

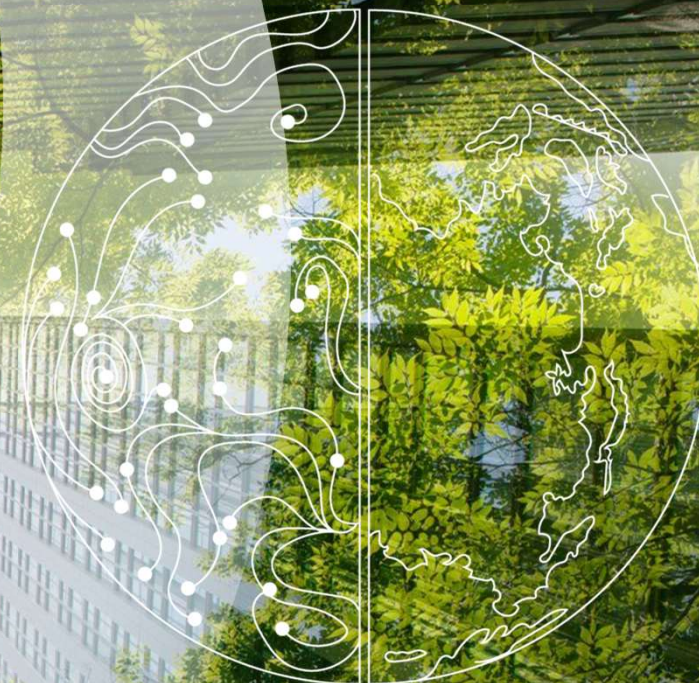
VEOLIA CHEMICAL TRANSITION

STORY & CHALLENGES

13th June 2025 - ISGC

Ismahane Remonnay - Head of Foresight & Alliances

ismahane.remonnay@veolia.com



WHY did VEOLIA initiate its chemical transition pathway program?

KEY STAKES FOR VEOLIA



- **Chemical Pollution and Resource Planetary Boundaries** has passed safe limit
- Chemistry is moving to a “Green and Sustainable chemistry” and “**Right chemistry**”... to support **ONE HEALTH**

THIS IS CHEMICAL TRANSITION

- **Veolia uses and processes chemistry into all its activities, this is part of its core business since 1853**
- The Chemical Transition is a **key driver** of ecological, industrial, and economic transformation
- As a leader in ecological transformation, it is essential to:

Integrate the Chemical Transition in our strategy

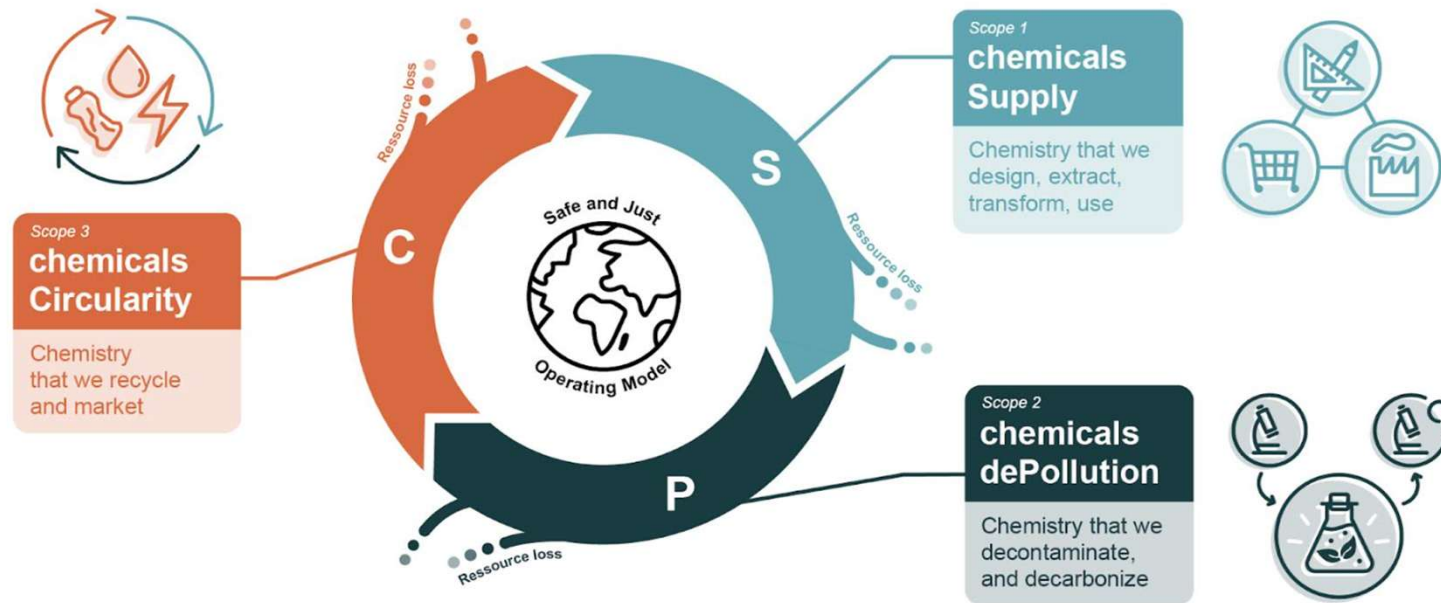
Lead by example and guide our clients

Maintain our market differentiation and position

Protect the Group due to the external perception as an ultimate barrier

Veolia has contributed on the definition of the SPC model

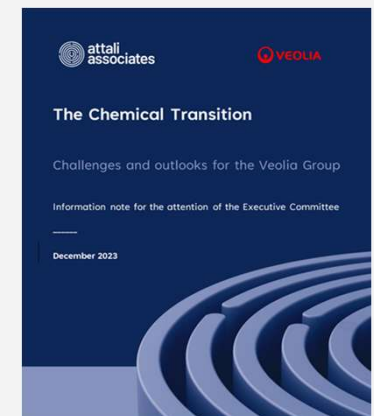
SPC Model, from mining to mining The model for Chemicals Change



TO GO FURTHER ...



<https://www.soscience.org/en/sustainable-chemistry-industrial-transition/>



Veolia is present in each step of the Chemical Transition Value Chain (SPC Model S= Supply - P=DePollution and C=Circularity)

Scope 1 - Chemicals Supply "S"

The Chemistry that we buy, use, design, transform and sell



Scope 2 - Chemicals de Pollution "P"

The Chemistry that we decontaminate and we decarbonize



Scope 3 - Chemicals Circularity "C"

The Chemistry that we recover, recycle and we put on the market



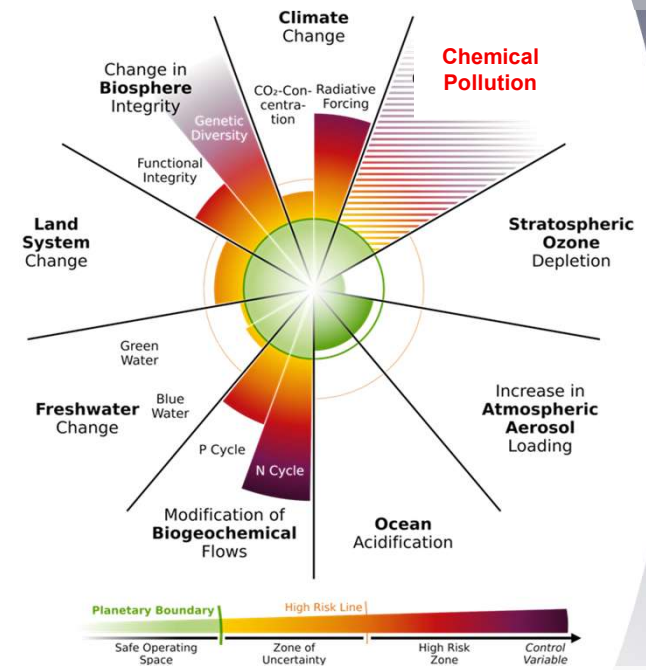
THE DRIVERS

“Chemical Pollution” boundaries has passed Safe Limit The Planetary Boundaries Model 3.0

Chemical pollution has passed safe limit
for humanity, say scientists

Study calls for cap on production and release as pollution
threatens global ecosystems upon which life depends

The
Guardian



Public expect transparency to build trust

Lack of information on substances

1. Chemical pollution is invisible – we work to unveil it

ClientEarth[®]

NO SUBSTANCE FULLY BANNED



A contaminated cooking oil scandal in China has provoked outrage and raised fears over safety

MEDICINE AND SOCIETY

Debra Malina, Ph.D., Editor

Manufactured Chemicals and Children's Health —
The Need for New Law

The Consortium for Children's Environmental Health

U.K. settles novel legal case over girl's death from air pollution

UTILITIES | WATER

Court to decide if £1.5 billion lawsuit against six water companies will go to trial

Talia Lent • September 26, 2024

Water firms accused of underreporting sewage pollution affecting 20m customers now await tribunal's ruling after three day hearing

Tonnes of toxic waste removed decades after gas leak that killed thousands

Shein and Temu products found to contain high levels of toxic chemicals

Authorities in South Korea found that some items of Shein clothing contained carcinogenic substances hundreds of times over the legal limit.

Lego Will No Longer Aim to Use Recycled Plastic. Here's Why.

ENVIRONMENT 12 October 2023 By TINGLONG DAI ET AL., THE CONVERSATION



(Tuomas A. Lehtinen/Getty Images)

Lego, the world's largest toy manufacturer, has built a reputation not only for the durability of its bricks, designed to last for decades, but also for its substantial investment in sustainability.



Occupational Health and Safety with ONE HEALTH objective



BETTER TO BE SAFE THAN SORRY
1 worker dies every 30 seconds
from toxic exposures at work



Tedros Adhanom Ghebreyesus, Director-General, WHO pointed out that health **is created, not primarily in hospitals and clinics, but also in homes, streets, workplaces, and the environment**. He lamented the “preventable tragedy” of over two million deaths annually **from chemical pollution in the air, food, water, homes, and workplaces**.

6 September 2024 - 3rd Berlin Forum on Chemicals and Sustainability

Compliance and regulation

The United Nations Global Framework on Chemicals (GFC)

September 2023 BONN Agreement / FIRST COP November 2025



For a sustainable license to operate FOR ALL - I.Remonnay & M.Herzberg

- “Chemicals researchers are convinced that hazardous chemicals are a global threat comparable to climate change” - Chemsec
- Chemicals play an important role in the everyday life of people around the world. However, they must be soundly regulated to avoid risks to human health and the environment

Access to fundings with investors and insurances commitments



Investor Initiative on
Hazardous Chemicals
Supported by ChemSec

On January 31st 2023, some of the world's largest institutional investors and their representatives – launched a collaborative initiative to engage with major chemical companies regarding management of hazardous chemicals and transparency. The *Investor Initiative on Hazardous Chemicals* (IIHC) encourages manufacturers to increase transparency and stop producing “forever chemicals”.

- **Investors & Insurers are calling for a chemical transition plan**
- 2025 is a cornerstone for Green and sustainable investments
- They select their asset portfolios taking into account the progress of the chemical transition in these companies
- **Pfas are totally excluded from insurance policies ...as a starting point**



TO GO FURTHER ...



SUSTAINABLE FINANCE
Investors launch initiative to tackle
chemical pollution crisis

<https://chemsec.org/investors-launch-initiative-to-tackle-chemical-pollution-crisis/>

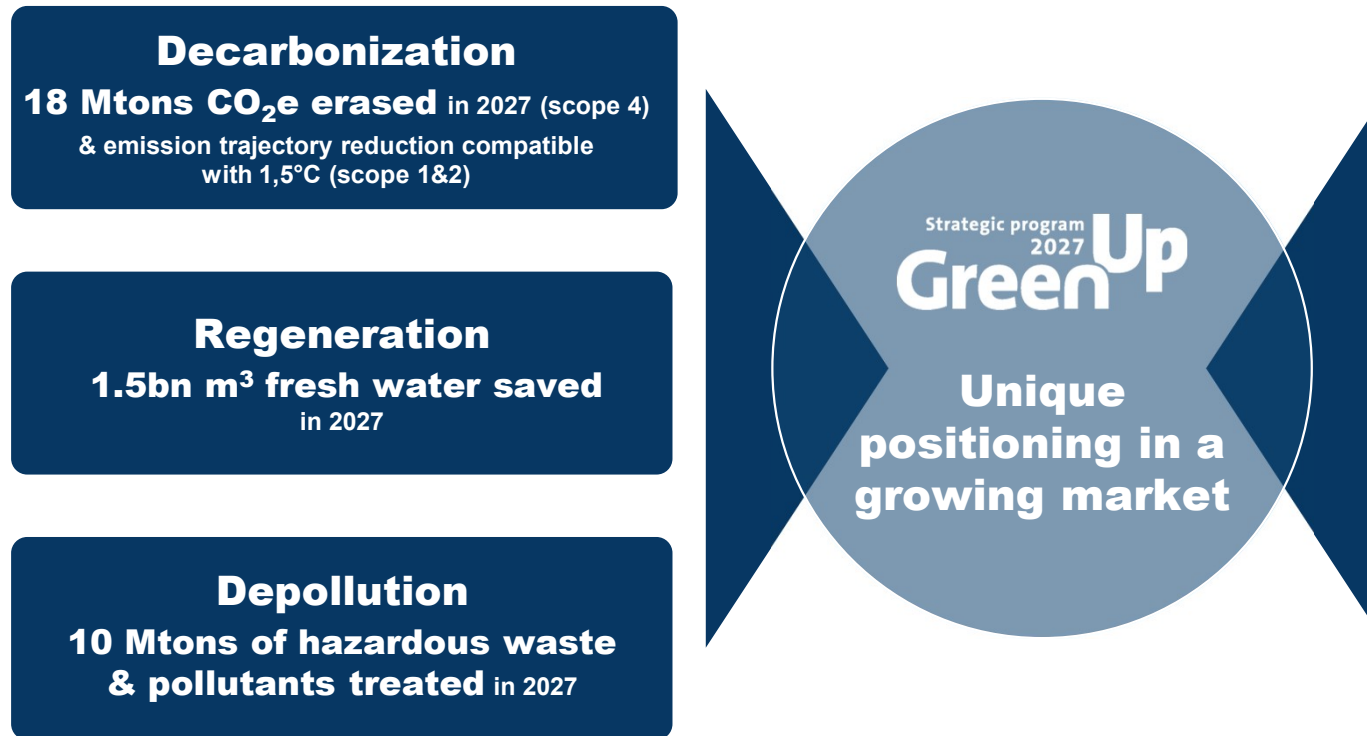
SUSTAINABLE FINANCE

Chemical risk – the biggest financial risk you’ve never heard about

Secure the licence to operate for our clients and Veolia, *and Opportunities for Innovation*

Combining Our Activities To Address Emerging Needs for Transformation

Veolia uses and processes chemistry into all its activities, this is part of its core business since 1853



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Combining Our Activities To Address Emerging Needs for Transformation

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Close to 218 000
employees worldwide



57 countries
on 5 continents



€45,351 million
revenue



WATER



WASTE & RESOURCES



ENERGY



3. Chemical transition pathway Project Design & Examples of Actions

Veolia Chemical Transition Pathway

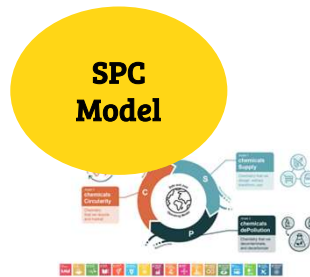
*A project designed by and for **STAKEHOLDERS & VEOLIA***

**Dialogue &
Alliance**
Ally Strategy

Exemplarity
Essentials

**Responsible
Business**
Sustainable Licence to Operate SLO

Partnership - Common Language - Action - Test & Learn - Copy & Adapt



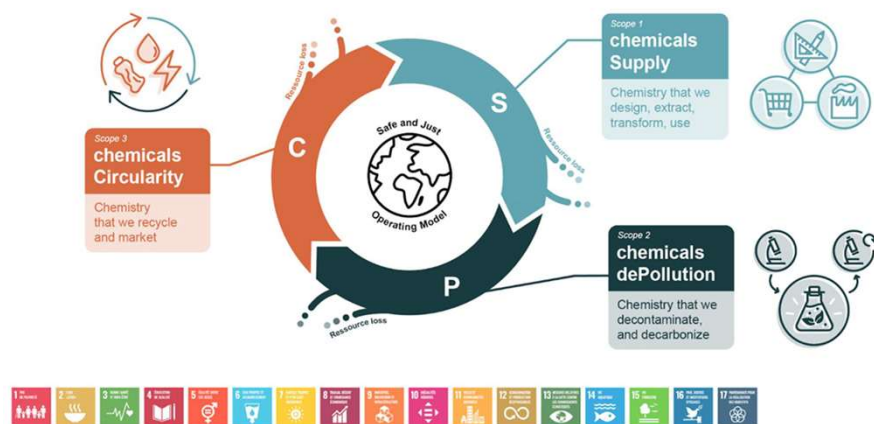
Veolia Chemical Transition Pathway

DIALOGUE & ALLIANCE - A common language?

**SPC
Model**

THE “SPC MODEL” FROM MINING TO MINING

SPC Model, from mining to mining
The model for Chemicals Change



01

SAFE

02

EFFICIENT

03

TREATABLE

04

SUPPORT ONE HEALTH

DEFINITION

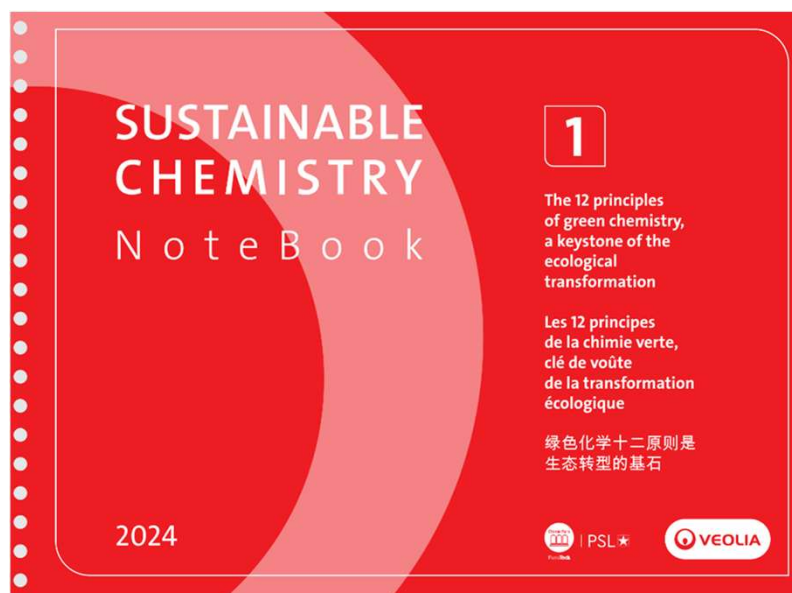
THE “RIGHT” CHEMISTRY ATTRIBUTE

Veolia Chemical Transition Pathway

DIALOGUE & ALLIANCE - A common language?

EDUCATION

Prevention by **TEACHING THE FUTURE CHEMISTS**

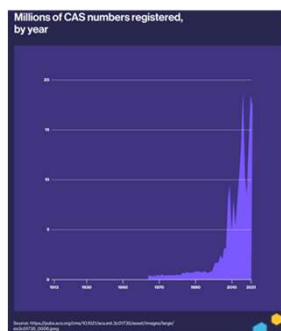


Veolia Chemical Transition Pathway

RESPONSIBLE BUSINESS - Sciences & Technology

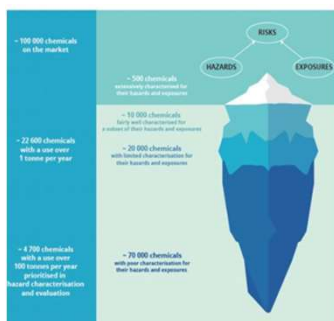
**THE FUTURE
OF MEASURE**

**Information on substance, material and waste is LACKING
THE CHALLENGES OF THE MEASURE & THE FUTURE LABS**



CAS

A division of the
American Chemical Society



300 MILLIONS SUBSTANCES available

30000 substances registered under EU-REACH Regulation

80000 substances registered under US-TSCA Inventory

NO SUBSTANCE FULLY BANNED

< 100 substances analysed in water and waste

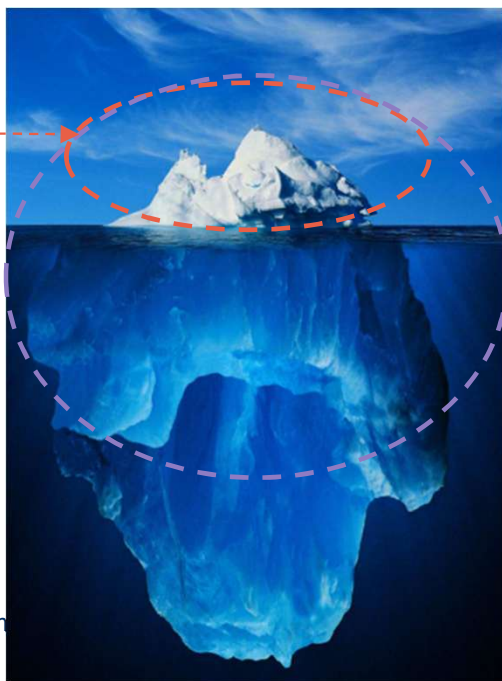
Veolia Chemical Transition Pathway

RESPONSIBLE BUSINESS - Sciences & Technology

THE FUTURE
OF MEASURE

THE CHALLENGES OF THE MEASURE & THE FUTURE LABS *From Target to Non Target Methods - Grouping Approach*

Target Methods



Non Target Screening



Identification of a multitude of chemicals



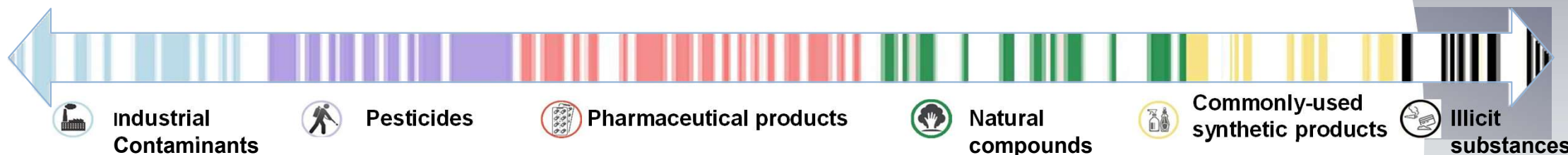
Qualitative / semi-quantitative methods

Veolia Chemical Transition Pathway

RESPONSIBLE BUSINESS - Sciences & Technology

THE FUTURE
OF MEASURE

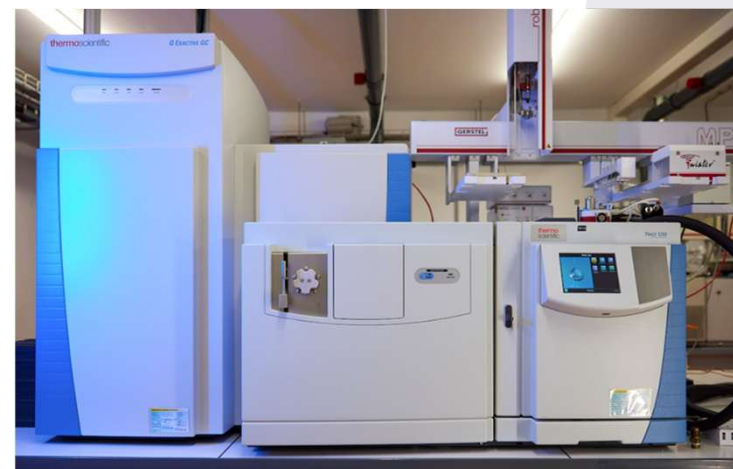
Veolia Database - 5,000 organic compounds
regulated and non-regulated



LC-HRMS & GC-HRMS & GCxGC-TOFMS

Chemical Screening Database CASE STUDIES

- Detect and characterise micropollutants (water, waste, products...)
- Monitor and track changes over time and space
- Evaluate the performance of treatment processes
- ...



The Veolia Analytical network

routine + R&D labs (incl. modelling)

> 300

Laboratories

> 2.5 M

Analysis results / y.

30

Countries

> 2,000

Parameters (850 accredited)
incl. 32 PFAS (water)

Matrices

water, waste, materials, chemicals,
residues from processes (ink, glue, ...)
soil, air, ...

Veolia Chemical Transition Pathway

RESPONSIBLE BUSINESS - Sciences & Technology

**SAFER BY
DESIGN**

DESIGN or REDESIGN Safe Solutions & Technologies



Terion produces **high-purity water** in a **deionized water production process** using **reverse osmosis (RO)** and **electrodeionization**.



Function - Membrane cleaner



Formulation Pollutant of Concern
EDTA - CAS N°64-02-8
*Non-biodegradable
Chelating Agent*



Option

1 Stop Use

No



2 Chemical Switch

No



3 Formulation Switch

BRAINSTORMING

You've heard from us — now, your voice matters

- 1 What further actions are required from Veolia and others?
- 2 How it creates business and growth ?
- 3 What are the priorities for you?
- 4 *Green, Sustainable, Advanced, Essential Chemistry to the **RIGHT CHEMISTRY? The Definition?***

Resourcing the world  **VEOLIA**