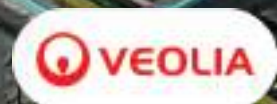
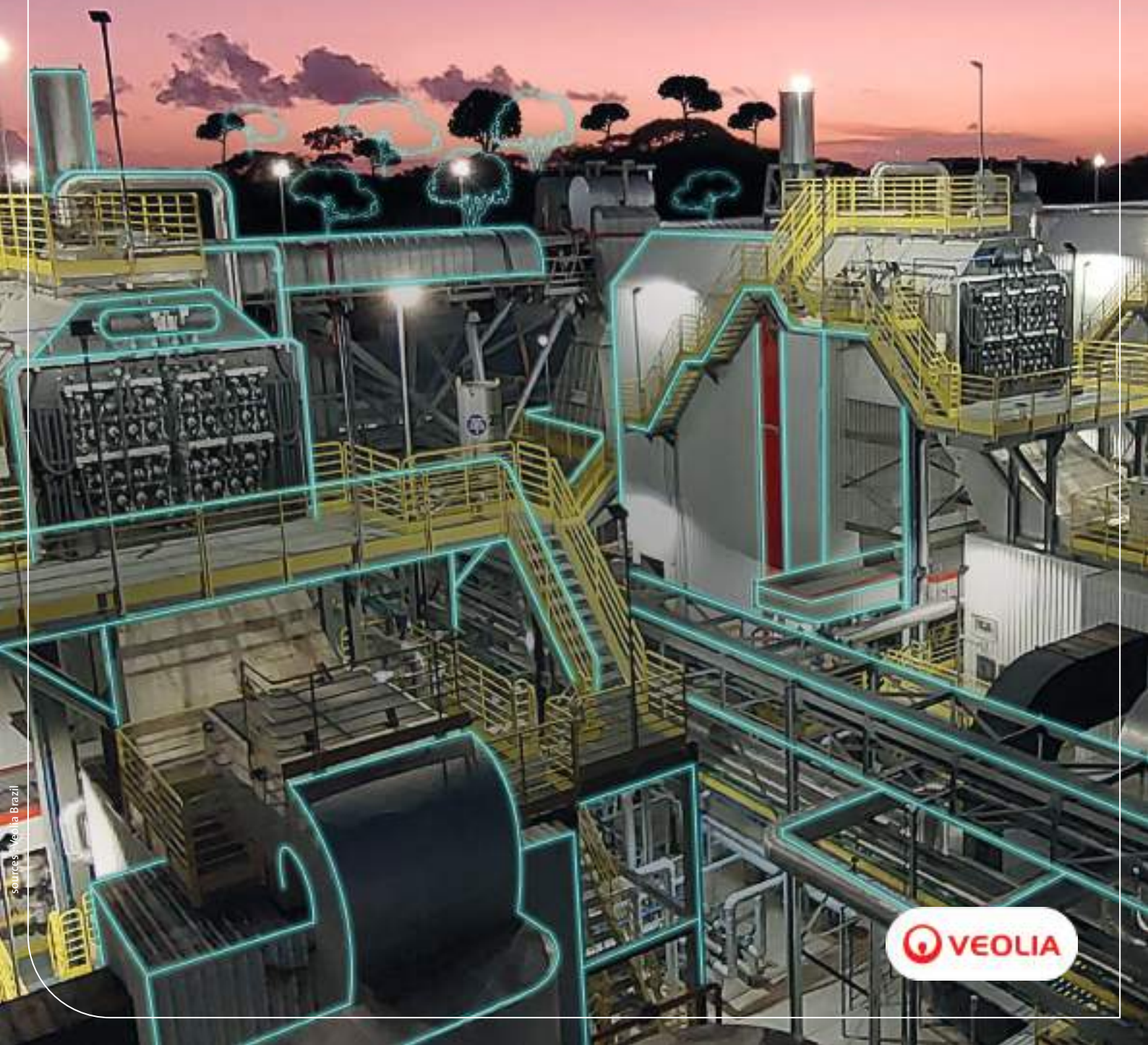


ACHIEVING THE SUCCESSFUL ECOLOGICAL TRANSFORMATION OF YOUR INDUSTRY TOGETHER



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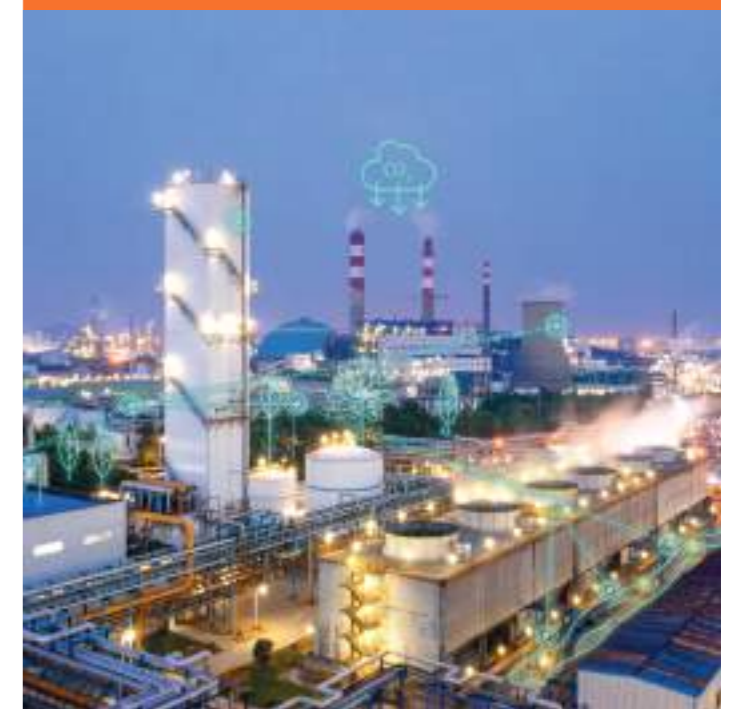
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the world of tomorrow
with you

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EDITORIAL



Let's build together ever greener and more efficient industries.»

A greener industry is possible!

Heat waves, storms, floods, water shortages, forest fires, coastal erosion... the effects of global warming are hitting territories hard and raise the inevitable question of their adaptation. This major challenge raises significant questions about long-term planning and investments, as well as addressing the expectations of consumers and investors, but it's also an opportunity for companies to reinvent themselves.

Because a greener, more resilient, and ever-more performant industry is possible, at Veolia, we help companies deploy all the solutions to imagine together the industry of tomorrow.

From waste recovery to wastewater reclamation, through optimization of energy efficiency and the entire water cycle: our tailored and integrated solutions are a powerful ally in reducing companies' environmental footprint while improving their performance.

Since its creation 170 years ago, Veolia has established itself as the world champion of ecological transformation, rethinking how resources are used to reconcile human progress with respect for ecosystems and always supporting industrial challenges.

Today, we have over 218,000 employees, mobilized daily across the world. This local presence and our ability to combine each of our three business lines are a significant asset in supporting our clients. As an environmental industrialist, we put our expert knowledge and innovative technologies at your service to support you in deploying your roadmaps towards a decarbonized, depolluted, and more resource-efficient industry.

We have placed at the heart of our GreenUp 2027 strategic program the commitment to seek with you the most efficient solutions to mitigate the environmental impacts of your activities, while preserving your company's economic performance, your employees' well-being at work, and the quality of relationships with all stakeholders. And the results are there! In 2023, 15.5 million tons of CO₂ were erased from our clients' carbon trajectories, and we aim to increase this figure to 18 million tons by 2027.

Ecological transformation is therefore within reach. It involves concrete, affordable solutions that have proven their worth. Because each industry has its own challenges, the solutions to be implemented must necessarily be imagined hand in hand with companies. The result is a carbon-neutral industry, rich in opportunities for recovery and reuse, and more resilient, able to adapt to the impacts of climate change, increasing pressure on resources, and potentially unstable geopolitical contexts.

Around the world, Veolia puts its teams, solutions, standards of excellence, and multi-faceted performance approach at your service to make you an actor in your ecological transformation. So, together, let's build an ever greener and more efficient industry.

**With GreenUp,
Let's make the future desirable together!**

Estelle Brachlianoff
CEO of Veolia

1. DISCOVERING

new opportunities for your industry



Changing your perspective with Veolia

The management of your industrial sites offers multiple "opportunities", provided that you do not consider your industrial utilities as autonomous issues, but rather as elements that fit into a broader environment.

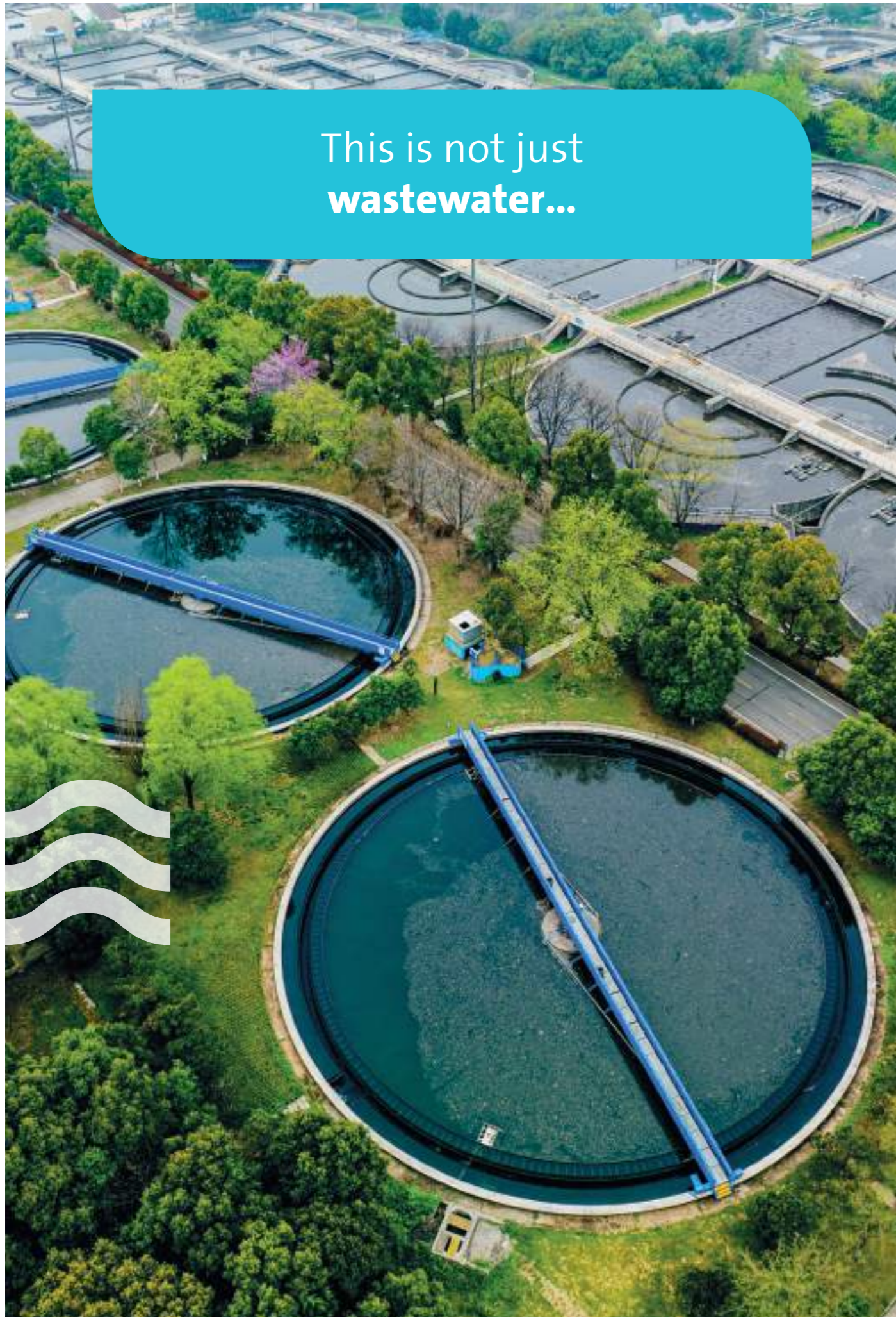
As an expert in ecological transformation, Veolia relies on a wide range of concrete solutions and our constant capacity for innovation, to help you identify a number of opportunities for transforming your industrial sites.

Evolving your perspective means transforming your industrial utilities into growth opportunities. Your site does not only produce effluents and waste to manage that need to be eliminated. It offers materials that can be transformed into new resources, such as sustainable and local green energy, secondary raw materials etc.

Evolving your perspective also means reducing resource tensions through local synergies, by creating circular loops of economy, which, in addition to their environmental benefits, help to secure your supplies and develop your independence from the markets. Veolia supports you on your path towards a greener industry by helping you preserve natural resources as much as possible, by considering all material flows as potential resources, and by creating new local supply streams.

By combining its complementary expertise in water, waste, and energy, Veolia offers efficient and innovative solutions to optimize your resources, in an economically, environmentally, and socially sustainable approach.

Together, let's take action to combine a strong commitment to the environment and the performance of your industrial site.



This is not just
wastewater...



...but ultra-pure water resources
for microelectronics.

VEOLIA PARTNER FOR 40 YEARS OF THE
SEMICONDUCTOR INDUSTRY



ULTRA-PURE WATER PRODUCED

15 Billion
m³



20
countries



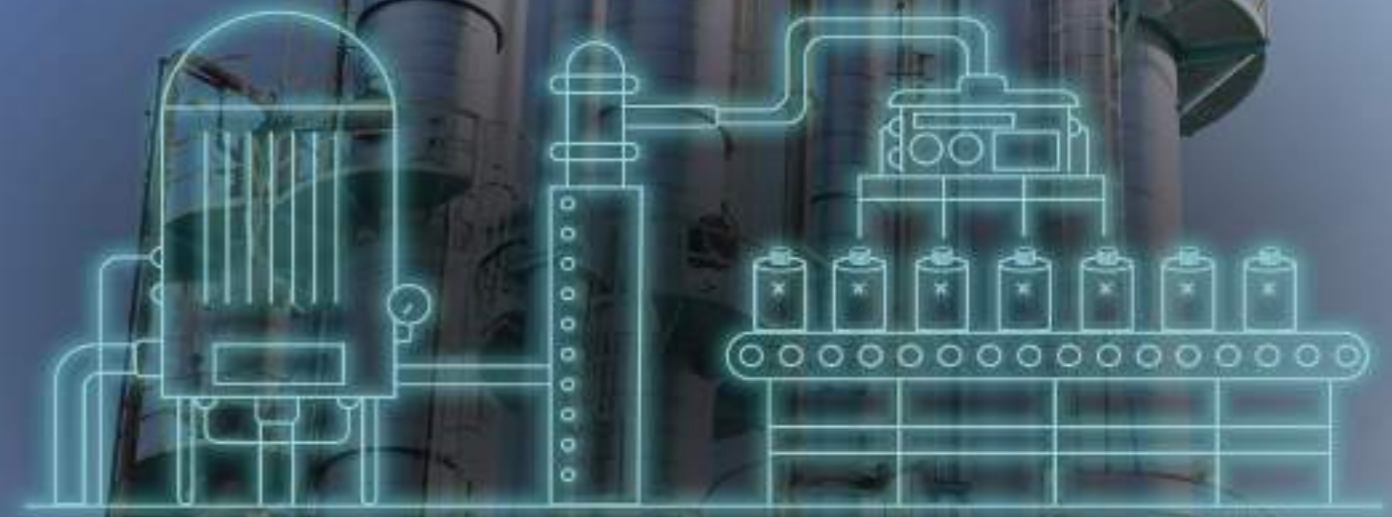
INSTALLED CAPACITY

56,900 m³
/hour

This is not just
hazardous waste...



...but a basis
for new solvent.



52,000 tons of recycled solvents produced

USA AND CANADA

EUROPE

ARGENTINA



EMISSION
REDUCTION



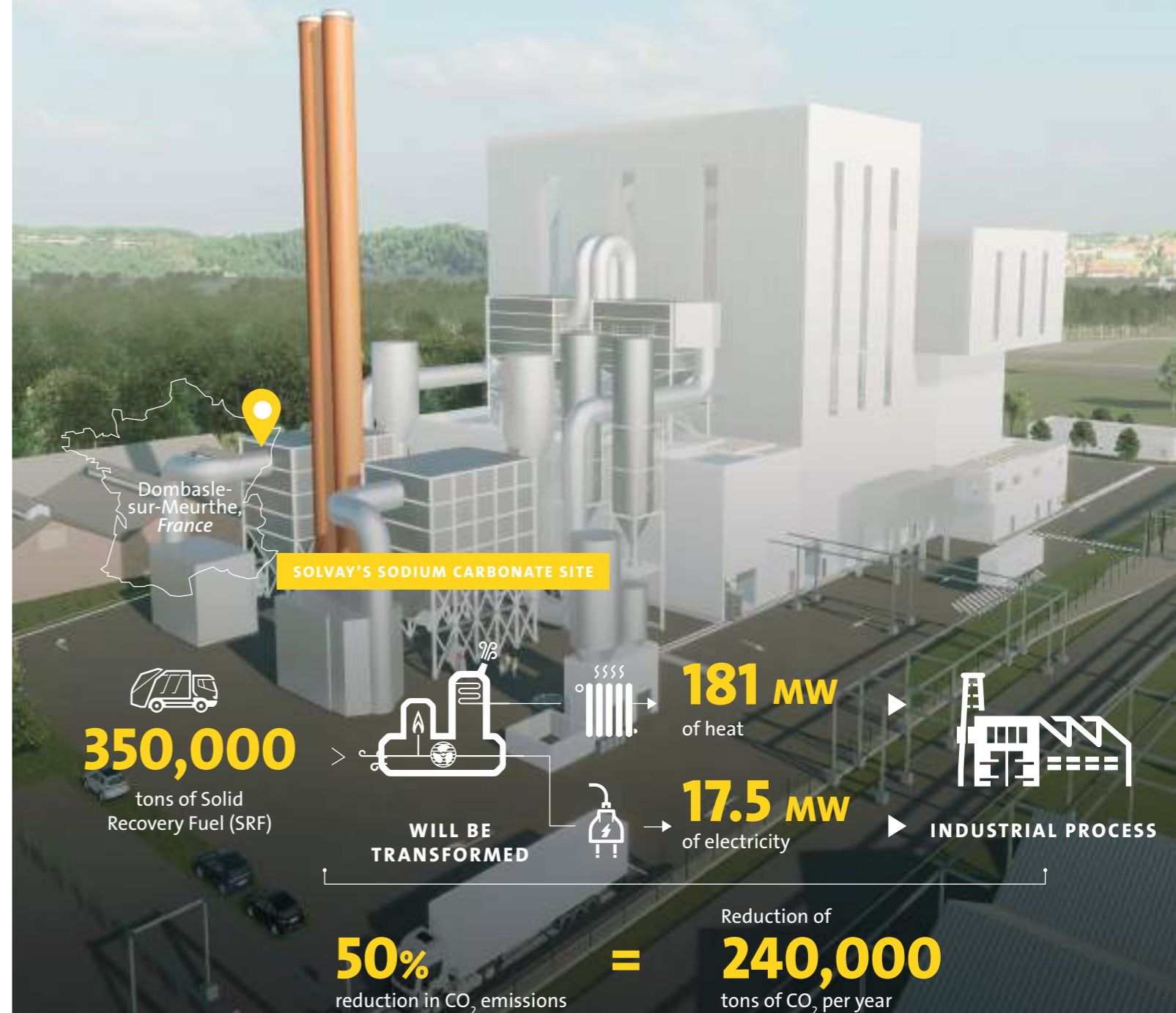
6.6
times fewer tons
of CO₂* on average
than virgin solvents

*non-chlorinated solvents

This is not just
waste...



...but fuel
to produce green energy.



2. SHAPING

the ecological transformation
of your industry together



Open up a world of possibilities with Veolia

As an environmental industry leader, Veolia supports you in the implementation of actions in line with your transformation trajectory. Our approach aims for multiple performance, taking into account economic, financial, human and environmental challenges.

Our proven, reliable and competitive solutions in the fields of water, energy, and waste help you progress in reducing the environmental impact of your activities.

Our innovative technologies allow us to reduce the carbon footprint of your sites and to bring them into compliance with increasingly strict emission standards.

Your processes thus become more sober, more economical in fluids and raw materials. Your industrial sites thus gain resilience in the face of climate change and independence from market volatility.

Your industrial sites become less polluted, more pleasant for your employees, and better accepted by the local communities.

Our technologies allow you to generate positive impacts in terms of budget, environment, society, and image.

Veolia is thus able to support its industrial partners on a transformation trajectory that contributes to preserving the environment, creating value, and renewing economic models in the service of sustainable growth.

We can support you on all continents, thanks to our international presence.

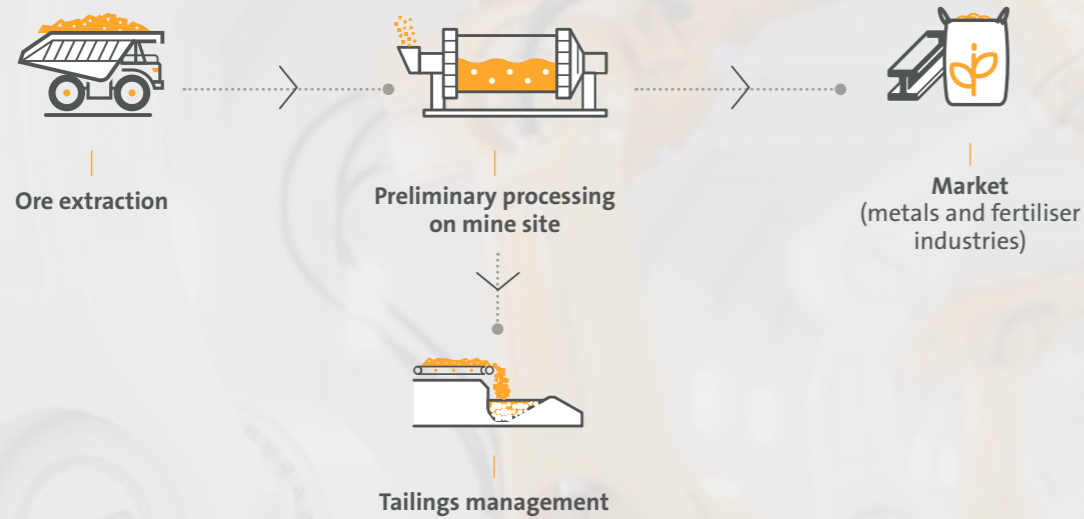
The transformation of your industrial sites does not restrict you, it opens up a world of possibilities.

VEOLIA SUPPORTS INDUSTRIES THROUGHOUT THEIR VALUE CHAIN

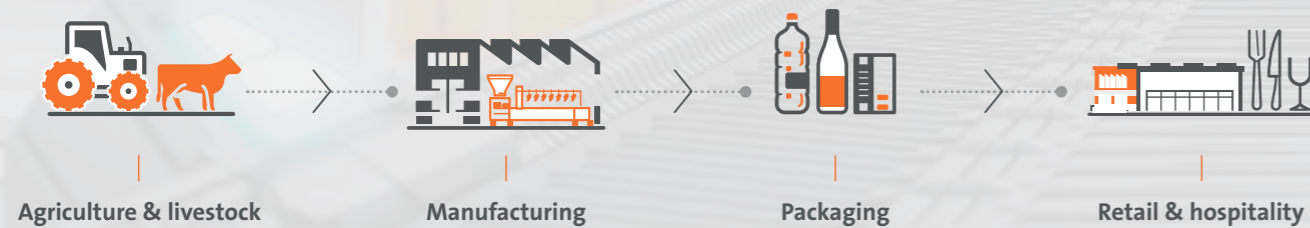
We support clients at different levels of the value chain of the markets in which we operate. This is a real added value for you, especially in a process of reducing your environmental footprint across multiple scopes: direct greenhouse gas emissions emitted by the company (scope 1), indirect emissions and energy-related (scope 2), all the company's indirect emissions (scope 3); even the measurement of avoided emissions (scope 4).



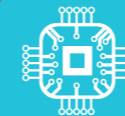
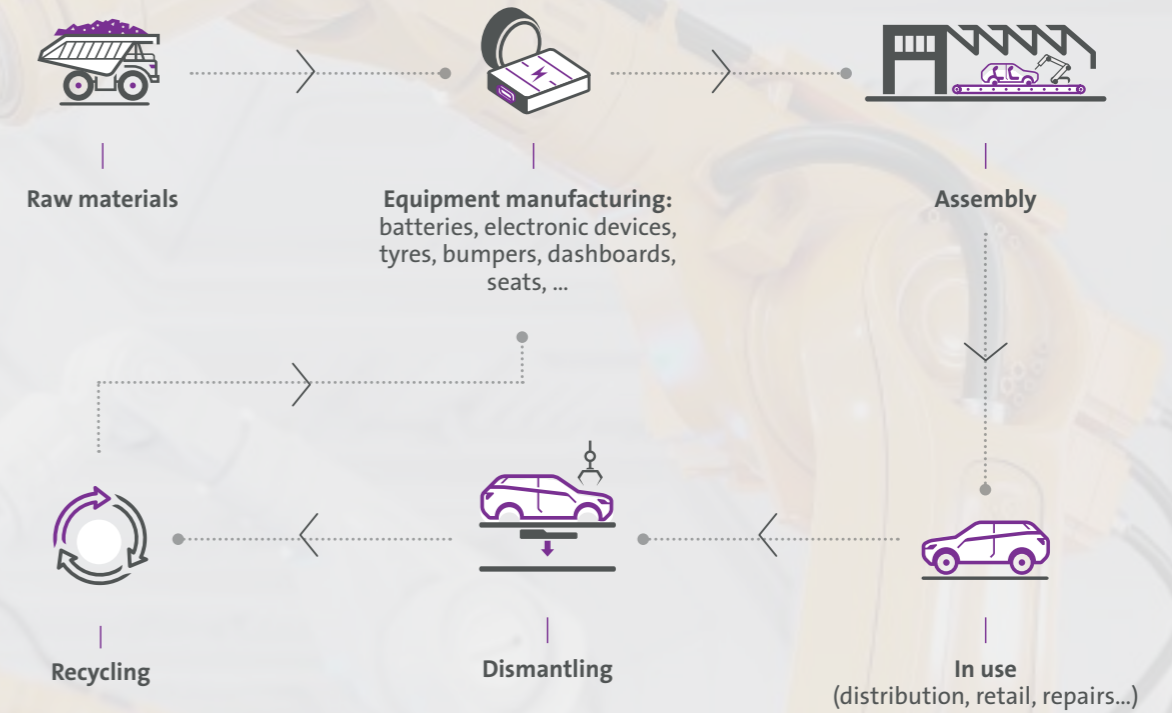
MINING



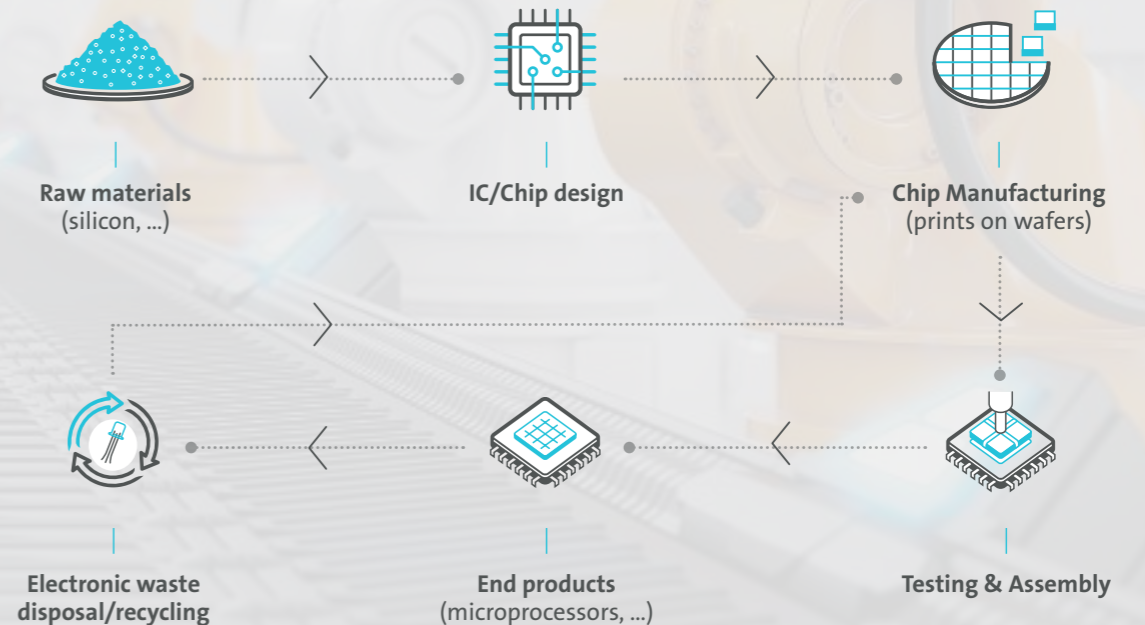
FOOD AND BEVERAGE

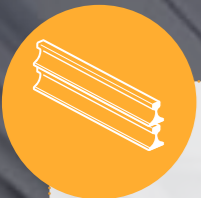


AUTOMOTIVE MANUFACTURING

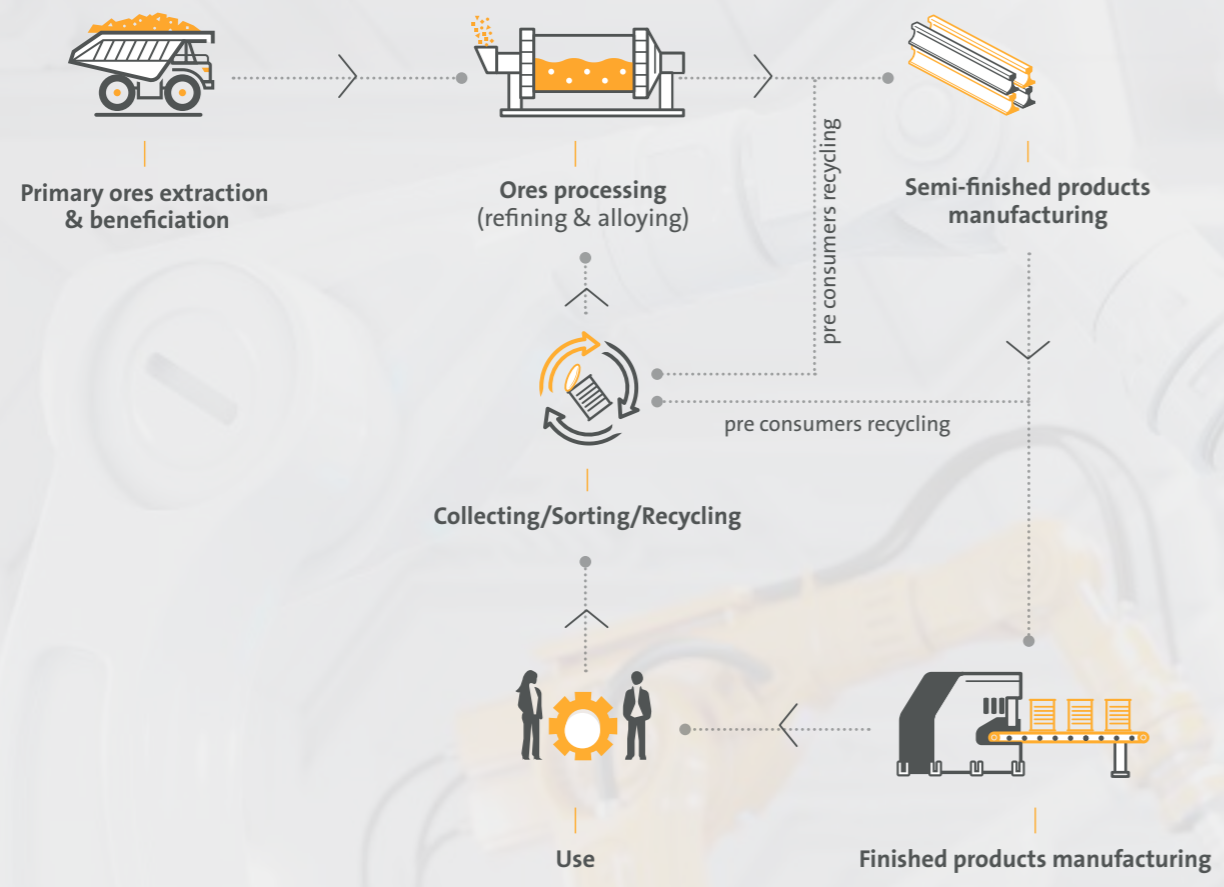


MICROELECTRONICS





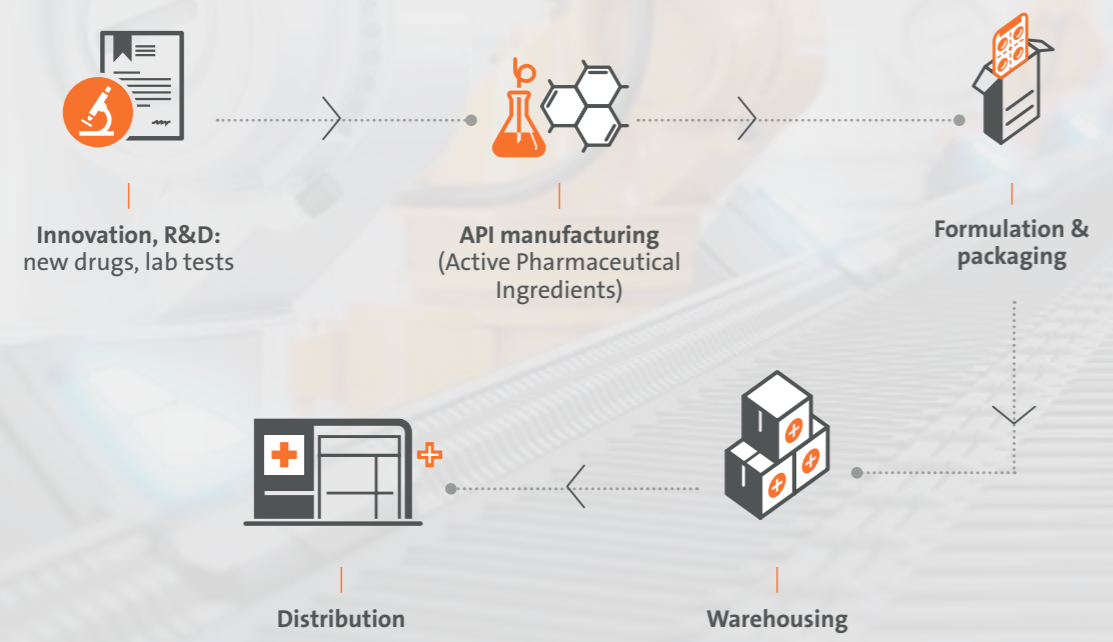
METALS



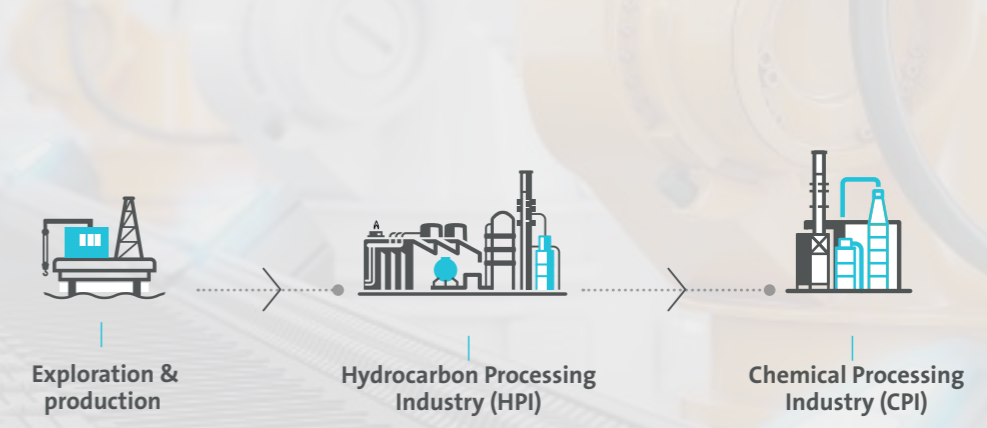
PULP AND PAPER



LIFE SCIENCES



ENERGY AND CHEMICALS



Strategic program
2027
GreenUp

18 Mtons CO₂ eq
erased in 2027 (scope 4)



2.1

DECARBONIZATION

Toward zero-emission industries

Rapidly reducing global net CO₂ emissions to zero is one of the major challenges in keeping global warming within manageable limits.

Facing this emergency, all stakeholders have their role to play: States, communities, citizens, and businesses.

As a trusted partner to manufacturers, we support you in decarbonizing your value chain, across all scopes 1, 2, and 3, with a commitment to eliminate 18 million tons of CO₂ eq by 2027 (scope 4).

In this regard, Veolia offers you innovative solutions to:

- **Increase the energy efficiency and performance** of your industrial facilities, notably through digital solutions and use of artificial intelligence.
- **Locally produce green, decarbonized and competitive** substitute energies, by valorizing or recovering waste, wastewater, and wasted energy, etc.

- **Produce new resources** from recycled raw materials or valorized waste (solvents, plastics, glass, paper...)

- **Capture CO₂ on your sites.**

These innovative solutions represent levers for gradually reducing your carbon footprint, offsetting your CO₂ emissions, and achieving your ecological transition.

Veolia supports you in your decarbonization trajectory, by putting its expertise and innovative technologies at your service to gradually reduce your CO₂ emissions, up to 18 Mtons CO₂ eq by 2027 as well as measure the effectiveness of the actions implemented.



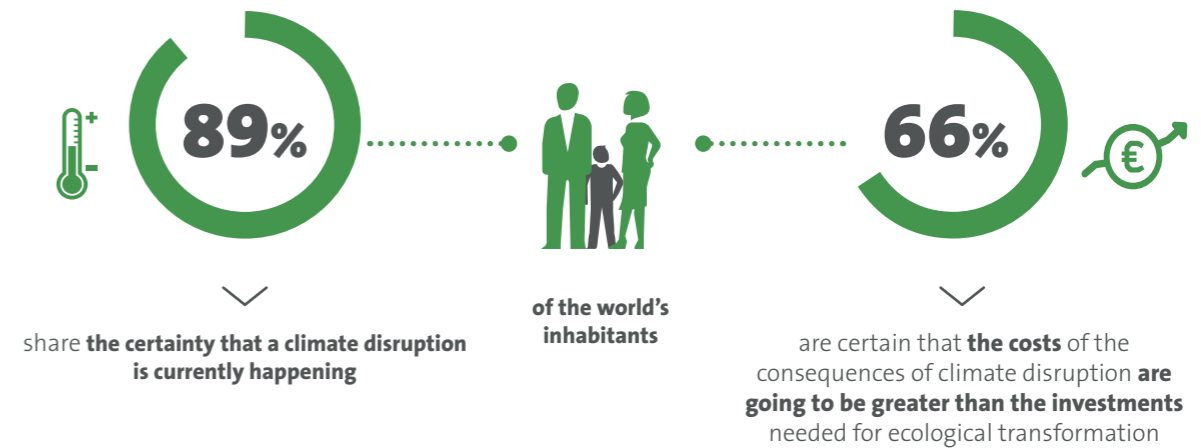
The world's inhabitants recognize and approve **your actions in favor of the decarbonization of your business**

+90%

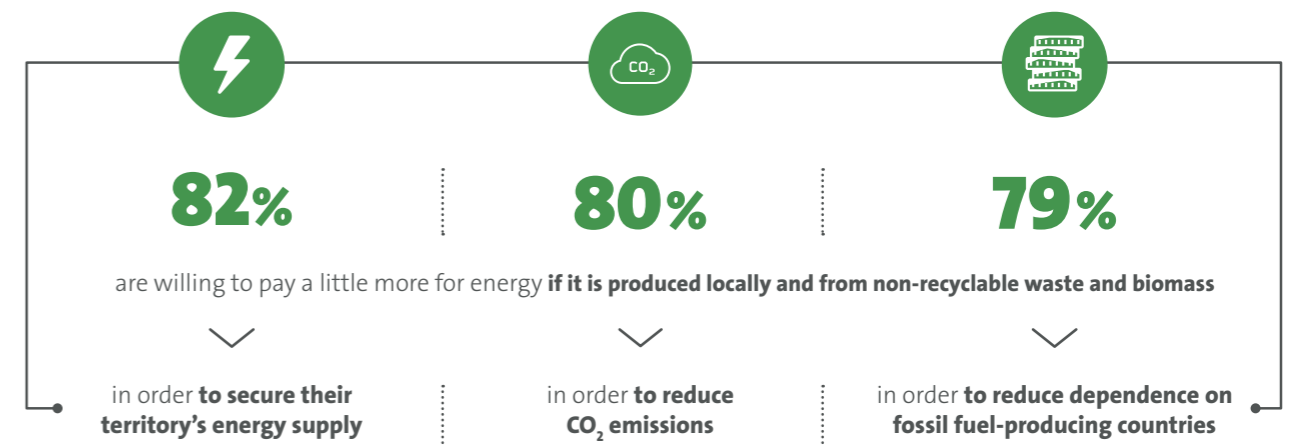
believe that ecological transformation requires the **joint commitment of all stakeholders**



ARE AWARE THAT ENERGY SUFFICIENCY ACTIONS ARE NECESSARY



ARE READY TO PAY MORE FOR LOCAL AND DECARBONIZED ENERGY



Sources: Barometer of Ecological Transformation, Veolia and Elabe, march 2024. A survey involving over 29,500 individuals (between 1,000 and 2,000 per country), carried out across 5 continents, in 26 countries. The countries were chosen for their demographic weight, their weight in GHG emissions and to ensure a diversity of ecological political and cultural histories. Overall, these countries represent nearly 60% of the world's population, 67% of global GHG emissions and 77% of global GDP.

In Golbey, France, supporting the decarbonization of an industrial site through the production of electricity and steam from biomass



As part of the Green Valley Energy industrial ecology project, Veolia is supporting the Norwegian paper group **Norske Skog** in the conversion of its Golbey site in the Vosges. The construction of a biomass cogeneration unit using recycled wood allows the industrialist to decarbonize its activity and reduce its dependence on natural gas.

INCREASING ENERGY NEEDS

The Norwegian group Norske Skog, one of the world leaders in the production of publication paper, produces over 600,000 tons of newspaper per year on its site in Golbey (NSG), France. Faced with the declining market of press publishers, NSG has launched a project to diversify its activity aimed at converting a newspaper line into corrugated paper. This transformation, however, involves increased energy consumption, in a context of volatility in the prices of fossil fuels and a desire by the group to decarbonize its activities.

PRODUCTION OF 200 GWH OF DECARBONIZED ELECTRICITY AND 700 GWH OF DECARBONIZED STEAM

Associated with NSG and the investment fund Pearl Infrastructure Capital within Green Valley Energy, Veolia is building and operating a biomass cogeneration unit, using class B recycled wood, collected predominantly in the Grand Est region of France, as well as some of the sludge from NSG's papermaking process. Eventually, this facility will produce 200 GWh of electricity and 700 GWh of decarbonized steam each year. The thermal energy will power the industrial site and the electricity will be fed into the national electricity grid.

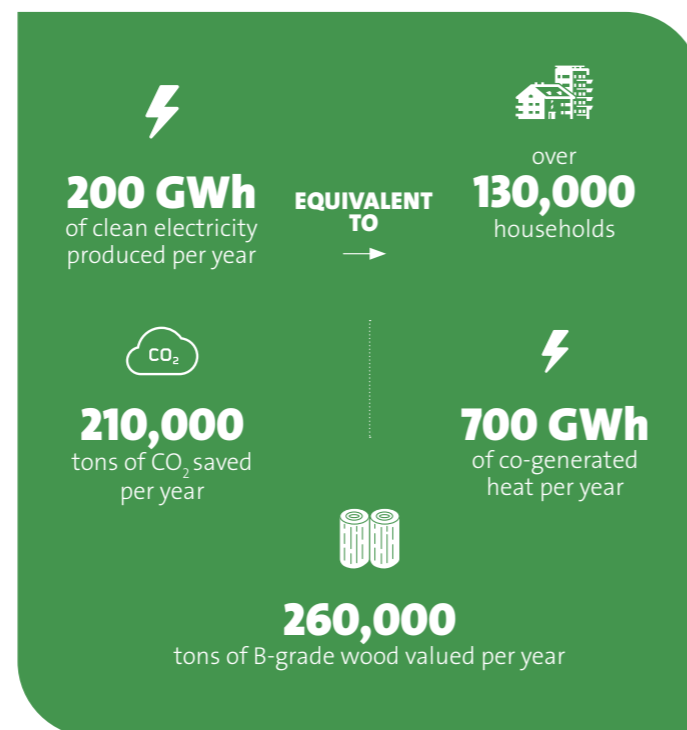
DECARBONIZATION, SOVEREIGNTY AND COMPETITIVENESS

The solutions implemented by Veolia as part of this project have enabled NSG to:

- **Decarbonize** its industrial site by avoiding the emission of 210,000 tons of CO₂ compared to the use of natural gas.
- **Increase** energy independence from imported natural gas to secure supplies and reduce exposure to global price fluctuations.
- **Strengthen** the site's competitiveness and sustain its 355 jobs.
- **Valorize** 20,000 tons of by-products from its papermaking process each year.



"This project will significantly enhance our economic and environmental competitiveness. It supports the strategy of our Norske Skog group, which aims to become a leading independent supplier for recycled corrugated cardboard," comments Yves Bailly, CEO of Norske Skog Golbey.



In Sydney, Australia, transforming food industry waste into new resources for local communities



In Sydney, Australia, **Veolia's EarthPower plant** is transforming waste from the food industry into locally consumed green energy and nutrient-rich soil improver for agriculture. The creation of this circular economy loop contributes to resource conservation and the sustainability goals of the industry.

PROCESS 62,500 TONS TONS OF FOOD WASTE PER YEAR

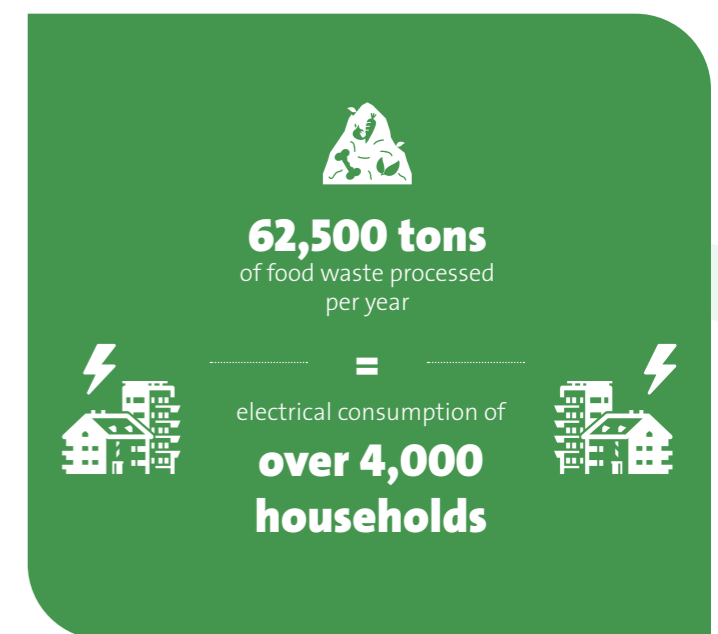
The agri-food industry is faced with specific environmental challenges. Indeed, in addition to significant consumption of water and energy, the production of food and beverages generates large volumes of organic waste, such as: fruit and vegetables, animal products including meat and dairy, baked goods, and industrial food waste. Veolia's EarthPower plant, located in Camellia in the suburbs of Sydney, offers an alternative to landfilling this waste by processing the solid and liquid food biomass of businesses and communities in the region. Capable of receiving up to 62,500 tons of food waste per year, the facility transforms them into new resources.

CONVERT ORGANIC WASTE INTO BIOGAS AND SOIL IMPROVER

Two 4,600m³ anaerobic digesters decompose food waste using bacteria, producing a gas rich in methane. This biogas is recovered and used to power cogeneration engines, which produce green electricity. This energy, equivalent to the consumption of over 4,000 households, is sold to the grid for distribution to industrial, commercial, or private customers. The anaerobic digestion process also generates a nutrient-rich sludge, which is dried and granulated into a soil improver for use in agricultural and horticultural markets. In a virtuous cycle, the residual heat from the cogeneration engines is used in the sludge drying process and to heat the digesters.

CREATE A CIRCULAR LOOP WITHIN THE AGRI-FOOD VALUE CHAIN

Veolia's EarthPower plant thus enables the creation of a circular loop covering the entire value chain of the agri-food sector, from the collection and treatment of organic waste from factories and downstream (canteens, restaurants, businesses...), to the upstream, by providing power to the local community and nutrition to the agricultural sector. Through the adoption of alternative waste solutions such as EarthPower, consumers and producers are equipped to respond to increasing pressures from regulators and public opinion regarding sustainable waste management, and lower their greenhouse gas emissions as a result. By aiding the food processing industries to reduce their environmental footprint, EarthPower also contributes to the sector's sustainability goals.



In Europe, leveraging electrical flexibility to ensure network reliability

Flexcity, a subsidiary of Veolia, is a leading player in the European electrical flexibility market. It provides electrical network operators with flexible energy consumption via its expertise in intelligent energy optimization services to help secure their networks by ensuring a balance between electricity supply and demand.

AN ELECTRICAL FLEXIBILITY SOLUTION

Flexcity offers solutions to leverage the electrical flexibility of manufacturing sites, in accordance with their energy management strategy. Through its technological platform, the state of the electrical network is constantly monitored, and an alert is issued when there is a significant difference between consumption and production. Industrial sites are then asked to temporarily adjust their electricity production or consumption, in exchange for compensation. This modulation capacity helps to compensate for imbalances in the electrical network during peak consumption periods or when there is excess electricity on the grid (due to excess renewable production). Since electricity grids have to be continuously balanced to avoid blackouts, precise management of consumption and production is necessary to ensure network stability. Therefore, in case of:

- **Excess electricity on the grid:** production needs to be reduced or electrical consumption needs to be increased.
- **Electricity shortage on the grid:** production needs to be increased or electrical consumption needs to be reduced (load shedding).

OFFERS DEDICATED TO THE INDUSTRY

Electricity often represents a significant portion of the energy costs of an industrial site. By leveraging its expertise in industrial processes, Flexcity analyzes the production and energy utilities processes of the industrial site, considering the constraints to guarantee production continuity. Flexcity has developed dedicated offers to industries that meet the specific needs of each type of site. Flexcity is thus capable of adjusting the start-up and shutdown of electrical installations, process equipment while ensuring treatment quality and an extra financial income for industrials.

MAKING THE ENERGY TRANSITION A REALITY

The Smart Grid technologies and electrical flexibility implemented by Flexcity contribute to:

- **Securing** the electrical supply of territories through increased flexibility and stability.
- **Adapting** energy consumption to the needs of the electrical network to reduce energy costs or generate additional revenue.
- **Playing an active role** in the energy transition marked by the electrification of energy consumption.
- **Integrating** more renewable energies by compensating for the intermittent nature of solar or wind energy through constant monitoring of the electrical network and real-time modulation.
- **Secure** non-negligible additional revenues for industrial sites.



10,000
upgraded sites

2 GW
of flexible power



In São Francisco do Sul, Brazil, outsourcing the supply of utilities to reduce the environmental footprint of a steel processing plant



Major global steel producer, Arcelor Mittal, has outsourced all externalities of its São Francisco do Sul plant in Brazil to Veolia, with the ambition of reducing the site's environmental footprint while expanding its production capacities.

DOUBLE CHALLENGE OF DEVELOPMENT AND DECARBONIZATION

When ArcelorMittal, the world's leading steel producer, settled in São Francisco do Sul, in southern Brazil, in the early 2000s, it aimed to increase its production capabilities while building a model factory in terms of environmental respect. The industrial group thus intended to focus on its area of excellence, namely steel processing. With a total production capacity of 1.6 million tons/year of pickled, cold-rolled, and hot-coated coils, ArcelorMittal Vega is indeed one of the most modern flat steel processing units in the world.

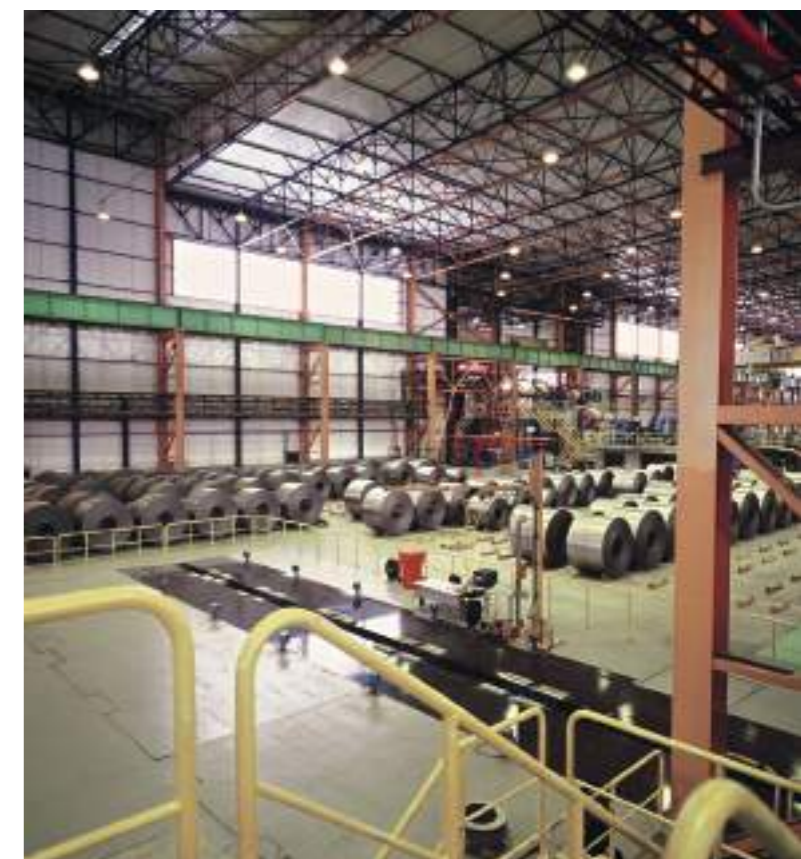
CREATION OF A DEDICATED SUBSIDIARY

In response to this dual challenge of productivity and environmental sustainability, ArcelorMittal chose, as early as 2003, to outsource all utility supplies to Veolia. To accomplish this, Veolia created CLE Brasil, a dedicated subsidiary that combines all its expertise in waste treatment, water management, and energy efficiency, and locally recruited about sixty people. Veolia has thus managed the investments, construction, and now operates all the multi-utility facilities at the site on behalf of Arcelor Mittal: complete water cycle, waste treatment, wastewater treatment, industrial gases, electricity, etc...

COMPETITIVENESS, BIODIVERSITY, SAFETY

The solutions implemented by Veolia at the ArcelorMittal Vega site offer multiple benefits:

- **The water** recirculation system allows for the reuse of more than 98% of the water captured in the unit, reducing consumption even as production levels increase.
- **An artificial lagoon**, fed by rainwater capture, has the capacity to supply the plant for up to 170 days in case of emergency.
- **Industrial and non-industrial waste** are recycled at over 70%.
- **The plant generates** 1,200,000 MW of electricity.
- **The ISO 9001 quality certified plant, also has**, an ISO 14001 certified environmental management system and a health and safety management system with ISO 45001 certification (6,000 days without accidents).
- **The Private Natural Heritage Reserve (PNHR)** occupies 1/3 of the total area of the industrial complex and preserves a set of ecosystems rich in diversity and one of the best refuges for endangered species.
- **The billing costs for customers** have been reduced by 60% in the last years of the contract.



The success of the project led ArcelorMittal to renew the contract for an additional 15 years in 2018. In 2023, Veolia was chosen to expand the utilities of a third galvanizing line.

98%
reuse of the water captured thanks to the water recirculation

Recycle over **70%**
of industrial and non-industrial waste

Billing costs for customers reduced by **60%**

Strategic program
2027
GreenUp

1.5bn m³
fresh water saved in 2027



2.2

SAVING AND REGENERATION OF RESOURCES

Toward industries rich in opportunities

In addition to environmental damage, the intensive exploitation of natural resources leads to their scarcity namely of water stress, tensions on strategic supplies and upward pressure on prices.

In this context, **consuming fewer resources and producing better** is a major challenge to improve the competitiveness and environmental footprint of your sites. Do you want to **reduce your water footprint, secure your water supply, control your production costs and comply with current legislation?**

We can accompany you in managing the entire water cycle with the commitment to regenerate 1.5 billion saved fresh water by 2027. Our technologies **ensure the safety of the resource, reduce net water consumption** and promote its reuse with economic models adapted to your activity.

Do you want to **optimize your waste management, increase the rate of recycled materials in your products, develop the recyclability of your products, create secondary raw materials** from recycled waste, and improve your carbon footprint?

We can help you integrate the entire lifecycle of raw materials into your industrial strategy.

Your waste is directed towards the best possible recovery, on your site or through external channels to secure your supply chain.

Let's build innovative solutions together to preserve resources!

In a context of scarce resources, Veolia provides industrialists with expertise and robust technologies to reduce, secure, and reuse water resources, with a strong commitment: to preserve 1.5 billion cubic meters of fresh water by 2027 as part of the strategic GreenUp 2027 program.





The world's inhabitants endorse
your actions to counter resource scarcity



68%

of the inhabitants are **aware of the scarcity and depletion of resources**



ARE READY TO CHANGE THEIR HABITS AND LIFESTYLES



63%

if they are certain that it would guarantee **food independence in their country:** quality food in sufficient quantity

ARE IN FAVOR OF RECYCLING AND REUSE TO PRESERVE RESOURCES



79%

are ready to eat food from **agriculture that uses recycled water (REUT)**



80%

are ready to pay a little more for electrical and electronic devices to ensure that the battery and device itself are **recycled, and to limit the pollution caused by the extraction of rare metals** and reduce our dependence on countries that produce these metals



60%

if they are certain that it is useful for ensuring **energy independence in their country:** that everyone would have energy when they need it

Sources: Barometer of Ecological Transformation, Veolia and Elabe, march 2024. A survey involving over 29,500 individuals (between 1,000 and 2,000 per country), carried out across 5 continents, in 26 countries. The countries were chosen for their demographic weight, their weight in GHG emissions and to ensure a diversity of ecological political and cultural histories. Overall, these countries represent nearly 60% of the world's population, 67% of global GHG emissions and 77% of global GDP.

In Asia, recycling insulin injector pens to manufacture plastic pellets



One of the global leaders in diabetes treatment and Veolia are partnering to launch a pilot project in Asia. Objective: by collecting and recycling the material from the disposable injection pens, prevents them from becoming waste and ending on landfill or being incinerated.

More than 530 million adults were affected by diabetes in 2021, a figure that could exceed 780 million by 2024. Disposable medical devices, such as insulin injection pens, essential for treatment, generate considerable amounts of plastic waste which are often eliminated by incineration. The industry is committed to an ambitious policy to empower its circular transformation, and face these challenges.

EXPERIMENTATION

Sensitive to health and environmental issues, the industry is working to reduce the environmental impact of disposable pens. In partnership with Veolia, it aims to explore new solutions for collecting and recovering plastic materials from pens rather than considering them as waste after use. In this regard, the industry partner and Veolia Japan have signed a one-year consulting contract to implement a pilot project for recycling disposable insulin injection pens marketed by the manufacturer. This initiative aims to collect the pens after use by involving the pharmacy network as part of a circular program and recycle them using the facilities and capabilities of Veolia Japan and its local partners in handling plastic with similar characteristics to virgin plastic.

CREATE A CIRCULAR LOOP

The pilot project is initially being rolled out in the 3 areas. The collection of used pens is supported by the industry partner pharmacies who have agreed to support the initiative. To this effect, they have signed waste management contracts with Veolia Japan, its subsidiaries, and subcontractors. The first collection of pens has been produced for the beginning of August 2024 in the first pilot zone. After grinding, the pens from this first batch has been sent to the Plastic factory of Veolia in Japan, one of the largest manufacturers of recycled plastics in Japan, which will carry out the mechanical sorting of plastic fractions. These will be used to manufacture plastic pellets that will be put on the market for other uses.



REDUCED ENVIRONMENTAL IMPACT

The creation of this circular loop, combining pharmaceutical expertise and know-how in waste management and regulation, paves the way for a circular economy in the medical sector. It not only contributes to achieving the industry partner environmental goals, but also demonstrates the possibility of transforming an environmental challenge into a major opportunity for innovation and value creation, while helping to fight plastic pollution and greenhouse gas emissions.

turning waste into resources

3 areas in the pilot project

45 pharmacies involved

In Ghana, sustainably treating the effluent of a gold mine and producing drinking water



In an environment subject to seasonal heavy rainfall, the major mining company AngloGold Ashanti has enlisted Veolia to manage and treat water and wastewater at its Obuasi gold mine in Ghana. The aim is to implement responsible water and salt management in order to ensure that discharges comply with Ghana's Environmental Protection Agency's requirements.

ADDRESSING WATER CHALLENGES IN THE MINING SECTOR

Ore processing, dust removal, sludge transportation... The mining sector uses a lot of water, a precious resource. In Ghana, the tropical climate is marked by periods of heavy rainfall alternating with periods of drought. This requires that mining companies must manage their wastewater and residues in order to not only ensure sufficient water for their processes during the dry season but to also comply with the Environmental Protection Agency's requirements and preserve local water resources. This is especially true as the historic choice of using reverse osmosis (RO) technologies to treat water in many mines in Africa has led to challenges with brine management. Indeed, with this process, the salt concentration increases to the point where it becomes very difficult to separate clean water from salt water, limiting the amount of treated water that can be discharged into the environment. In this context, the Ghanaian subsidiary of South African miner AngloGold Ashanti, the world's fourth largest gold producer, contracted Veolia to guarantee the quality of water treatment and discharges related to the operation of its Obuasi gold mine in Ghana.

6 INSTALLATIONS FOR COMPREHENSIVE MANAGEMENT OF WATER

The solution operated by Veolia includes the overall management and treatment of water from the dewatering of the underground mine to the capture of precipitation within the mine's footprint, tailings storage facilities (TSF) and various pond water sources. To achieve this, four industrial wastewater treatment plants are operated to discharge compliant water into the environment, and two treatment stations produce potable water for the mine and surrounding communities.



CREATION OF NEW RESOURCES

By ensuring that water discharges comply with the requirements of the Ghanaian Environmental Protection Agency, Veolia plays a key role supporting AngloGold Ashanti to maintain its operating license and continue its core mining business. Moreover, in addition to the operation and maintenance of water treatment plants, Veolia developed a solution to combat salt accumulation by improving water treatment and extracting salts from water. Pilots were successfully conducted demonstrating the ability to produce mineral salt by-products that can be valorised and sold for use in different industrial applications. This project will contribute to the creation of local circular economy loops.

3.4 M m³* treated water discharged into the environment each year

1.9 M m³* drinking water produced each year

* 2023 Data

In Indonesia, recycling waste to produce new resources



Indonesia holds the unfortunate record of being the second-largest contributor to plastic waste pollution in oceans, with detrimental effects on marine ecosystems. Veolia has constructed the largest plastic bottle recycling plant in the country for **Danone-AQUA**. Positive impacts are expected in waste management and environmental protection.

COMBATING OCEAN POLLUTION

In 2017, the Indonesian government launched a national plan to combat marine plastic pollution. With an annual budget of \$1 billion, the plan aims to reduce waste production by 30% and marine plastic pollution by 70% by 2025. It focuses on behavior change, fighting land-based pollution, and significantly reducing plastic production.

PRODUCING NEW BOTTLES FROM RECYCLED PLASTIC

To contribute to addressing these challenges, Veolia Indonesia has constructed a PET bottle recycling plant for Danone-AQUA in the Pasuruan industrial zone (East Java). Operational since 2020, this plant has a recycling capacity of 25,000 tons of PET per year, making it the largest plastic bottle recycling plant in Indonesia. Some of the recycled plastic will be reused in the production of new bottles by Danone-Aqua.

IMPROVING WASTE MANAGEMENT AND CREATING EMPLOYMENT

Through this industrial facility, Veolia is involved in:

- **Developing** an efficient waste management system.
- **Promoting** the Circular Economy in Indonesia.
- **Strengthening** expertise in plastic waste collection and recycling in Indonesia.
- **Creating** local job opportunities.




Production of
25,000 tons/year
of food-grade **recycled PET**

In France, recycling to reduce the environmental footprint of mobility



Veolia, a historical player in the treatment of batteries and accumulators, is using its expertise to recycle electric vehicle batteries. The goals are to preserve resources, reduce carbon emissions, and create value.

MASTERING ALL STAGES OF RECYCLING


Veolia's know-how in managing hazardous waste flows and associated risks has allowed it to develop specific and highly efficient processes at each stage of recycling:

- **Collection, securisation and** fully discharge the batteries.
- **Dismantling** of each recyclable fraction and sending to appropriate treatment channels.
- **Mechanical separation** to extract the black mass (active powder) contained in the battery cells.
- **Hydrometallurgy** to separate and purify the metals contained in the black mass.
- **Refining** to achieve a purity level that allows the production of precursors to be used in the production of new batteries.

CIRCULAR ECONOMY

By giving a second life to strategic metals (cobalt, nickel, and lithium) that make up a battery, this solution contributes to:

- **Preserving** the planet's resources.
- **Creating a safe and sustainable source** of supply in a perspective of European sovereignty.
- **Reducing the environmental footprint** of mobility for a more sustainable world.

10 million
electric vehicles
in circulation worldwide today.

100 million
by 2030



Strategic program
2027
GreenUp

10 Mtons
of hazardous waste &
pollutants treated in 2027



2.3

DEPOLLUTION

Toward more sustainable and greener trajectories

To move towards a more sustainable and greener path, it is important to minimize the impact of your sites on the environment: water, air, and soil.

This approach involves actions at several levels: **reducing pollutant emissions into the air and water, increasing the circularity of water and waste resources, optimizing soil use conditions**, and protecting the environment and biodiversity, etc.

Are you facing water pollution issues?

We have cutting-edge technologies to treat your industrial effluents and micropollutants.

Do your industrial activities produce hazardous waste?

We have proven solutions to collect, treat and recover these hazardous wastes. As part of our strategic GreenUp program, we have committed to treating 10 million tons of hazardous waste and pollutants by 2027.

Are your soils degraded or polluted?

We intervene to give them a second life and minimize environmental risks. Our solutions allow you to **minimize your waste production throughout the life cycle of your products, with the goal of «zero waste to landfill»**.

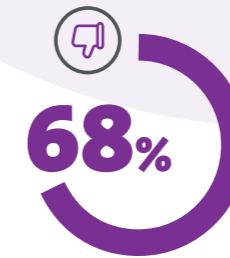
Together, let's implement solutions that minimize the impact of your activities on the environment, in compliance with increasingly stringent regulations.

Together, let's build a green and sustainable industry that leaves a more desirable world for future generations.

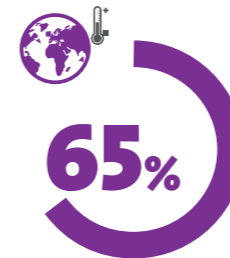
To build a greener and more sustainable industry, Veolia offers proven solutions to collect, treat, and recover hazardous waste, with a commitment to treat 10 million tons of hazardous waste and pollutants by 2027 as part of the strategic GreenUp 2027 program.



The world's inhabitants express concerns that are aligned with **your actions in response to climate change and pollution**



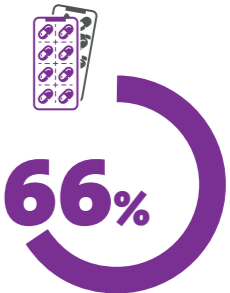
feel exposed and vulnerable to a deterioration in their quality of life



feel exposed and vulnerable to risks related with **climate change or pollution**



of the world's inhabitants



fear getting **sick** because of **pollution**

ARE IN FAVOR OF SOLUTIONS COMBINING SUFFICIENCY AND TECHNOLOGY



are ready to pay more for water to **treat micropollutants** and reduce health risks



are ready to pay more for fruits, vegetables and meat to **clean up, protect agricultural soils** and reduce health risks



Sources: Barometer of Ecological Transformation, Veolia and Elabe, march 2024. A survey involving over 29,500 individuals (between 1,000 and 2,000 per country), carried out across 5 continents, in 26 countries. The countries were chosen for their demographic weight, their weight in GHG emissions and to ensure a diversity of ecological political and cultural histories. Overall, these countries represent nearly 60% of the world's population, 67% of global GHG emissions and 77% of global GDP.

In Port Arthur, in United States, managing hazardous industrial waste to adapt to changing regulations



The Veolia facility in Port Arthur, Texas, is capable of handling all streams of hazardous industrial waste thanks to cutting-edge technologies and digital solutions based on artificial intelligence. This facility enables industries to comply with constantly evolving environmental regulations.

STRENGTHENING REGULATORY REQUIREMENTS FOR HAZARDOUS WASTE

The accessible hazardous waste market continues to be strong in the United States. It is expected to reach a volume of 8 million tons per year by 2027. This growth is due to the wave of industrial relocations, supported by subsidies from the Inflation Reduction Act and Chips Act. Additionally, the strengthening of regulatory requirements drives the growth in volumes of emerging pollutants. The U.S. Environmental Protection Agency (EPA) published in April 2024 the first federal regulation to limit the presence in drinking water of six PFAS (Perfluoroalkyl and polyfluoroalkyl substances) within a five-year period.

CUTTING-EDGE TECHNOLOGIES TO TREAT 99.99% OF POLLUTANTS CONTAINED IN HAZARDOUS WASTE

Veolia, active in hazardous waste management in the United States since the 1980s, operates a permitted hazardous waste incinerator in Port Arthur, Texas that treats complex waste generated by all sectors of industry (chemistry and petrochemistry, pharmaceuticals, health, microelectronics, gigafactories, semiconductors, etc.). With a capacity of 70,000 tons per year, it can process most of the 566 waste codes. The Port Arthur facility is, notably, the only one authorized by the EPA to treat dioxin waste. Incorporating the entire value chain, including collection, sorting and all necessary treatments (recycling, physico-chemical treatment, high-temperature incineration, landfilling), the plant destroys 99.99% of pollutants contained in hazardous waste. Paired with these cutting-edge equipment and technologies, the use of digital solutions based on artificial intelligence allows




data analysis to optimize treatment operations and the plant's environmental performance by reducing toxic emissions. The site also allows Veolia to provide «end - to - treatment» with municipal water and water technologies to help its clients reduce and treat their new pollutants, particularly PFAS.

As a major player in pollution control, Veolia positions itself as the historical partner of industries to treat their hazardous waste in compliance with the most recent regulations and with respect for the environment. As part of its Green'Up program, Veolia has set a goal to treat 10 million tons of hazardous waste and pollutants through the world by 2027.



Treatment of
99.99%
of hazardous waste pollutants



Processing capacity of
70,000
tons/year



Treatment of
4,000
types of waste

In Beijing, China, optimizing the water cycle to reduce the environmental impact of a petrochemical complex



First refiner in Asia, the petrochemical complex of Beijing Yanshan PetroChemicals (BYPC), a subsidiary of Sinopec, is located in the Beijing region which has set very high standards for industrial water discharges. Sinopec has chosen Veolia to optimize their water cycle, in order to reduce its impact on the environment and make it a reference site in China.

RESPONDING TO SOME OF THE MOST STRINGENT ENVIRONMENTAL STANDARDS IN THE WORLD

The Chinese petrochemical complex of Beijing Yanshan PetroChemicals (BYPC), a subsidiary of Sinopec, is one of the largest production sites in Asia for synthetic rubber, synthetic resin, phenol, acetone and refined petroleum products. It processes 10 million tons of crude oil per year at its Yanshan site, 50 km from Beijing. This region, which is experiencing severe water stress, has enacted, since 2015, some of the most stringent standards in the world for industrial water discharge. Faced with the need to significantly reduce its environmental impact, Sinopec set up a joint venture with Veolia in 2006 to optimize the fresh water consumption at the Yanshan complex and increase its recycling rate in order to reduce the site's water footprint.

AN INNOVATIVE BROMINE RECOVERY TECHNOLOGY

To meet these new production requirements, Veolia has taken over the entire water cycle of BYPC: cooling water, demineralized water, industrial water, potable water, chilled water, wastewater and fire-fighting water. In addition to modernizing wastewater treatment plants and optimizing energy management, Veolia has notably provided the world's first bromine recovery technology, in order to treat the toxic wastewater from the rubber plant. In 2023, Yanshan Veolia produced 5.64 million tons of reclaimed water. Since 2016, BYPC has been implementing various digitalization and automation initiatives, beginning with the most energy-intensive plants and facilities. Through continuous optimization from 2016 to 2023, we have achieved a cumulative electricity saving of 11.98 million KWH, equivalent to avoiding the emission of 6,832 tons of carbon dioxide. Furthermore, Veolia has carried out a complete rehabilitation of 8 hectares of ponds that served as an oxidation pond of Yanshan Petrochemical's wastewater. They have been transformed into a wet ecological area, with restored biodiversity, hosting more than 140 species of birds.



around

30%-40%
of water reused

In Gwangyang, South Korea, producing battery-quality lithium hydroxide to decarbonize mobility



As a global leader in lithium evaporation and crystallization technologies, Veolia Water Technologies brings its cutting-edge industrial expertise to Posco Lithium Solution's lithium hydroxide plant, the first of its kind in South Korea. This plant will be able to produce lithium of a quality each year that can power 600,000 electric vehicle batteries, in order to reduce the environmental footprint of automotive mobility, while preserving water in the lithium value chain.

SOUTH KOREA'S FIRST LITHIUM HYDROXIDE FACTORY

There are 10 million electric vehicles on the roads worldwide today. By 2030, this number is projected to reach 100 million. In this context of electrifying mobility, the lithium market is experiencing rapid growth, especially in terms of demand for lithium hydroxide, which is produced from lithium carbonate and used in high-density and high-capacity batteries. As the world's second-largest producer of batteries for electric vehicles, South Korea aims to develop domestic production of lithium hydroxide, a key component in the production of lithium-ion batteries. In this regard, Veolia, through its subsidiary Veolia Water Technologies, has signed a contract with South Korean firm Posco Lithium Solution to design and deliver an integrated conversion system at its Gwangyang factory. With an annual production capacity of 25,000 tons, it will provide enough material to design approximately 600,000 electric vehicle batteries, thus contributing to the transition towards cleaner mobility.

ADVANCED CRYSTALLIZATION TECHNOLOGY

Under this contract, Veolia Water Technologies, a global leader in the design and deployment of complete lithium treatment systems, is implementing a state-of-the-art HPD® crystallization technology to convert lithium carbonate into lithium hydroxide. This advanced technology allows for maximum lithium recovery and purity level, leading to better financial returns. It also significantly reduces the water footprint of the industrial process. Indeed, the patented chemical conversion maximizes the reuse of the generated condensate, with a conversion rate of over 94%.



DEVELOPMENT OF SUSTAINABLE MOBILITIES

"As a global leader in lithium evaporation and crystallization technologies, Veolia plays a central role in this strategic market, crucial to the development of sustainable mobility. From the technological treatment of lithium to the recovery of battery materials during the recycling process, Veolia will now share its unique industrial and technological expertise with POSCO Lithium Solution to optimize the amount of lithium hydroxide recovered while minimizing the amount of water used in battery production" stated Estelle Brachlianoff, CEO of Veolia.



600,000
electric vehicle batteries powered

Chemical conversion rate of
over 94%
reuse of the generated condensate

In Abu Dhabi, United Arab Emirates, processing and enhancing the hazardous industrial waste from the largest refinery in the Middle East to assist it in its ecological transition



As the global leader in hazardous waste management, Veolia has signed an agreement with the Abu Dhabi National Oil Company to handle the hazardous waste of the Al Ruways industrial complex, the largest in the country. Veolia supports the largest oil refinery in the Middle East in its ecological transition.

ONE OF THE LARGEST REFINERIES IN THE WORLD

The joint venture ADNOC Refining operates a refinery at the Al Ruways site, the largest industrial complex in Abu Dhabi, that processes over 922,000 barrels of crude and condensate per day. Hosting nearly 5% of global production, it is the largest oil refinery in the Middle East. In the context of the global strengthening of regulations on hazardous industrial waste, Veolia, a pioneer and leading provider of hazardous waste management solutions in the Middle East, has signed a historic agreement with the refining branch of the Abu Dhabi National Oil Company.

TWO CUTTING-EDGE FACILITIES

As part of the signed agreement and within a consortium, Veolia and its partners, Tadweer and Vision Invest, operate two hazardous waste treatment facilities. With an installed combined annual capacity of approximately 70,000 tons, the facilities will treat most of ADNOC's hazardous industrial waste, as well as that of other factories present on the site. Through a committed investment plan during the coming years, the combined treatment capacity will reach 165,000 tons, to ensure alignment with ADNOC's expansion projects and Hazardous waste generation projections as well as to serve the Hazardous waste market in the Emirates of Abu Dhabi in the coming future. These facilities will process, transform and eliminate hazardous waste whether liquids, solids, sludge and organic or inorganic. The specific NORM facility will handle naturally occurring radioactive waste (NORM), particularly generated by oil & gas drilling activities in the country and ultimately the region. Veolia is managing the operations of both plants, relying on its global expertise in the entire hazardous waste treatment chain.

CIRCULAR ECONOMY AND LOCAL ENERGY LOOPS

The solutions developed by Veolia, through this project, will help to mitigate the environmental impact of industrial activities and promote a circular economy. Resources (water and oil) will thus be recovered from the waste of the oil and gas industry and be reused at nearby industrial sites. The production capacity of green



energy by the existing solar power plant must be significantly increased to complete these local energy loops. The project will also have positive societal impacts. Veolia has committed to creating local value through a committed ICV (In-Country-Value) Plan by year 3, including training and development of staff in operational procedures and processes, and to deploy specific training for Emirati nationals.

A major player in depolluting the industry, Veolia positions itself as the historical partner of industrialists to treat the most complex types of waste. As part of its Green'Up program, Veolia has set itself the goal of treating 10 million tons of hazardous waste pollutants throughout the world by 2027.



2 factories



Annual hazardous waste treatment capacity of approximately
70,000 tons



Commitment to a
> 50%
ICV score by Year 3

AND MANY MORE...

...solutions deployed worldwide to support the Ecological Transformation

activities.veolia.com



3. BUILDING

the world of tomorrow
with you



Ecological transformation is our purpose

Ecological transformation is about taking action to reconcile human progress and environmental protection.

We develop and implement solutions that depollute and preserve our vital resources from depletion, solutions that decarbonize our lifestyles and production methods, and adapt them to the consequences of climate change.

We mobilize ourselves, all around the world, respecting each culture, to improve the health and quality of life of our communities.

**At Veolia, we aim to be useful
to as many people as possible
by addressing economic,
social, and environmental
issues as an inseparable whole.**

INNOVATING for your industry

INNOVATION IS ONE OF THE PILLARS OF ECOLOGICAL TRANSFORMATION

To combat climate change, address pollution, save and regenerate resources, Veolia harnesses the power of innovation at all levels of the Group. We leverage our innovation capabilities to support your business, accelerate your ecological transformation, and prepare for the future.

DECARBONIZATION



Up to **100,000 tons of CO₂**

from the energy recovery of municipal waste, captured to produce green fuel for aviation.



2 GW

of flexible power
10,000 upgraded sites

SAVING AND REGENERATION OF RESOURCES



490,000 tons
of recycled plastics (2022)



1 billion m³
of reused water (2022)

DEPOLLUTION



8 million tons
of hazardous waste treated annually

300 installations
in 29 countries



8 million m³
of water already treated in the USA using

almost 450 tons
granular activated carbon and other materials

6

strategic axes for innovation



Decarbonization

Production and use of alternative fuels, reduction of greenhouse gas emissions (GHG) at the source (waste sorting, combustion efficiency)



Decarbonized and decarbonizing territorial energy

On-site green energy production, biogas valorization into hydrogen and other alternative energies, 4th and 5th generation heat networks, recovery of waste heat energy, electrical flexibility



Water Resources and Climate Adaptation

water reuse for cities, agriculture, and industrial water cycle management, biodiversity restoration, nature-based solutions...



New Loops of Materials, Metals and Plastics

Recycling of batteries and other strategic metals, eco-design, advanced plastic recycling, solvent regeneration



Valorization of Organic Matter

Bioconversion, production of sustainable organic fertilizers & biostimulants



Health and New Pollutants

Treatment of Micropollutants in Water, Soil, and Waste, Treatment of Microplastics in Stormwater and Sludge, Improvement of Indoor Air Quality



An ecosystem based on

8

innovation hubs



14

R&D Centers



630

people dedicated full-time to
research and innovation



**More than
4,800**

patents filed in 2022

TRANSFORMING what matters

TOWARD SUSTAINABLE IMPACT FOR ALL

How to implement and evaluate the ecological transformation of an industry?

By considering all stakeholders, the available resources with an area and striving to reconcile economic, social, and environmental challenges as an inseparable whole.

This vision of «multifaceted performance» has been embraced by Veolia since 2020 and placed at the heart of its strategy.

It can be applied to the management of an industry to develop in a territory where living and working conditions are favorable.

TRANSFORMING WHAT MATTERS

- Supports the development of your business.
- Addresses the climate emergency and its impacts on human activities.
- Develops the circular economy sustainably managing water resources, depolluting to protect the environment and biodiversity...
- Acts to reconcile human progress and environmental protection.

THANKS TO VEOLIA AROUND THE WORLD ⁽¹⁾

1 billion m³ of reused wastewater

91% of Veolia's expenses were reinvested locally

15.3 million tons of CO₂ avoided

Validation of our Accelerated Decarbonization Trajectory by SBTi ⁽²⁾

DJSI (Dow Jones Sustainability Indices)
Inclusion in DJSI World and Europe indices

S&P Global 83/100
1st of Multi and Water Utilities ⁽³⁾

Veolia's 2023 ESG RATING

CDP Climate change Leadership, A-

CDP Water security Leadership, A-

Ecovadis 68/100 ⁽⁴⁾



Veolia's multifaceted performance approach makes it possible to define action priorities that reconcile environmental, societal, social, financial, and commercial issues in a search for a balance of sustainable impact for all.

⁽¹⁾ Figures as of December 31, 2023.
⁽²⁾ Initiative Science Based Targets, July 2024
⁽³⁾ CSA score as of December 22, 2023.
⁽⁴⁾ July, 2024.

PREPARE THE FUTURE with us

At Veolia, we are 218,000 resourcers, entrepreneurs of ecological transformation around the world. Present on all five continents, we can guarantee you a close relationship and solutions tailored to your needs.

We can help you transform your business starting today.

Seize the opportunity to build a low-carbon and resource-rich industry.

GET INVOLVED, TURN THE TIDE! ⁽¹⁾



218,000
employees

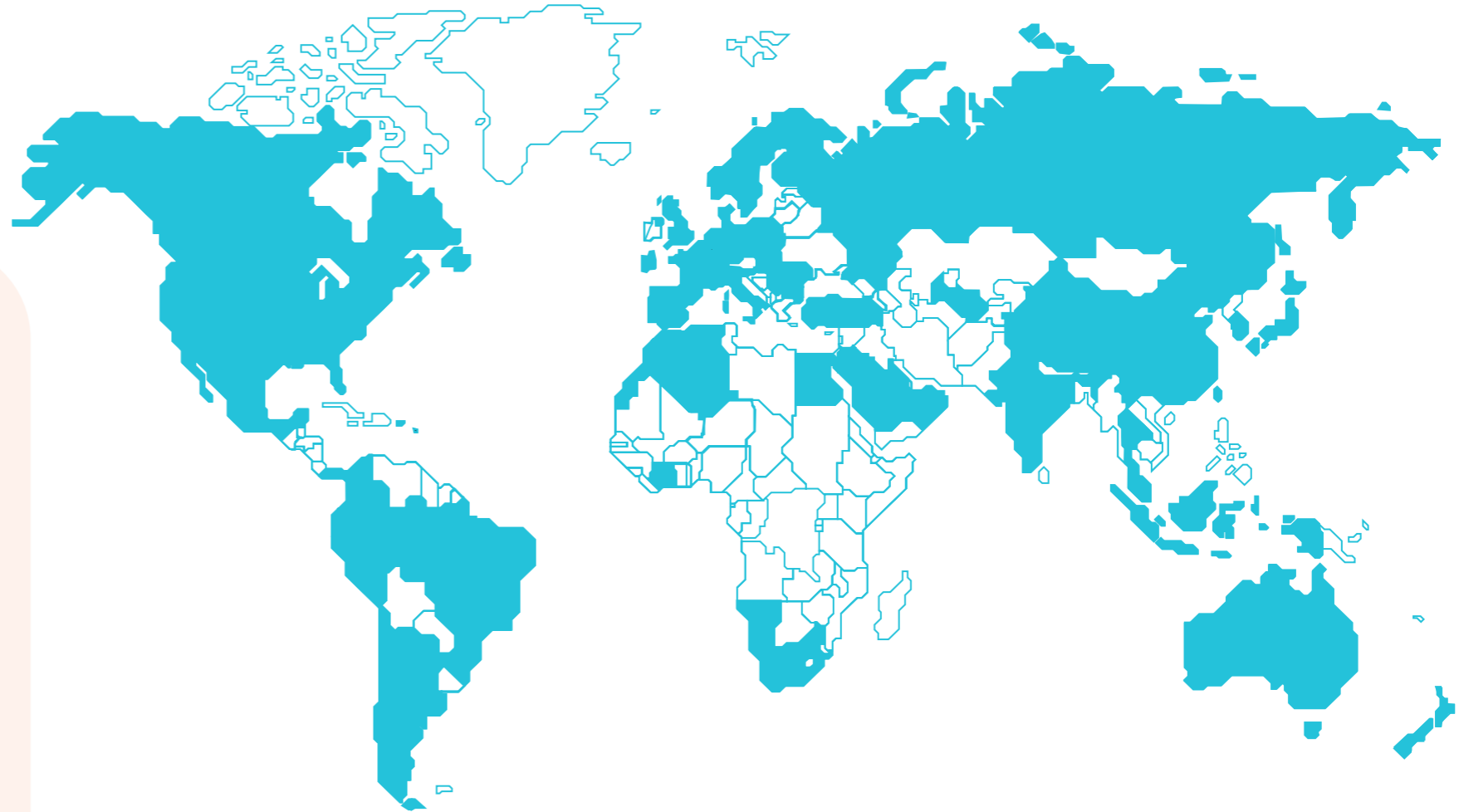


45.3 billion euros
in revenue in 2023

⁽¹⁾ Figures as of December 31, 2023.



By your side
on all five continents





With Veolia, the ecological transformation of your industry is within reach. Let's combine your knowledge of your markets with the expertise of our teams and the concrete and achievable solutions we offer to build an industry that is more sustainable and increasingly high-performing.

CONTACT US

Wherever you are in the world, we have teams near your location. They are at your disposal to help you achieve in your ecological transformation.



Published by: Veolia, Communication Department / October 2024

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Produced by: your-comics.com

Resourcing the world  **VEOLIA**