

Resource efficiency through ecological transformation

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Regional Approach Sofia Energynomics, September 15

Veolia at a glance

- Our mission is to resource the world. Improvement of our environmental footprint and that of our customers is central to our business and its economic model
- Veolia provides water, waste and energy management solutions to facilitate access to essential services and natural resources, and efficiently conserve, use and recycle those natural resources

- 220,000 employees worldwide (after merger with Suez)
- €38,4 billion (2021 revenue)
- 38,000+ employees across 14 countries in Central & Eastern Europe

ECOLOGICAL TRANSFORMATION IS OUR PURPOSE



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.





Key global challenges



• Climate change – global warming, water scarcity, drought & floods, biodiversity loss



• Energy crisis - soaring gas and electricity prices



• Economic crisis – high inflation



• Geopolitical crisis – Ukraine war, US vs China tensions



Health crisis – ongoing COVID 19 pandemic



Veolia has the ambition and solutions to lead the ecological transformation

Selected references



Hubgrade – Veolia's smart solution



HUBGRADE is the combination of human expertise and digital power for operational and environmental efficiency. It guarantees
reduction of energy consumption - between 5-25% of the annual consumption and increases the lifespan of the equipment.

Energy efficiency

Gold Standard[®]



The road to carbon neutrality (2010 – 2021) Sofia Wastewater treatment plant



- 233 million kWh generated green energy
- 107 million m³ utilized biogas
- 720 K tons reduced emissions CO₂
- 928 K tons of sludge utilized in agriculture 2013-2021
- 85% coverage of SV energy needs in 2021 by green energy and 100% coverage targeted in the next Business plan 2022-26



Horizontal heating installations project DHN Varna



- DHW pipes replacement project
- Lower bills for central heating and hot water supply
- Lower carbon footprint and clean air inside the city by development the DHN
- 21% of buildings serviced by Veolia are switched to HHI(end of 2021)
- > 3800 MWh/annual energy saving to end customers (period 2014-2021)
- > 1000 tonns of CO2 saved on annual base

Renewable energy solutions



VOLKSWAGEN POLAND:

Heat recovery from technology



- Implemented installation of waste heat recovery to municipal District Heating Network (DHN)
- Providing "zero-emission" heat to ca. 30 nearby buildings
- Reduced 1 000 t/p.a. of CO2 emissions



PÉCS HUNGARY: Biomass renewable energy



- First installation in CEE generating heat and electricity by using straw as fuel
- Switching to completely green heating model
- 31 000 homes and 450 public buildings heated each year
- 400 000 t/p.a. of CO2 emissions avoided

Circular economy in motion



RENAULT – NISSAN Morocco: "Zero Carbon and Zero liquid discharge plant"



- Optimisation of the industrial processes to reduce water needs and minimise the corresponding waste discharged
- Reduction of the thermal energy consumption 35%
- Reduction on the water consumption 70%
- 135 000 t/p.a. of CO2 emissions avoided



Sheffield's energy recovery facility, UK



- Designed to handle up to 225,000 t of household waste a year, this ERF helps to save 2.5 t of CO2 every hour
- Generates up to 21MW of electricity to the National Grid, powering more than 25,000 homes
- Up to 45MW of heat is supplied to over 140 buildings connected to the DHN
- A trial project to highlight the latest carbon capture technology with Carbon Clean launched in spring 2021

Carbon capture utilisation and storage (CCUS)

C0,

Municipal waste-to-energy plant in the city of Maia, Portugal



- Producing green aviation fuel by capturing CO2 from municipal waste – a first in Europe
- A real breakthrough for the waste-toenergy industry, this alternative fuel production will accelerate the transition to a circular economy





- Veolia-Carbon Clean joint venture project is a two year contract for operation and maintenance of the first carbon capture plant in India
- The joint venture is committed to reducing industrial CO2 emissions and helping India achieve its climate goals

Recycling plastics and EV batteries



Plastics recycling, a major environmental issue



- More than 350,000 metric tons of recycled plastic waste by Veolia in 2019 with an objective to recycle 610,000 metric tons/year by 2023
- Provision of a secondary raw material that is just as good quality as the virgin material
- The use of recycled plastic to make a plastic bottle emits 70% less greenhouse gases than with virgin raw materials



Treatment and recovery of recycled plastic and used electric vehicle batteries



- Veolia, Renault and Solvay have a partnership to give electric car batteries a second life by guaranteeing the recovery of precious metals for use in new industrial sectors
- Recovery of copper, cobalt, nickel, manganese, aluminium and lithium in a closed loop

Wastewater reuse, a second life for an essential resource

Czech Republic



ERKO beer made from recycled wastewater utilising Veolia's proprietary mobile water treatment unit, which combines the most advanced membrane technology and activated carbon. France



- Veolia aims to develop wastewater reuse at all compatible WWTPs
- With around 100 plants targeted, the initiative could save around 3 million cubic meters of drinking water, equivalent to the average annual consumption of a city of 180,000 inhabitants.

Singapore



- Showa Denko Singapore manufactures nearly 29 % of the world's hard disks
- Since 2006, thanks to the Unox technology for biological wastewater treatment, Veolia provides its customer at the Tuas site in Singapore with 4,224 m3/d of ultrapure water, which is essential for the smooth operation of its production process

Hawaii



In Honolulu, Hawaii, Veolia provides 49,210 m3 / day of recycled wastewater for industrial and irrigation purposes

Wastewater reuse - a hedge against water scarcity

South Africa





- The plant in Durban uses innovative technologies to treat and reuse domestic and industrial wastewater
- Approximately 47.5 mil litres of wastewater arrive in the plant daily to be treated to near-drinkable quality
- An additional 47,000 m3 of drinking water are made available to the city's inhabitants daily



- The As Samra treatment plant processes over 70% of all wastewater treated in Jordan
- This wastewater is reused in agriculture (farming accounts for around 10% of Jordan's water consumption), helping to save fresh water for more pressing uses.

Namibia



- Increasing Windhoek's drinking water supply through direct reuse of wastewater
- Providing "zero-emission" heat to ca. 30 nearby buildings
- Secure the capital's drinking water supply by reducing water stress due to climate change in the region

Abu Dhabi



In Abu Dhabi in the UAE, our teams recycle 300,000 m3 of wastewater daily for use in irrigation. In Ajman, up to half the city's wastewater is treated and reused for irrigation, for watering parks, gardens and leisure spaces, or as process water for a local manufacturer. For a company, a country or the Planet, the Net Zero battle needs a holistic approach!

DODO

Thank you!

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