

DUTCH WATER AUTHORITIES AND ENERGY

RESULTS OF THE DUTCH WATER AUTHORITIES CLIMATE MONITOR

REPORTING YEAR 2017

The Dutch water authorities make a visible contribution to the national objectives for greenhouse gases and energy. To achieve this, they have set high goals for energy production and saving. The Climate Monitor presents the results of the water authorities' efforts in the fields of sustainability, energy and climate.



NWB) BANK

 **DUTCH WATER
AUTHORITIES**

WATER AUTHORITIES' GOALS

- 40% self-sufficiency through own sustainable energy production by 2020
- 30% increase in energy efficiency and cost savings through more efficient working between 2005 and 2020
- 30% lower emissions of greenhouse gases between 1990 and 2020
- 100% sustainable procurement in 2015.

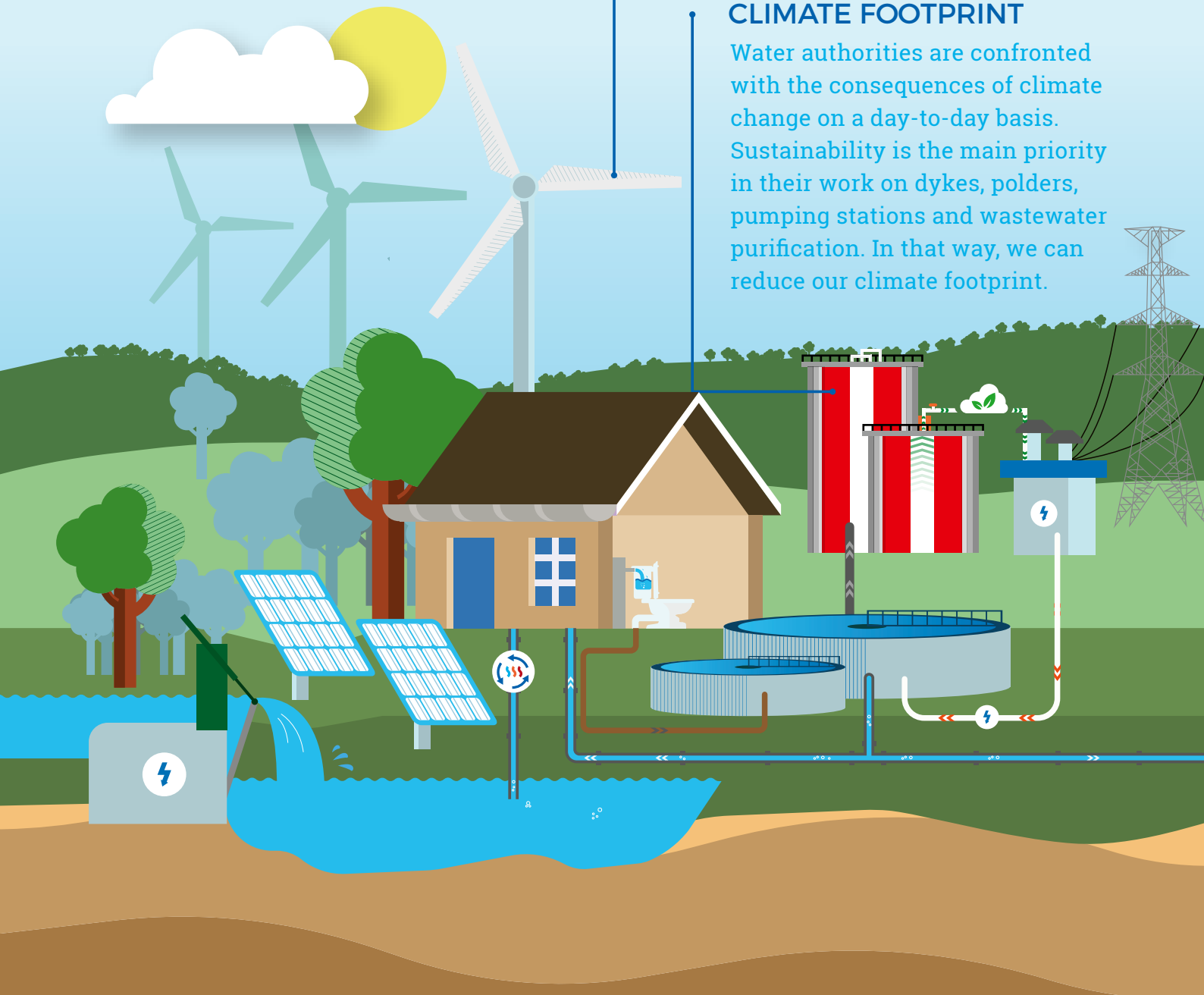
The water authorities aim to achieve 100% energy-neutrality by 2025 by generating their own energy and making their assets available to third parties.

RESULTS OF THE CLIMATE MONITOR REPORTING YEAR 2017

- 33,9% self-sufficiency through own sustainable energy production
- +8,7% by making assets available to third parties
- 3,5% annual improvement in energy efficiency in the 2009-2017 period
- 52% lower emissions of greenhouse gases in the 2005-2017 period
- 98% of procurement is sustainable

CLIMATE FOOTPRINT

Water authorities are confronted with the consequences of climate change on a day-to-day basis. Sustainability is the main priority in their work on dykes, polders, pumping stations and wastewater purification. In that way, we can reduce our climate footprint.



CLIMATE MONITORING REPORT 2017

The Dutch Water Authorities' Climate Monitoring Report 2017 examines the progress achieved in fulfilling the water authorities' goals for climate and sustainability. The report analyses progress made by individual water authorities and by the whole sector in the fields of energy efficiency, sustainable energy production, reducing greenhouse gas emissions, sustainable procurement, transport and corporate social responsibility.

ON TRACK TO ACHIEVE ENERGY NEUTRALITY

Water management could make an important social contribution to the energy transition as we move towards 2050. The water authorities are making an effort to achieve this contribution because they are firmly confronted with the consequences of climate change in their everyday work. They devote attention to energy saving and storage, and providing their assets for generating renewable energy to third parties. In addition, they themselves generate renewable energy from biogas, wind, sun and water.

The Climate Monitoring Report 2017 shows that the water authorities are well on track to achieve the goals agreed in the various agreements and covenants. They are working towards 100% energy neutrality in 2025 and want to see further commitments in the forthcoming Climate and Energy Agreement (in Dutch: "Klimaatakkoord"). They support the government's goal of a reduction of 49% in CO₂ emissions by 2030, compared to the 1990 level. Together with provinces and municipalities, the water authorities are arguing for a national programme of Regional Energy Strategies (RES). They see these strategies as an important tool in configuring the energy transition.

ENERGY EFFICIENCY: AVERAGE ANNUAL INCREASE OF 3.5%

The objective to increase energy efficiency annually by 2% (the equivalent of a 30% increase in energy efficiency between 2005 and 2020) has certainly been achieved. Energy efficiency is a combination of energy saving and the use of renewable energy. Until reporting year 2017, achieved energy efficiency was monitored only for wastewater treatment. In 2017, the other business units have also been included in the monitoring. In the 2009-2017 period, an average annual energy efficiency improvement of 3.5% has been reached – a total efficiency improvement of 31.8%.

EFFICIENT SLUDGE TREATMENT BY SNB AND HVC

More than a quarter of the improvement in energy efficiency has been achieved by optimising sludge treatment by SNB and HVC (SVI Dordrecht). In recent years, a total of 465 TJ of energy have been saved. This is equivalent to 4.8% of the total energy use of all water authorities in 2017.

RENEWABLE ENERGY PRODUCTION: 33.9% SELF-SUFFICIENT

The water authorities aim to be at least 40% self-sufficient by 2020 by developing their own sustainable energy production. In 2017, internal renewable energy generation accounted for 33.9% of the sector's energy use. If this trend continues, the target will be reached in 2020. The sector is fully engaged in research into and realising sustainable energy projects. The water authorities themselves are investing in the production of biogas by digesting the sludge from wastewater treatment plants, and in generating energy from wind, sun and heat from waste and surface water (this is known in Dutch as aquathermie). The water authorities are also looking to cooperate by, for example, making their assets available to third parties for the placement of solar panels and wind turbines. Renewable energy generated by providing assets to third parties in 2017 was equal to 8.7% of the energy consumption of all the water authorities.

TILBURG ENERGY FACTORY

The sewage sludge from all wastewater treatment plants of De Dommel water authority provides input for the Tilburg energy factory. The sludge is cracked under the influence of high pressure and temperature, producing extra material for fermentation. During the fermentation process, the bacteria change biomass into biogas. The biogas is used to produce steam for the cracking process and as fuel for gas engines that produce electricity. Biogas is also delivered to an adjacent company which changes the biogas to green gas for use in the main gas network.

GREENHOUSE GAS REDUCTION: 52% IN 2005-2017

The goal is to reduce the CO₂ footprint by 30% by 2020, compared with the 1990 level. Energy data gathered from wastewater treatment show that the water authorities achieved a 52% reduction in the 2005-2017 period (equivalent to 241 kilotons of CO₂). This can be predominantly attributed to biogas production and the procurement of renewable energy. The 2017 footprint corresponds to the CO₂ emissions of more than 49,000 households. In the coming years, the increase in renewable energy production will lead to a further reduction.

SUSTAINABLE PROCUREMENT: ALMOST 100%

The goal agreed with the central government is to achieve 100% sustainable procurement by 2015. In 2015, average sustainable procurement had reached 98%. More recent data are not available. In 2017, 99.6% of water authorities purchased electricity originating from green power. Besides energy procurement, sustainability is also about the construction and maintenance of infrastructure, and the use of sustainable materials. In 2016, the agreements on sustainable procurement were replaced by the Manifesto on Socially Responsible Procurement (abbreviated in Dutch as MVI). The Manifesto specifies collective goals and agreements relating to sustainable procurement. The goals extend further than the minimal requirements, thereby replacing previous agreements (e.g. 100% sustainable procurement based on minimal requirements). In 2017, the water authorities signed the Green Deal Sustainable GWW 2.0 (on civil and hydraulic engineering). With this, they have embraced the goal that sustainability should be a natural and integral part of all infrastructural programs and projects by 2020.

TRANSPORT: TWO-THIRDS OF WATER AUTHORITIES HAVE INTRODUCED A STRUCTURAL APPROACH

The water authorities have the ambition to reduce CO₂ emissions from transport. Cargo and passenger transport accounts for approximately 25% of the CO₂ footprint. More than two-thirds of water authorities have introduced a structural approach or have taken measures to reduce CO₂ emissions from transport.

The report can be found here <https://www.uvw.nl/thema/duurzaamheid/energie>.



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January 2019

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