

# RESOURGING THE WORLD

The essentials

# The Openity of the op

The new Veolia is here. We have everything it takes to deal with your challenges in terms of environment, growth and access to resources. We're armed with a new strategy, a new organization, a new brand, and new goals that's unified across all.

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There are already more than seven billion people on the planet. In the near future, there will be nine billion. The world is growing; it needs new resources. This means we need to be more inventive, more responsible and more efficient. Today, we recover water, waste and energy. What is discarded by some becomes a resource for others. Being attentive and more respectful of our planet and its people is how we view our business, our foot print and our contribution. We are creating new businesses, and a new economic and social dynamic. We are contributing to the world movement and people's lives. Develop access to resources, preserve resources, replenish resources: RESOURCING THE WORLD IS OUR GOAL.

# 2 customer segments



**Our solutions.** A historic partner of cities for more than 160 years, Veolia is reinventing how it approaches traditional markets with an increased focus on linking our compensation to transparent performance metrics. As the operators of complex services in the field, we are developing technological, financial and social solutions to improve inhabitants' quality of life, save and replenish resources, and reduce the ecological footprint of regions.

A working example. In France, we work with Greater Lyon. We have carried out extensive research and developed innovation to test new projects in the areas of green energy, intelligent data management and urban modeling, health, and resource preservation.

**Our solutions.** Non-hazardous and hazardous waste recovery, soil remediation, dismantling sensitive facilities, water recycling, energy management, to name just a few: Veolia is the partner of industrial companies' growth. We offer a wide range of tailored solutions covering all companies' needs in all areas of business.

A working example. Since 2001, Veolia has been working with Novartis to improve the operational, economic and environmental excellence performance at the company's industrial facility in Basel (Switzerland), the global showcase for this pharmaceutical giant. Veolia provides and maximizes the management of all Novartis' utilities (water, energy and waste), and has implemented a unique solution for the recovery of hazardous waste.

Veolia

### **ENERGY**

An expert in energy services, Veolia supports the economic growth of its local authority and industry clients, while also reducing their ecological footprint. Energy efficiency, effective management of cooling and heating networks, production of green energy: just some of our unique expertise for a sustainable world.

**52,000,000** MWh produced

2,400,000

multi-family housing units managed

1,802 industrial facilities managed

529
heating and cooling networks operated

0

### WASTE

Veolia specializes in liquid and solid, non-hazardous and hazardous waste management. Our expertise covers the entire waste life cycle from collection to recycling, leading to the final recovery of waste as materials or energy.

**42,800,000** people provided with collection services

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31,300,000

metric tons of waste recovered as materials or energy

730,000

business customers (excluding industrial maintenance)

655 treatment plants



Veolia treats and monitors water quality at each stage in its cycle from extraction of the natural resource through to its discharge back into the natural environment.

We innovate to reduce the amount of resource extracted and to encourage cities and industry to recycle and reuse water.

96,000,000 people supplied with drinking water

59,600,000

people connected to wastewater systems

4,455
drinking water production plants managed

3,338
wastewater treatment plants operated







# 4 challenges to embrace

### THE SUSTAINABLE

development of cities

Half the world's population lives in cities. By the end of the century, urbanization will continue to intensify to a level never seen before in human history. While cities enable economies of scale and more efficient services, they also need to be cleaner and more resilient, and consume less energy. Veolia has a unique range of expertises in the management of large, complex public services including drinking water, wastewater, waste collection and recovery, and heating and cooling networks. Present in many megacities around the world, Veolia is rethinking its relationship with local government authorities in order to become a consulting partner to help them improve their performance.





### **CLIMATE**

change

Limiting average warming of the planet to 2°C by 2100 is a target that must be shared by all actors. This climate change is largely due to greenhouse gas emissions. Fortunately, there are solutions for developing a carbon-free economy. Veolia is investing in research to produce renewable and alternative energies, and to improve energy efficiency. Attentive to the impact of our own facilities, we offer our customers diagnostic tools and clean, game-changing solutions.

### **INCREASINGLY SCARCE**

resources

The United Nations estimates that the equivalent of two planets will be needed to meet our needs by 2050 if we continue at the current rate. We therefore urgently need to reinvent our relationship with resources and raw materials, the cost of which tripled between 2000 and 2013. Each day, Veolia acts to preserve and replenish resources. We recover water, energy and waste. What is discarded by some becomes a resource for others. Water and waste produce cooling, heat, steam, energy, bioplastics, biofertilizer, biofuels and secondary raw materials. These new materials are then used, recovered and reused again and again. That is the principle behind the circular economy.





### **FRAGILITY**

of ecosystems and biodiversity

According to the "Millennium Ecosystem Assessment", the rate of species' extinction is one thousand times greater than it would be without human intervention. Through our CSR commitments, Veolia undertakes to preserve natural resources and diversity. In particular, this commitment is evident in the rigorous analysis toward redirecting the impact of our facilities and activities. The Veolia Foundation also supports many associations and scientific and citizen-initiated actions to protect biodiversity.

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### 5 continents where we are present

Present on five continents, Veolia works with industrial companies and local government authorities and their populations to ensure the optimum use of resources. In order to work even more closely with our customers, pool our best practices and improve our knowledge of national markets, we have adopted a new organizational structure based on a single Veolia and a single head office for each country. Today, our priority is to strengthen our position in the world's high-growth-rate regions.

€23,880
million revenue
in 2014

179,000 employees worldwide

### FRANCE

**€9,305** million revenue

**53,000** employees

### NORTH AMERICA

€2,020 million revenue 9.000

### LATIN AMERICA

employees

€895
million revenue
14,100
employees

Veolia

### AFRICA AND MIDDLE EAST

€1,810
million revenue
12,000
employees

### EUROPE (EXCLUDING FRANCE)

€7,680 million revenue 65,300 employees

Veolia

For further information:
veolia.com

ASIA AND OCEANIA €2,170

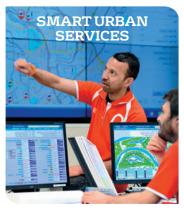
million revenue

25,600

employees

12

# 6 breakthrough innovations



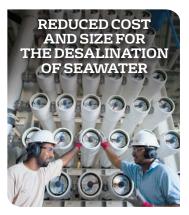
The Hubgrade, a new and smart industrial solution by Veolia. centralizes and manages digital data from customer resources: heat, cold and purification networks, drinking water and waste are managed in real-time. The Hubgrade management center offers customers new solutions to optimize the use of their resources and creates new synergies between essential service professions, which constitute the core of a smart city. Users are better informed in real-time, and are able to improve by themselves the performance of the services provided.

5% to 15% additional energy savings generated when compared with existing energy efficiency services



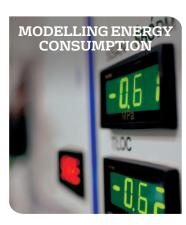
In France, Veolia researchers have developed an industrial prototype, which has been operational at the sorting center of Amiens for the semi-automatic sorting of waste (I-SORT3R™) since 2013. The principle: select waste on the touchscreen. By eliminating the contact between waste and the operator, this innovation has reinvented the sorting profession, improved the working conditions of operators and enhanced the performance of the sorting centre. The system is combined with auto-adaptive sequential sorting (TSA2), which selects packaging upstream based on material and colour (food cartons and plastic and other bottles).

An extra 6% of household packaging is recycled in the form of secondary raw materials



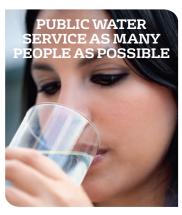
In the future town of Masdar, at Abu Dhabi, new Hiprode™ technology is used to the benefit of the reverse osmosis seawater desalination program and the renewable energy program. This approach allows smaller desalination units to be used, thereby reducing costs. The results obtained using this 300 m<sup>3</sup>/day demonstrator will confirm the plans to construct a large-scale reverse osmosis desalination plant. Hiprode™ technology had already been tested and confirmed using a prototype installed at Veolia's seawater desalination plant in Gibraltar.

300 m<sup>3</sup>
a day of seawater desalinated using Hiprode™ reverse osmosis



Veolia Research & Innovation develops energy optimization models for buildings via the Batintel project, able to reduce heating and cooling consumption while ensuring the comfort of occupants. Daily optimization is ensured with these models, which integrate weather forecasts for the coming days. Decision-making assistance (Smart DH) and load forecast tools are designed for heating systems, in cooperation with Heat Tech Center researchers in Warsaw, to help dispatchers to plan for and ensure the supply of heat to users connected to the system and depending on their requirements.

5% to 10% of energy savings achieved



The economic capital of Ecuador, Guavaguil, has a population of 2.5 million. Veolia manages all drinking water (over 1 million m<sup>3</sup> per day) and wastewater services in the capital. To ensure that the entire population has access to these basic services that are essential to their health and quality of life, Veolia has implemented system of social measures including in particular adapted pricing and mediation. The Group has trained 1,200 community leaders and created a mobile office for citizen outreach on this system.

of the population has access to drinking water (+60% in ten years). 69% are connected to the wastewater system



New York City is using Veolia's new Peer Performance Solutions model to better manage its public water and wastewater services. Veolia and NYC Department of Environmental Protection (DEP) improve operations and increase the agency's effectiveness while reducing costs under an "operational excellence program". 80 initiatives have been implemented with five objectives: efficient and sustainable use of resources, enhancing workforce effectiveness, improving revenue collection, developing a metricsbased performance culture and strengthening the DEP's support services.

98
million dollars saved in 2014. Nine million
New Yorkers served

Veolia

14 15

# 7 promising sectors to explore

### DISMANTLING INDUSTRIAL FACILITIES

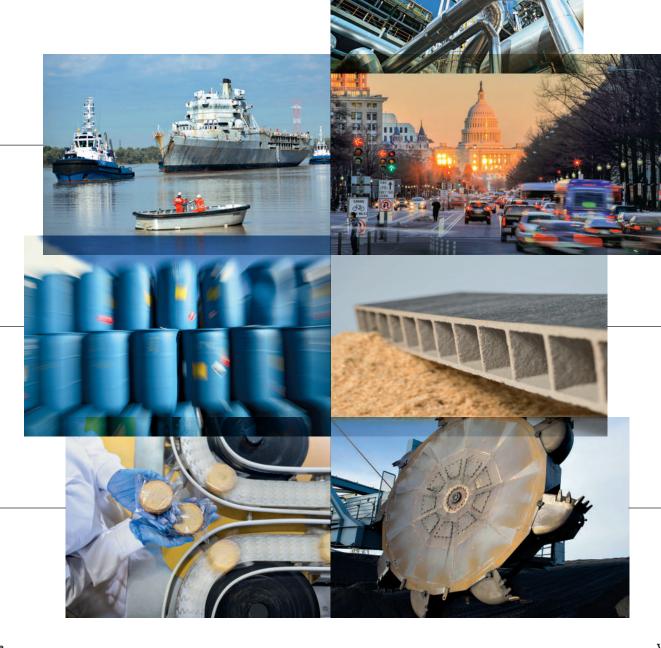
Passenger liners, aircraft, trains, production plants, oil platforms, etc.: Veolia provides complete solutions for complex situations while guaranteeing the market's highest standards. In Bordeaux, in France, Veolia is dismantling for the French Navy the ex-Jeanne d'Arc helicopter carrier, 9,000 tons and 182 meters long. We valorize 90% of the materials with total traceability of the waste in this new branch which is respectful of the environment.

### DIFFICULT-TO-MANAGE MATERIALS

Low-level radioactive waste, chemical products and hydrocarbon derivatives, etc.: as certain types of waste are hazardous for human health and the environment, high level expertise and non-standard equipment are needed for their treatment. For the city of Changsha, in Hunan province, in China, Veolia is constructing a processing center (24h/24) for 80,000 tons of dangerous waste per year which associates energy valorization, physical-chemical treatment, solidification and storage.

### FOOD AND BEVERAGE INDUSTRY

Population growth, the rapid growth in food needs and consumers' growing demands are placing pressure on the industry. Veolia works with them to reduce their environmental footprint and contain their costs. In Bjuv, in Sweden, Veolia operates and provides maintenance of the production site in Findus. We are reducing by 15% the costs of the utilities by lowering energy consumption.



### OIL AND GAS

The oil and gas industries sit at the crossroads between major regulatory, societal, environmental, economic and operational challenges. Veolia helps overcome these challenges to ensure a better environmental footprint. In Mailiao, for Formosa Petrochemical Corporation (FPCC), Veolia processes the waters from the largest petrochemical site in Taiwan, saving 60,000 m³ a day in raw water. The Moving Bed Bio Reactor filtering technology makes it possible to reuse 5,000 m³ a day.

### INNOVATIVE SOLUTIONS FOR CITIES

Constantly growing in size and under financial stress, cities must optimize the management of their public services. As a partner of cities, we are inventing new, more efficient models. In Washington DC, in the United States, we are improving the management of water by sharing the value created. This new model of partnership, thanks to crossed public-private innovations, increases efficiency and reduces expenses by 12 million dollars a year.

### **CIRCULAR ECONOMY**

A sustainable alternative to the current production and consumption approach, the circular economy is already a reality. Industrial companies and local government authorities are starting to produce alternative resources and local supply loops are emerging. In France, Castorama's new kitchen counter, co-designed and co-developed with Veolia, is a product coming entirely from renewable resources. This is the first time that a stratified kitchen counter has been manufactured using entirely recycled materials composed 35% of wood and 65% of plastics.

### MINING INDUSTRY

Mining effluent treatment is a major economic, regulatory and environmental challenge. In Ghana, for AngloGold Ashanti, we process waters from the Iduapriem gold mine which produces 220,000 ounces of gold per year. Under extreme weather conditions, we manage water resources with precaution, and with a minimal impact on the environment.

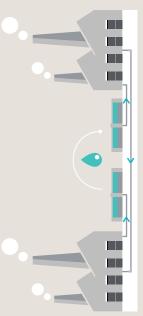
# 8 ways to resource the world

### SEVERAL LIVES GIVE WATER

Reintroducing wastewater into agricultural and industrial production cycles, and even domestic consumption, is one solution for overcoming water shortages and the growing cost of treatment. Worldwide, Veolia provides tailored solutions for each need and each resource typology. In Qatar, we have installed closed loops for oil group Shell enabling almost 100% of the wastewater produced to be reused.



of wastewater is reused



Waste Electrical and Electronic Equipment (WEEE) is increasing three times faster than household waste. Poorly treated, it is becoming a real scourge. In Angers (France), Veolia runs a high-performance plant for dismantling WEEE and recovering the plastics extracted from this waste. It has created a closed loop for the recovery of plastics in order to meet the needs of French manufacturers.

# GENERATE AWARENESS OF SCARCITY

Water is a precious commodity. Saving it, conserving it, multiplying its uses and sharing it better are becoming crucial. However, no sustainable and rational action is possible without solid knowledge of the state of the resource. For this reason, Veolia has developed three tools to help states, cities and industry measure resources and help with their decisionmaking: Growing Blue Tool, Water Impact Index and True Cost of Water are designed to improve the assessment of footprints and help take more appropriate action (www.growingblue.com).

of the world's population lives in regions suffering water stress



# THE FUTURE FOR BIOMASS

both a source of renewable energy and fertilizer used to improve and revitalize soil. At Fort Saint James (Canada), we have designed and are operating one of the country's largest biomass power plants fuelled with waste from the local foresty industry. It will provide electricity to nearly 40,000 households and avoid the annual emission of around 95,000 metric tons of CO<sub>2</sub>—the equivalent of more than 45,000 cars off the road. With the promise of a fine future, biomass is

ADVANCED RECYCLING



of waste are reused and recycled in Woodlawn



# FROM LANDFILL TO RECOVERY

Make everything a source of materials recovery. For Veolia, landfilling waste is not the end of the story. After extracting the best of each type of material in the waste, the fraction that is no longer recyclable can still serve a purpose. At Woodlawn (Australia), a former copper mine has been converted into a landfill and is now equipped with the latest technology for organic and energy recovery from waste.

Certain types of hazardous and toxic waste pose a serious and lasting threat for human health and the environment. Veolia has developed unique expertise for recovering

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and reusing hazardous waste. In Berne (Switzerland), we manage the world's first plant to isolate the mercury contained in industrial catalyzers and spent activated carbon, recovering it in a 99.9% pure liquid form. With all traces of mercury removed, the catalyzers and active carbon can be

of the Earth's surface is covered with water

20% of this water is salty

# SEAWATER DESALINATION

desalination, we have extensive expertise in the very latest filtration technology and are working actively on limiting its ecological footprint, in particular through the use of renewable energy. In Jubail (Saudi Arabia), we have built and manage the country's largest ultrafiltration and reverse osmosis desalination plant that supplies the Sadara petrochemicals complex. Seawater desalination provides a precious alternative resource. The world leader for



metric tons of catalyzers a year Pollution removed from



# MULTIPLE USES FOR WASTEWATER SLUDGE

For Veolia, wastewater sludge is no longer a waste product; it can be used in a real circular economy. In Denmark, the wastewater treatment plant of the future, the Billund BioRefinery, will convert wastewater sludge and organic waste into biogas for local consumption, fertilizer for agriculture, and bioplastics.



MWh

of electricity generated each year at the plant

# 9 commitments to ensuring sustainable development

# Natural resources are running out and deteriorating. It is therefore necessary to bring about a radical change in the way they are used and how the pollution affecting them is treated. The Group acts and innovates at all levels to limit consumption, optimize resource productivity and treat complex pollution. As a pioneer in the circular economy, the Group is implementing new models with tailored recovery solutions and treatment adapted to each situation. TO RESOURCING THE PLANET OUR COMMITMENTS

# CONTRIBUTE TO COMBATING CLIMATE CHANGE

SUSTAINABLY MANAGE NATURAL RESOURCES BY SUPPORTING THE

**CIRCULAR ECONOMY** 

To contain global warming within +2°C, greenhouse gas emissions (GHGs) worldwide must decrease by 70% by the year 2050\*. Veolia is actively encouraging a robust and stable carbon price that would boost low-carbon solutions. In our activities, we are mobilized to reduce greenhouse gas emissions and to invent solutions that prevent them.

\*According to the latest IPCC 2014 report.

### CONSERVE AND RESTORE **BIODIVERSITY**

Through ecological management of our sites, as well as the nature of our activities, we demonstrate commitment to protecting the natural environment and biodiversity. Our Foundation also encourages actions that educate or raise awareness about eco-responsible behavior. For example, it supports the Tara Mediterranean expedition that is assessing the impact of plastic waste on the marine ecosystem. Human activity seriously affects the natural environment and its flora and fauna.

### RELATIONS AND VALUE CREATION WITH OUR STAKEHOLDERS BUILD NEW MODELS FOR REL

regulatory, social and environmental issues to improve our clients' performance.
To do so, we interact with all the players to innovate and build together new initiatives creating shared value.
Our solutions are based on circular economy and shared performance principles. propose solutions that cut across

TO RESOURCING RE

OUR COMMITME

# CONTRIBUTE TO LOCAL DEVELOPMENT

Despite globalization, water, energy and waste remain local issues. As a key contributor to regions, Veolia has in-depth knowledge in these areas. Our solutions contribute to improving the attractiveness and competitiveness of communities, and the companies operating in them, increasing the vitality of their regions. We are also a driver behind the creation of direct and indirect employment for the operation of services, and the maintenance and development of infrastructure. Finally, we encourage green employment through our solidarity and integration policies, and we support the local fabric of SMEs.

### SUPPLY AND MAINTAIN TO HUMAN HEALTH AND DEVELOPMENT

everyone has access to quality services.
Our action in particular focuses on underprivileged communities by designing with local government authorities and associations new ways of ensuring access and payment facilities for people experiencing difficulties or excluded from the system. these services. We are consulted to provide the best solutions to local issues and ensure Water, energy and waste management are essential for everyday life. Veolia is committed to ensuring durable access to

### GUARANTEE A HEALTHY AND SAFE WORKING LO SAFE WORKING ENVIRONMENT

for Veolia. We undertake to guarantee the physical and mental integrity of our employees. This commitment is reflected in particular in the inclusion of all occupational, health and safety issues in collective agreements, and the implementation of a health and safety management system throughout the company. We signed the Seoul Declaration of the International Labor Organization which recognizes the fundamental human right to a safe and healthy workplace environment. Health and safety is a constant concern

AND MEN WHO WORK FOR OUR COMPANY

OUR COMMITMENTS TO THE WOMEN

# ENCOURAGE THE ESSIONAL DEVELOPMENT AND COMMITMENT OF EACH EMPLOYEE PROFES

Our employees' motivation and commitment are our wealth and our strength. That is why we have prioritized skills and career development, acknowledgement of our employees' performance and respect of diversity. We have therefore equipped ourselves with a comprehensive training and HR policy. A dedicated scheme has been put in place to more closely associate our managers to the implementation of this strategy. Veolia's ability to attract and gain loyalty is a major feature of its performance.

# GUARANTEE RESPECT R DIVERSITY AND HUMAN AND FUNDAMENTAL SOCIAL RIGHTS FOR

With 179,000 employees, the women and men who work for the company are our finest asset. Committed to social cohesion and stability, in particular in this period of our organizational transformation, Veolia pays increased attention to the quality of social dialogue with the employee representative bodies, and to the respect for diversity, the principle of equal opportunities and combating discrimination. We place socially responsible approaches at the center of our model and uphold procedures that enable employees to express themselves.

### **TO LEARN MORE**

www.veolia.com

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