

VEOLIA KOREA



Resourcing the world



Contents

- 04 3 Areas of Benchmark Expertise in Environmental Services
- 06 Veolia Leads the Circular Economy
- 08 Veolia Korea
- 10 Water Management
- 12 Waste Management
- 14 Energy Management
- 16 CSR and Sustainable Development
- 18 Veolia Asia Industrial Technical and Training Center



Global References

3 areas of benchmark expertise in environmental services

Since the establishment of Veolia Group in France in 1853, Veolia has provided total environmental solutions in water, waste and energy management services to customers worldwide.



Water

Veolia offers a unique range of expertise in the sustainable management of water resources. This expertise is backed by state-of-the-art technology and covers a complete array of solutions to meet the needs of individuals and industries around the world. Veolia treats water and monitors its quality at each stage of the water cycle, from initial source withdrawal to subsequent discharge back into the natural environment. Veolia innovates to reduce the amounts extracted and to encourage cities and industries to recycle and reuse water.



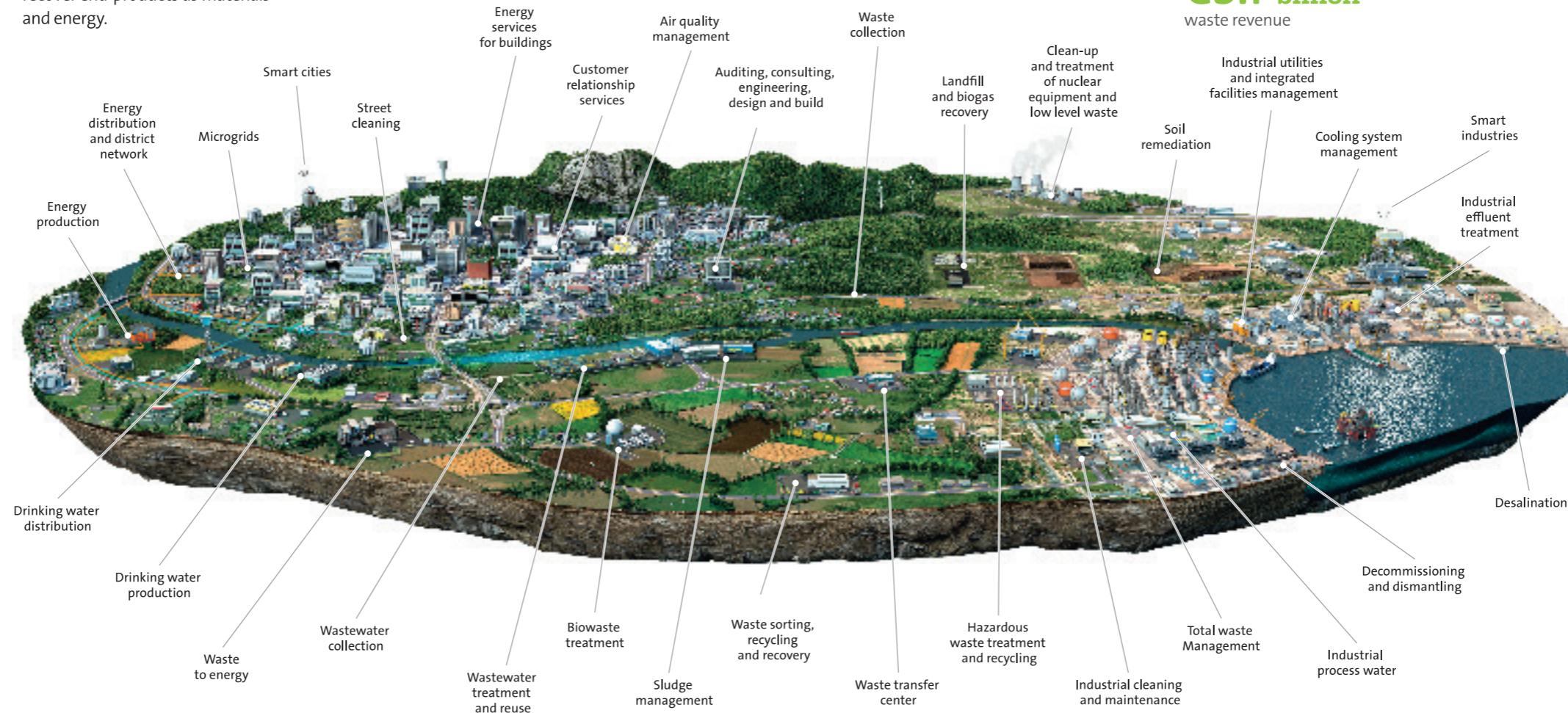
Water

Veolia specializes in the management of both liquid and solid designated and non-designated waste. Its expertise spans the entire waste life cycle, from collection to recycling, in order to recover end-products as materials and energy.



Energy

An expert in energy services, Veolia supports the economic growth of its local authority and industry clients, while also reducing the 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.



Revenue: €26 billion



98 million
people supplied with water

67 million
inhabitants connected to wastewater systems

3,548
water production plants managed

2,835
wastewater treatment plants managed

€10.9 billion
water revenue



41,000
MWh produced

45,097
thermal installations managed

2,357
industrial sites managed

591
heating and cooling networks managed

€5.4 billion
energy revenue



42 million
people provided with collection services on behalf of municipalities

50 million
metric tons of waste treated

519,046
business customers

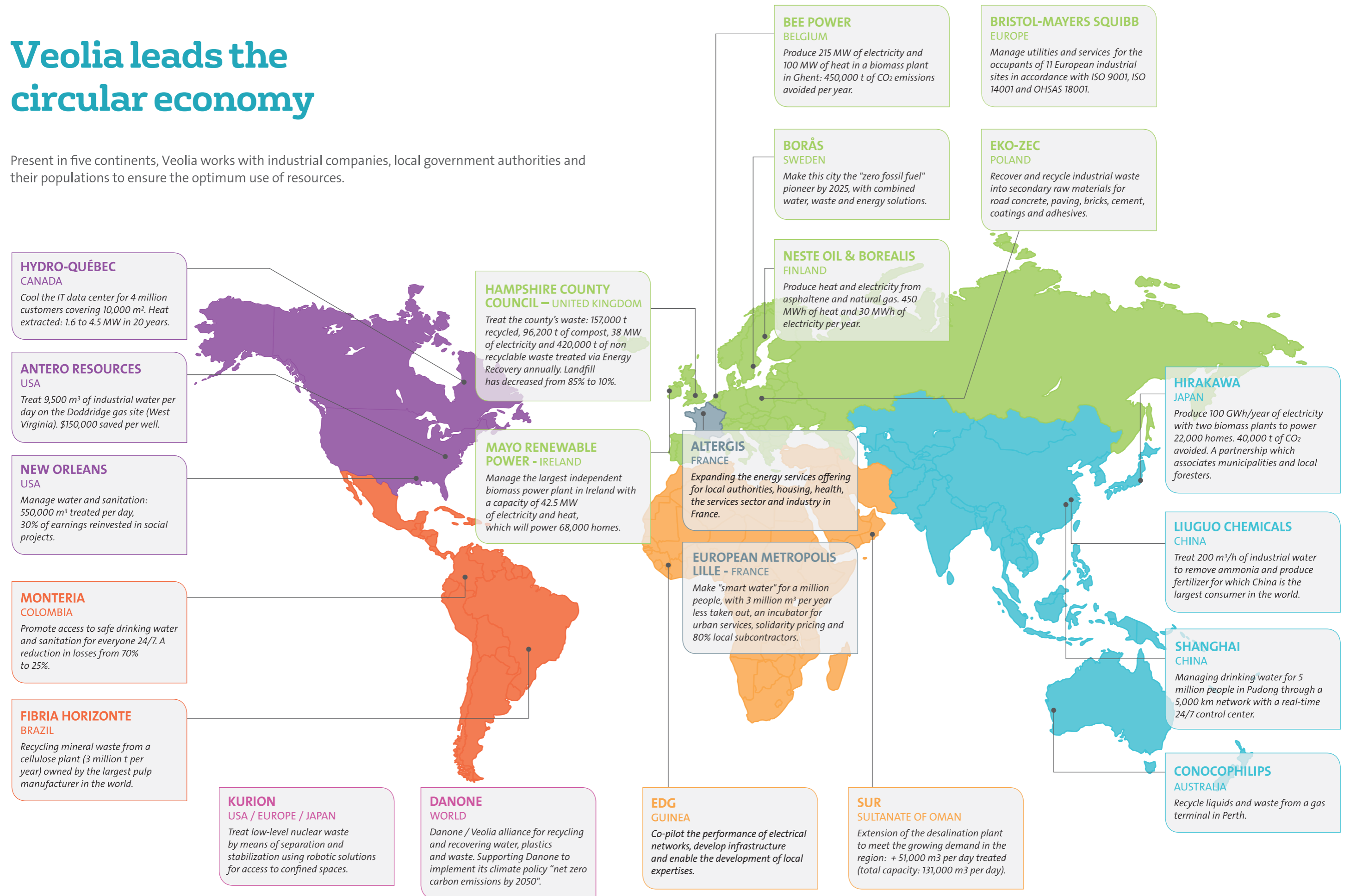
675
waste-processing facilities operated

€9.7 billion
waste revenue

* Based on 2020 data

Veolia leads the circular economy

Present in five continents, Veolia works with industrial companies, local government authorities and their populations to ensure the optimum use of resources.



Veolia Korea

With the establishment of the Korean branch in 1999, Veolia Korea provides a comprehensive range of waste, water, and energy management services designed to build the circular economy and preserve scarce raw materials. Around 1,300 employees are working at 50 sites for industrial water, municipal wastewater service, waste management and industrial energy service projects.

With our cutting-edge technologies and pioneering experiences in water, waste and energy businesses, we lead the environmental industry by providing O&M, EPC services for facilities, chemicals services and supplying consumables for water treatment.

1999 ~ 2007

1999

- Established in Korea

2000

- LG/Lotte Chemical (HPC) contract

2001

- SK hynix contract
- Incheon Songdo-Mansu STP

2004

- KKPC Rubber Yeosu contract

2005

- KKPC Rubber Ulsan / KPC Yeosu contract

2006

- SK hynix contract extension

2007

- KKPC Resin Ulsan contract



2008 ~ 2014

2008

- Dongbu Steel hot-rolled contract

2010

- Dongbu Steel cold-rolled contract

2013

- KPC II Yeosu contract
- DH Recycling contract

2014

- KHNP contract
- COSMO AM&T contract
- Hongwon P&P contract
- Jeonju City Actiflo™ STP EPC contract



2015 ~ 2017

2015

- 100% Acquisition of Ecocycle
- Yeosu EPC contracts awarded for Exelys™ process
- SOLVAY WTP-WWTP EPC contract

2016

- Acquisition of Dongyang Green Bio food waste facility
- Seonam STP EPC awarded

2017

- Hyundai Transis contract
- Acquisition of Uniken
- Acquisition of Hanbul Energy Management
- SK hynix(Happy More) project
- Kleannara water & wastewater treatment contract



2018 ~ Present

2018

- SK hynix M15 contract
- SK hynix contract renewal (Icheon, Cheongju)
- MagnaChip contract
- Kleannara SRF boiler contract

2019

- Acquisition of Doksan & DSPL
- Acquisition of R&E

2020

- LG/Lotte Chemical (HPC) contract renewal
- KKPC contract renewal (Yeosu, Ulsan)
- SK hynix M16 contract

2021

- KKPC 2 Rubber Yeosu contract



Water Management

Total solutions for water resources

Veolia offers comprehensive services in the water resources cycle including the withdrawal of raw water, production and supply of drinking water, and the treatment and recycling of wastewater. We possess the ability to meet the needs of municipal customers as the global leader in water business. In addition, we offer services for industrial customers such as SK hynix, KG Dongbu Steel, Kumho Petrochemicals, LG/Lotte Chemical, Kleannara, etc. including the production of industrial water, operation & maintenance services of water treatment facilities. Veolia provides total water treatment solutions customized for each industry such as oil & gas, semiconductors, pharmaceutical, automobile, power plant, chemical and paper.

Operation and Maintenance & Wastewater

Veolia offers operation and maintenance services of water & wastewater treatment facilities for municipal and industrial customers.



Construction of new facilities, Upgrade of existing facilities



Optimization of facilities operation and maintenance



Sustainable solutions for reducing effectiveness on water contamination and CO₂ emission.



Expert supervision of staff

Water Treatment Technology

Veolia offers more than 350 proprietary technologies to respond to issues that span the entire spectrum of water treatment, including drinking water, industrial process water, ultrapure water, wastewater and seawater:



Biological treatment: Biostyr[®], MBBR



Membrane technology: microfiltration, ultrafiltration and reverse osmosis



Desalination via membrane, thermal and hybrid processes



Wastewater treatment: EVald[™], Actiflo[™], Biostyr[®], MBBR, Biothane[®], MBR

EPC & Technology Solutions

Veolia offers a total turnkey solution for both municipalities & industries ranging from design and construction of water treatment facilities and system to facility renovations. As the global leader in water services, we make sure to deliver the best solutions for our clients to process & recycle wastewater including the recovery of energy and raw materials and reuse of sludge coming from wastewater.



Exleys[™], Settled in Yeosu STP

Sludge Treatment Solutions

		EXEELS [™]	ATHOS [™]	INOS [™]	BIOHERM [™]	BIOPASTEUR [™]	SOLIA [™]	BIOCON [™]	PYROFLUID [™]	PYROMIX	COMPOSTING [™]	SAPPHIRE [™]	LIMING	ALZAIR [™]	AQUILAIR [™]	IDRADEO [™]	ODOWATCH [™]
Sludge recycling	Energy recovery	●	●	●	●	●	●	●	●	●							
	Matter recycling		●	●	●		●	●	●		●	●	●				
Reducing sludge quantities	within the existing sludge treatment process: for thickened sludge		●	●	●	●						●					
	for dewatered sludge	●					●	●	●	●	●						
Reducing odor nuisances	measurement solutions																●
	treatment solutions											●	●	●	●	●	
Improving health & safety and sludge quality		●	●	●	●	●	●	●	●	●	●	●	●				

● thermal solutions ● biological solutions ● chemical solutions

Chemicals

Hydrex[™]
Customized chemical services for municipal and industrial water treatment system.

series 1000	Boiler water treatment
series 2000	Cooling system treatment
series 3000	Drinking water production
series 4000	Chemicals for RO Membrane
series 5000	Industrial maintenance management
series 6000	Water & wastewater treatment
series 7000	Biocide and legionella treatment
series 8000	Process and specialty chemicals
series 9000	Other advanced treatment

Water Recycling & Reuse Solutions

Veolia's patented engineering processes provide clients with water recycling and reuse solutions.

- Actiflo[®] : TurboRapid, flexible and performant
- IDRAFLOT[®] : Leading edge biological treatment
- EVald[™] : Evaporation technology
- MegaRO[™] : Reverse osmosis Units for Boiler Feed and Process Water
- Uflex[™] : Ultrafiltration Unit / Membrane Solutions
- AnoxKaldnes[™] MBBR : Leading edge biological treatment

Waste Management

Safe and Professional Waste Services

Veolia is an international, market-leading waste management company providing a comprehensive range of services for municipalities & industries. It anticipates and evaluates new legislation, develops and assesses environmental technologies and researches our customers' practical requirements to provide successful sustainable waste management services.

Today Veolia Korea operates material recovery facilities and Produce Solid Refuse Fuel (SRF) which is used as fuel for the Waste To Energy (WTE) it operates or for external clients

Services Offered by the Waste Business Unit of Veolia Korea

Materials Recovery

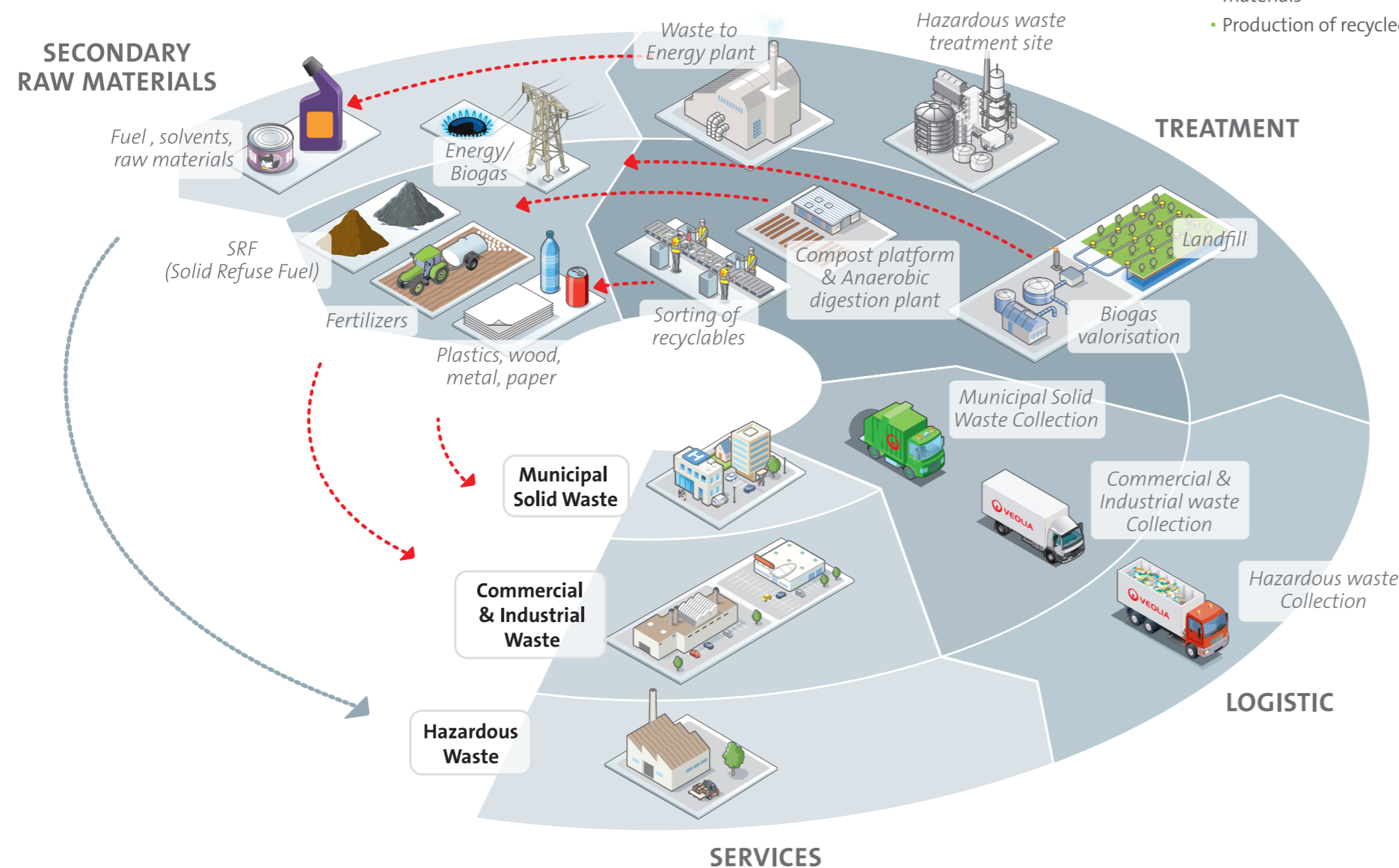
The recovery of materials helps conserve primary natural resources by turning waste into replacement energy products. Veolia has been developing recovery solutions that provide its customers with certified secondary raw materials.

- Plastics: Sorting by type (PET/PP/PS/PE)
- Recovery and production of secondary raw materials
- Production of recycled materials

Waste-to-Energy

Veolia supports the growing demand for renewable energy and, wherever possible, develops solutions to supply green energy to its customers.

- **Electricity and heat generation** for the local industry or domestic needs produced by the combustion of non-recyclable waste
- **SRF recovery:** solid recovered fuel (SRF) provides a way to recover of municipal waste or non-hazardous industrial waste while meeting industry's growing demand for energy



By operating such facilities, Veolia develops the circular economy. Veolia will continue to intensify its development in such activities allowing the reduction of greenhouse gas emission and limiting the use of the primary resources.

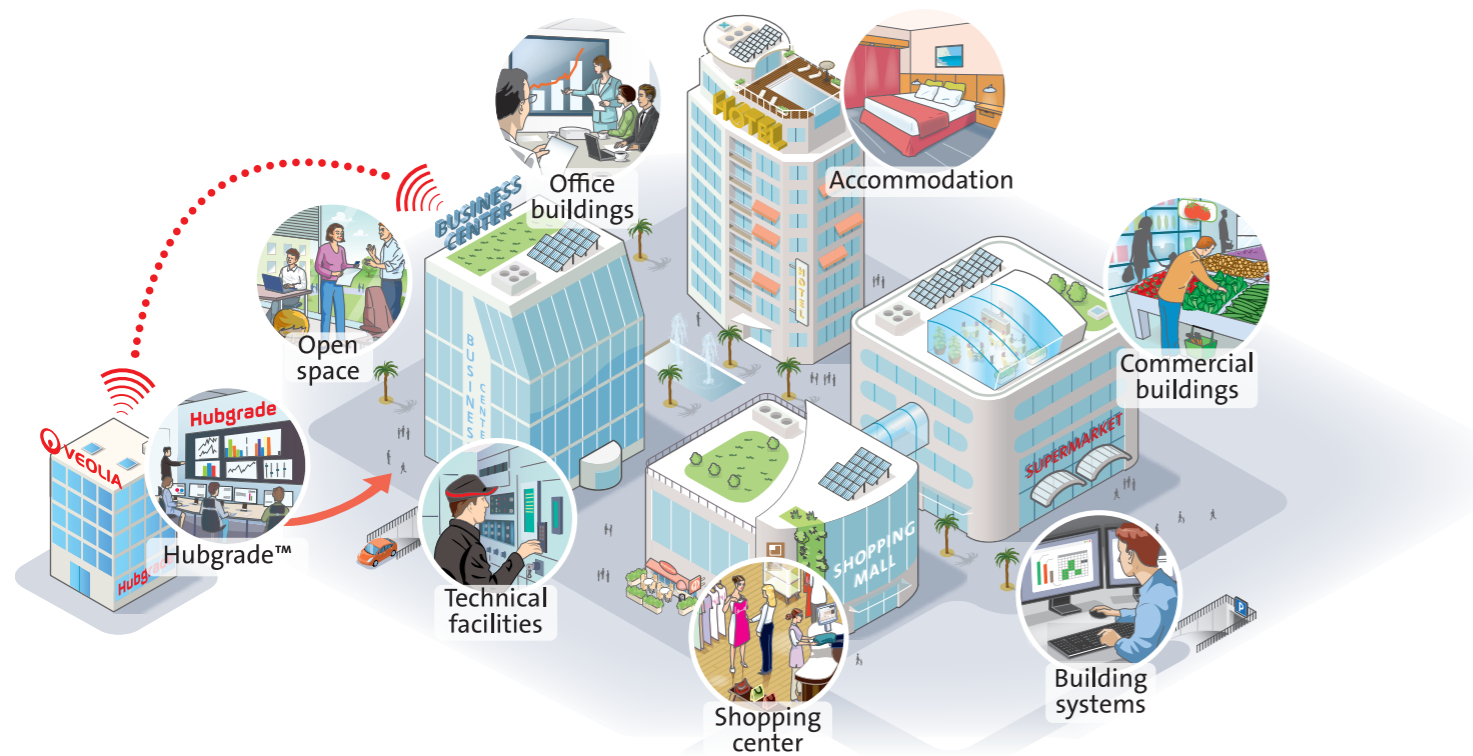
Veolia can provide different solutions to reuse, recycle, valorize or treat waste by developing and implementing dedicated solutions in other fields of the waste management including:

- Collecting, producing of recycled materials
- Organic, designated, medical or radioactive waste activities
- Waste to Energy & incineration
- Landfill
- Industrial services (IS) : tank cleaning service, soil remediation.

Energy Management

Veolia offers both economical and eco-friendly optimization services of energy management system for municipal and industrial clients. Veolia improves the business performances of clients by providing these services such as heating and cooling network management, combined heat & power (cogeneration) and building energy performance improvement.

- Management of energy utility service
- Managing energy supplies for industrial clients
- Energy efficiency improvement
- Renewable energy management
- Designing, building, operating and managing of CHP, biomass, and energy utilities.
- Creating environmental solutions including biomass, biogas, energy recovery and CHP
- Managing carbon quotas
- Building energy services (BES)
- Inside air quality management (IAQ)



Performance

- Energy, water and cost savings
- Carbon emission reduction
- Green certifications: LEED, BREEAM, ISO 50001 ...

Secure Energy Supply

- Cost of utilities
- Efficiency of energy systems

Reliability

- 24/7 Energy
- Quality of utilities
- Fixed cost of O&M

Energy Plant Management

Combined Heat & Power (CHP)

CHP plants produce recyclable heat along with electricity, which is most commonly used for heating and industrial processes.

- Incineration using boilers
- Waste to energy
- District heating

Value for Customers

Veolia's operation and maintenance



Real-time energy consumption report

Hubgrade Solution provides the real-time report through the real-time performance monitoring



Energy management

Optimization of energy consumption and production, increase of efficiency



Performance improvement

Performance based contract system, improvement of measuring and management capabilities



Optimization of wastes

Optimization of waste management cost and reduction of emission through waste to energy solution
ex) Medical waste etc



Water circulation management

Cost optimization, recycling and securing of supply through management of water usage, process
ex) condensate water management etc



Recovery of resources, Waste To Energy

Added value enhancement through recycling and recovery
ex) waste heat supply etc

Energy saving guarantee contract



10% saving Progress

- Including realization of energy-saving EMS
- Monitoring energy usage

10~20% saving Smart

- Provide customizing report
- Energy campaign (PR)
- Smart meter
- Consumption inspection
- Cost verification
- AI measurement

25% saving guarantee Green

- Facility investment
- Renewable energy
- Green building regulation and accreditation

Corporate Social Responsibility & Sustainable Development

Protection of resources is now one of major challenges facing our society to leaving precious resources intact for the next generation. Veolia works toward these goals by consistently providing comprehensive environmental solutions with our clients and conducting CSR activities at the corporate level.

Impact 2023 Global Strategic Program



UN Sustainable Development Goals (SDGs)

Veolia plays a part in all 17 SDGs at different levels and has a direct impact in 13 of them.



Local Activities



Local community initiative



Clean-up campaigns



Site tours

The Veolia Foundation

Established in 2004, the Veolia Foundation supports non-profit general interest actions in France and abroad that contribute to the sustainable development of the territories.

1,500 projects supported since its creation

200 humanitarian and development assistance missions



Credits : foundation Veolia, Lulu dans ma rue, Charlotte Blan/Océanica Prod

Certificates

Integrated Management Systems (IMS)

Veolia implements the Integrated Management System (IMS) on all sites. The 3 main categories of this system are service quality, health and safety policy and environmental performance. Currently, Veolia sites including Seoul head office achieved triple certification to ISO 9001: 2015, ISO 14001:2015 and ISO 45001:2018.

Veolia Asia Industrial Technical & Training Center (ITTC)

Veolia Global Research Network

Researchers

and technicians from 800 experts within the Group

Water, Waste, Energy

research programs aligned with the Group's businesses

Over 2,100

patents filed

5

expertise departments

Introduction

- Year of establishment: 2013
- Location: Incheon Free Economic Zone (IFEZ) Songdo Area
Veolia Asia's Industrial Training and Technical Center (ITTC) offers Veolia employees across the Asia Pacific regions advanced educational training programs targeted to the subject of technical expertise, research trends, best practices, management, finance, and project development. The environmental friendly design of the training center accommodates 30,000 employees throughout the year, equipped with a pilot plant, central laboratory, and training rooms showcasing Veolia's expertise in the water, waste and energy activities.



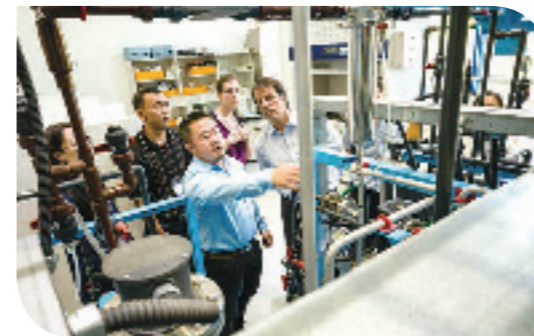
Educational Facilities

The training Center at ITTC is designed to enhance employees' professional competences in the area of technical, management, general subjects and functional areas which will contribute to improvement of business operations.



Central Laboratory

As an independent, certified institution, the Central Laboratory offers not only the technical support for water treatment systems & process enhancement but also education programs for proper analysis.



Pilot Plant Hall

The hall is equipped with in-house instruments for conducting a pilot test of multiple items, such as production of water with different quality ranging from raw to ultra-pure, wastewater reuse, optimal use of chemicals and smart operation of cooling towers.



Hubgrade™

Hubgrade™ is an energy saving operating system developed by Veolia with its own know how. Continuously provides efficient energy management and strategy.

Veolia Korea

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