Realising the Dutch energy efficiency roadmap through a more holistic circular and digital approach

Tweede Kamer | DECEMBER 8, 2021
PURPOSE OF VEOLIA
ENABLING HUMAN PROGRESS VIA ACCESS TO KEY RESOURCES

WATER

95
MILLION PEOPLE SUPPLIED
WITH SAFE DRINKING WATER

62
MILLION PEOPLE CONNECTED TO
WASTEWATER SYSTEMS

3,362
DRINKING WATER PRODUCTION
PLANTS MANAGED

WASTE

40
MILLION PEOPLE PROVIDED
WITH COLLECTION SERVICES
ON BEHALF OF MUNICIPALITIES

47
MILLION METRIC TONS
OF TREATED WASTE

464,948
BUSINESS CLIENTS

ENERGY

43
MILLION MWH
PRODUCED

45,806
THERMAL INSTALLATIONS
MANAGED

2,137
INDUSTRIAL SITES
MANAGED

685
WASTE PROCESSING
FACILITIES OPERATED

611
HEATING AND COOLING
NETWORKS MANAGED
TRANSFORMING OUR ENERGY SUPPLY & USAGE
THE ROAD TO CLIMATE NEUTRALITY

European Green Deal

Energy efficiency Directive

KEV monitoring

INEK 2021 - 2030

The 12 sectoral roadmaps for public buildings
FOR VEOLIA THE ENERGY TRANSITION IS A KEY ASPECT OF THE ECOLOGICAL TRANSFORMATION

We believe in being USEFUL to be prosperous and not the reverse, by

- providing access to resources
- preserving available resources
- recovering & replenishing them

In 2020 we,

- recycled 610,000 metric tons of plastics
- avoided 15 million metric tons of CO₂ eq.
- produced 14.1 million MWh of renewable energy
Open transparent communication on what our targets are and the status (extract below)

- **90% reduction in Co2 emissions** (2020 vs 2015)
- **Increase recycling capacity to the equivalent of 8bn single use plastic bags**
- **Doubling our flexible power capacity from 350Mw to 700Mw**
- **Creating a flexible, digital and learning organisation**
ENERGY EFFICIENCY IN ACTION

CONCRETE DUTCH EXAMPLES

- The Hague Nationale Nederlanden zero waste renovation
- Rotterdam Nationale Nederlanden zero waste renovation
- Industriepark Kleefse Waard IPKW - Supply of Renewable Utilities
- Jacobs Douwe Egberts - DBOM of Biomass Boiler and Provision of Renewable Utilities
- Danone Estia DBOM

NETHERLANDS
Global benchmark for such a production plant which is Zero Waste

- 2X legacy plant, but **60% less water, 25% less energy, 100% 50% less CO₂** (1112T/yr)
- Powered by **100% renewable energy**
- 10 year utility supply agreement ensures availability, reliability and energy consumption
ENERGY EFFICIENCY IN ACTION
INDUSTRIEPARK KLEEFSE WAARD (IPKW)

- 89% reduction in CO₂ from 2014 to 2020
- Renewable energy supplied to industry and the local DHN of Vattenfall
- Eco-Industrial Park and R&D hub for the energy transition. Pilot studies ongoing regarding hydrogen and load balancing
- Cooperation with local municipality and 30 other stakeholders
DHN networks such as Ennatuurlijk are playing a vital role in the realisation of RES (Regional Energy Strategy) targets.

The Eindhoven metropolitan region target is to reduce CO$_2$ emissions by 49% by 2030.
ENERGY EFFICIENCY IN ACTION
WHEN RECOVERY MEETS REUSE IN JOURE, NL

- 13 years outsourced utility supply contract
- DBOM of biomass boiler using 33kT of recovered spent coffee grounds annually
- Recovery of biogas from WWTP for production of green steam
- Annual CO₂ savings of 70% (or 14kT)
HOLISTIC FUTURE FIT SOLUTIONS
REIMAGINING THE WORKPLACE

- 100% circular, zero waste renovation
- WELL V2 Platinum Certified
- 45,000 square meters office space
- Livability and people lie at the heart of this project
  - Agile and activity-based working space to stimulate interaction
  - Air and heat conditioning in zones
  - Greenery incorporated in the buildings
REAL TIME DATA IS CRITICAL TO ENABLING FIT FOR 55
THE DIGITAL TRANSFORMATION
Ensuring the reliability and the security of the building and its equipments through real-time monitoring

Promote the well-being of customers and occupants

Constant search of performance improvement

A measurable and verifiable contribution to the reduction of the environmental footprint

Increase transparency on operations and utility uses

RELIABILITY

COMMUNICATION & TRANSPARENCY

COMFORT

ECONOMICAL

ENVIRONMENTAL

DIGITAL ECOSYSTEM

TO ENABLE THE REALISATION OF THE DUTCH NCEP & FIT FOR 55

Data Exchanger

Indoor Air Quality

Energy Management Platform

Buildings Benchmark

Buildings Standard Data System

Buildings Energy Optimizer

Buildings Awareness

Buildings Energy Optimizer

Buildings Dashboards

Energy Management Platform

Hub

Smart Baseline
The Hubgrade is Veolia’s smart digital solution is a combination of human expertise, AI and data that enables clients to monitor and optimise resources in an efficient manner in real time, be they:
- water and energy generation and consumption
- air quality
- the re-use of residual waste streams and emission levels
HUBGRADE
LEVERAGING OUR SCALE & EXPERTISE TO TACKLE A GLOBAL CHALLENGE

- 8500 connected sites or contracts
- Benefits: -10% of energy consumption
- 31 HUBGRADE centers located across the globe
- 124 connected data scientists > 300 experts being part of the community
- Million of data points
- 2 million smart sensors in France alone
- + than 650 completed environmental studies
- + 200 visits of HUBGRADE centers per year
ON A PRACTICAL LEVEL
HOW THIS TRANSLATES
EMPOWERING THE ENERGY TRANSITION

ELECTRICITY DEMAND INCREASING

The energy transition will increase the demand for electricity & greater flexibility.
EMPOWERING THE ENERGY TRANSITION
WHY THE NEED FOR ENERGY FLEXIBILITY

"Normale" onbalansmarkt

Onbalansmarkt 29 en 30 September 2021

Source: TenneT Flexibility roadmapNL
EMPOWERING THE ENERGY TRANSITION TOGETHER

POSSIBLE ROLE OF PUBLIC BUILDINGS

- 14 million BEVs in EU today
- By 2030 eest is 30 m
- By 2030, all traffic through city of Amsterdam must produce zero emissions.
- Globally, only 3% of power capacity is being stored. Needs to triple by 2050 to limit global warming to below 2°C.
FINAL THOUGHTS