



# How could Veolia's ecological transformation solutions address the resource crisis in the short and long term

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# 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

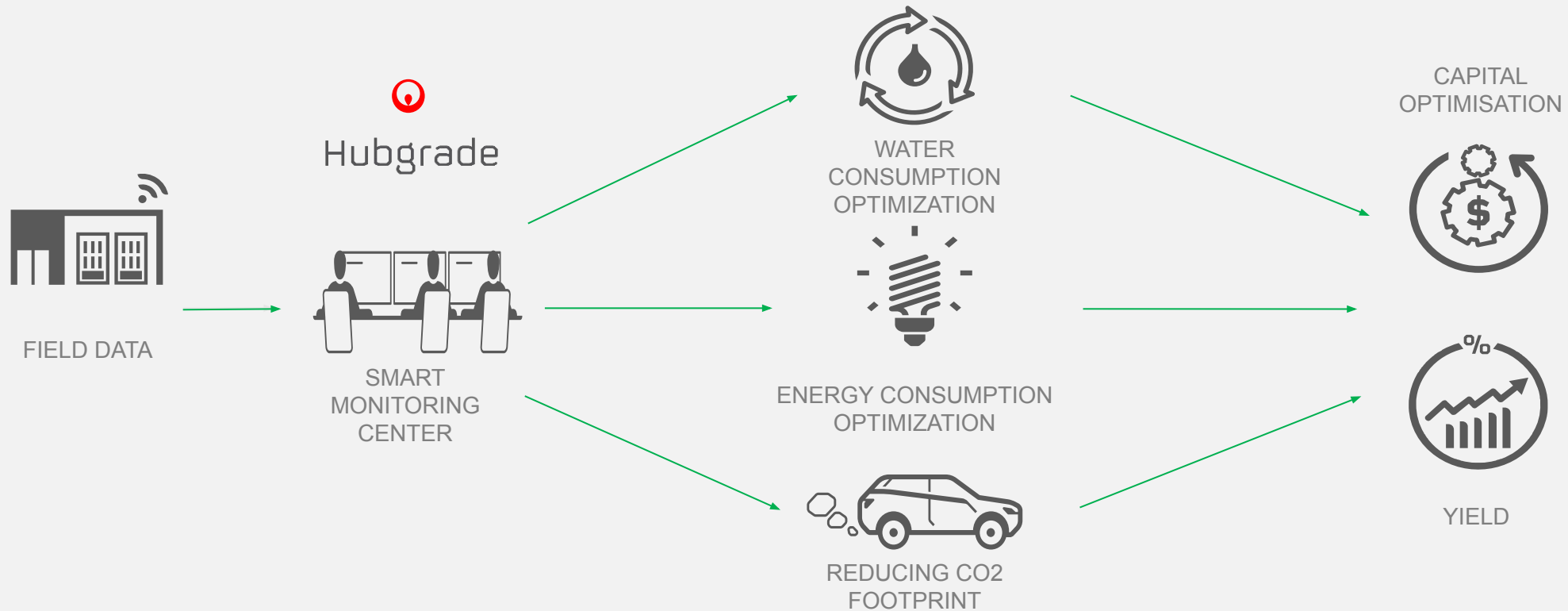


# Veolia has the ambition and solutions to lead the ecological transformation

| *Selected references*



# Hubgrade – a smarter way to support the ecological transformation



- **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 m<sup>3</sup> utilized biogas
- 720 K tons reduced emissions CO<sub>2</sub>
- 928 K tons of sludge utilized in agriculture 2013-2021
- 85% energy self-sufficiency in 2021 and 100% self-sufficiency targeted in the next Business plan (2022-2026)



## 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 tonnes of CO<sub>2</sub> saved on annual base

# 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



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

# Renewable energy solutions



## Sheffield's energy recovery facility, United Kingdom



- Designed to handle up to 225,000 t of household waste a year, this ERF helps to save 2.5 t of CO<sub>2</sub> 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 of 2021



## Toulouse Metropole – Blagnac District heating with geothermal and biomass renewable energy



- 2,500 housing served through 40 delivery points and heating the public swimming pool
- The delivered energy contains only 52 g of CO<sub>2</sub> per MWh delivered and avoids more than 2,067 tonnes of CO<sub>2</sub> per year
- The new biomass heating plant has capacity of 1.7 MW and contributes to the momentum of the wood industry in the region
- 22 GWh heat sales and Renewable Energy Rate (ENR): 75%



# 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



- The Veolia initiative 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 m<sup>3</sup>/d of ultrapure water, which is essential for the smooth operation of its production process

## Hawaii



- In Honolulu, Hawaii, Veolia provides 49,210 m<sup>3</sup> / day of recycled wastewater for industrial and irrigation purposes

A stylized illustration of the Earth from space, showing the blue oceans and green continents. The background is a dark blue space with white stars. Along the horizon of the Earth, there are white line-art icons representing various aspects of industry and nature: a factory, a truck, a power line tower, wheat stalks, a modern city skyline, a house, a water tap, and a recycling symbol.

For a company, a country or the Planet,  
the Net Zero battle needs a holistic  
approach!

**Thank you! Благодаря!**

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