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# ready for the resource revolution



## the increasing scarcity of natural resources is a challenge that motivates us and will engage future generations

Today, only 2.5% of water on Earth is fresh water.
Tomorrow, we must ensure that 9 billion people have access to high quality drinking water and provide access to this vital resource for economic and industrial development too.

To meet this challenge, we must be innovative. We must embrace new ways, change our consumption habits and implement new solutions to develop alternative water resources.

Today, 10 million tonnes of waste is produced every 24 hours.

Tomorrow, we must give this waste a second life.

It is vital that we rethink production methods and innovate to transform waste into secondary raw materials and create new sources of energy.

Today, 50% of people live in cities.

Tomorrow, 70% of people will live in cities. We need to plan and develop sustainable societies together.

Cities must become places for shared wealth creation smart cities that can address the new challenges of managing resources.

# we are at the dawn of the resource revolution

SUEZ environnement was part of the major social revolution in the 19<sup>th</sup> century - public health - and in the 20<sup>th</sup> century - modern urban services. Today, we want to help meet the challenges of this resource revolution. This revolution is:



circular, because it aims to regenerate resources that are essential to life and the future according to the principles of the circular economy.



concrete, because it involves tangible and innovative actions to secure resources.



collaborative, because it engages everyone who contributes, each at their own level, to better manage and secure resources for the future.

# ready for the resource revolution

We are accelerating the transformation of our businesses and our organisation by combining all of our activities under a single brand.



This single brand, the culmination of over 150 years of shared history, expresses our ambition and demonstrates our commitment to securing resources.

From today, SITA, Degrémont, Agbar, Aqualogy, Lyonnaise des Eaux, United Water, Ondeo Italia, Ondeo CZ, Ondeo Industrial Solutions, SAFEGE... and all the companies in our Group, now form just one: SUEZ environnement.

From now on, our 80,000 employees are united in providing our customers (local authorities, industry and consumers), partners and stakeholders, all over the world, with concrete solutions to address new resource management challenges.

an industrial services and solutions company specialising in securing and recovering resources

#### Water

Management solutions for the entire water cycle: protection of resources and natural environments, production of drinking water, cleansing wastewater, effective management of the network infrastructure and smart solutions to optimise usage and preserve water resources for the future.

Local businesses and services, operating facilities and networks, public engagement, environmental engineering and managing customer relations.

# 2

#### Waste recovery

Managing materials, energy and recovery solutions for all types of waste to both secure existing and produce new resources.

Waste recovery services - from research and consultancy, collection, sorting and dismantling, through to recycling, recovery and marketing of new resources, plus specialised services at industrial sites.

# 3

#### **Treatment solutions**

Water treatment solutions for the production of drinking water, seawater desalination, sludge treatment, wastewater purification and recycling to ensure the future sustainability of these resources.

The design, construction, operation and financing of water treatment plants and systems.

# 4

#### Consulting

Innovative consulting solutions, which include technical, economic, environmental and social aspects for the sustainable design of cities and land-use to ensure the protection of resources.

Project development, investment optimisation and complex project management to minimise costs and lead times. across the world, every day, 80,000 employees are contributing to the resource revolution

#### In Dunkirk, we are helping to promote socially responsible actions among residents

France, Dunkirk has implemented a standardised pricing system for around 220,000 people in the city, based on household size and income. Three price brackets have been established according to 'essential', 'useful' and 'comfort' water use to promote the concept of saving water. This pioneering system is monitored by an environmental panel involving individuals and communities, to benchmark the system and the effectiveness of the measures.

#### At Roosendaal, we produce and market local, renewable energy

Netherlands. The ReEnergy energy recovery plant is a reference project for the circular economy. With a capacity of 336,000 tonnes, the facility can manage residual waste produced by two million people and generate 256,000 megawatt hours of electricity each year (production equivalent to the electricity consumption of 70,000 households) supplying neighbouring towns. It also provides heat to nearby industrial greenhouses and an urban heating system for the city of Roosendaal.

#### In Mandalay, we are contributing to the development of a sustainable city

Myanmar. Supporting this city (with a population of over one million people) in its sustainable development process, SUEZ environnement is contributing its vision and expertise to a regional project that integrates all of the city's key services. There are several objectives: to improve water, waste and transport services, and optimise the energy efficiency and environmental performance of the city's services.

#### In Bayonne and Middletown, we are meeting the infrastructurefinancing challenge with a new governance model

United States. SOLUTION<sup>SM</sup> is a public private partnership between SUEZ environnement, the investment fund KKR and a local authority. It is aimed at modernising and improving the efficiency of water treatment systems and investing to upgrade old infrastructure. SUEZ environnement provides experience and innovation expertise alongside KKR's long-term investment capacity, so the local authority has a reduced debt and benefits from financial stability. In Bayonne and Middletown, 157 and 183 million dollars respectively have been invested via this new type of partnership, which is unique in managing the strict divide between management of the assets and operating activities while the local authorities retain ownership of the infrastructure.

## In Shanghai, we reduce the impact of industry on resource usage and contribute to a better quality of life

China. At Shanghai Chemical Industry Park (SCIP), the biggest industrial petrochemicals platform in Asia, which covers an area of around 30km², we recover over 60,000 tonnes of hazardous waste each year. We manage the park's entire water cycle and create cutting-edge solutions to protect resources. Through industrial wastewater re-use, sludge recovery and the recovery of energy from hazardous waste to supply steam to neighbouring companies, we contribute to a significant reducuction in their energy consumption.

## In Torremolinos, we apply advanced technologies to bathing water

Spain. COWAMA (COastal WAter MAnagement) is an innovative decision-making solution for anticipating the quality of bathing water, in order to optimise its management and provide reliable information to bathers. This solution prepares the city of tomorrow for environmental risks to its bathing water: it identifies potential sources of pollution and, in case of risk, assesses the type of risk and estimates how long it will last. An interactive app, called iBeach, keeps users informed in real-time.

# In Algiers, we harness human and technical challenges and the transfer of skills

Algeria. Since 2006, 27 SUEZ environnement experts have been working full time with local authorities in Algiers to improve the operation of their water and waste services. This has been through on-the-ground support, improved managerial practices and expertise in how to use modern tools, with around 150,000 days of training delivered. This 'management' contract also provides a structured skills transfer process, in the form of a digital assessment and operational best practice program, WIKTI, and managerial support methodology, OPT.

# In Antwerp, we produce four types of glass quality and create secondary raw materials for use in large industrial companies

Belgium. The new-generation High 5 glass recycling plant, designed in partnership with SIBELCO, is the world's first plant which is able to separate incoming glass into four different qualities. Thanks to the unique quality of the cullet produced by High 5, the plant's glass-manufacturing customers have been able to significantly increased the proportion of recycled glass they use in their production processes, thereby helping to preserve natural mineral resources.

#### In Melbourne, we are providing an alternative and sustainable water resource

Australia. Our reverseosmosis desalination
technology at the Wonthaggi
plant can treat 450,000 cubic
metres of seawater each
day, providing an alternative
source of drinking water
for a population of 4.25
million people. This is the
biggest plant in the southern
hemisphere and it guarantees
a sustainable water supply
for residents and industry in
a region that has had severe
water shortages.

# In Paris, we invest in research on plastics recovery

France. Responding to the needs of industrial companies, SUEZ environnement has set up Plast'Lab, a research centre dedicated to plastics recycling. The aim is to double our production of recycled plastics in Europe within five years, contributing to a major economic and environmental challenge. The use of recycled plastics instead of new plastic reduces energy consumption by 80 to 90%.

#### In Milan, we protect water resources for the oil and gas industry

Italy. To respond to the major challenge of water consumption in the heavy and ultra-heavy crude oil refining industry, the ENI plant has bolted on a new wastewater re-use loop.
This will save around 2.8 million cubic metres of water every year, significantly minimising the environmental and economic impact of the plant's processes.

#### In Och Kristianstad, we convert food waste into biogas

Sweden. Bio Simplex technology can treat all kinds of food waste. After recovery via anaerobic digestion, it is used to produce renewable energy (in the form of biogas) and improve soil. This process produces 8,000 litres of fuel per 100 tonnes of recovered bio-waste and contributes to the Swedish target of recovering 40% of food waste from households, shops and restaurants by 2015.

### In El Teniente, we provide solutions for ecological and economic challenges in the mining industry

Chile. With nearly 2,400 km of underground tunnels, the world's biggest copper mine faces a major challenge: to drastically reduce the concentration of molybdenum in water it discharges into the environment, as required by new regulations. SUEZ environnement has provided a successful solution using Densadeg™ technology, which can treat 2.5 cubic metres of water per second, helping to secure resources and meeting economic constraints.

**80,000** employees

323,000

industrial and business

70 countries

65,000,000

people benefiting from sanitation services

74,000,000

euros invested in resource-focused R&D



14,000,000

tonnes of recovered waste

5,138

GWh of energy produced each year in the world from waste

92,000,000

people supplied with drinking water

10,000,000

people supplied with drinking water from desalinated seawater