigations – more to come





## **Arkema**

France



















































































