With responsibility

Sustainability report
2022

wte
EVN Group

WTE strives for equal linguistic treatment of all genders in all its internal and external documents, including in the present Sustainability Report. Therefore, we use a gender-sensitive language and gender by using an interpunct. However, insofar as personal designations are only indicated in the male form in the interest of better legibility, they refer to all genders in the same way.

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Our task: clean water for nature and people

Wastewater disposal
to the highest standards

Water supply
of an absolutely reliable quality

Regenerative energy solutions
for unlimited self-sufficiency

The WTE Group is a wholly owned subsidiary of EVN AG, a leading international energy and environmental services company from Austria, which provides electricity, gas, heat, water supply, thermal waste utilisation and related services.

Preface

Dear WTE business partners,

Water is invaluable – and the considerate use of this vital resource is becoming increasingly important. Today, only 1% of the world's freshwater stock is easily accessible to humans, and annual demand will additionally increase by 20 to 30% before 2050. This growing consumption is offset by a treatment of wastewater that could be improved: for example, only 2.4% of the treated municipal wastewater is recycled; 80% of the world's wastewater even enters the environment untreated.

In view of these developments, as a provider of water management, we see it is our particular responsibility to preserve the quality of water: with holistic concepts for a sustainable water cycle. In order to meet this wide-ranging task, we have defined a broad range of sustainability goals for the WTE Group: from ensuring security of supply to providing energy to protecting the climate and promoting people's health and well-being. With each of our activities, we contribute to achieving these goals.

For example, in Kuwait: We operate the existing wastewater treatment plant and are expanding its capacities by 500,000 m^3/d by constructing a new wastewater treatment plant; in the final expansion, we are even expanding its capacities by 700,000 m^3/d – a sustainable contribution to the country's long-term water supply provided under our high safety standards to protect all people involved in this major project. Or in Berlin, where we are planning, building and commissioning a state-of-the-art sludge utilisation plant. Among other things, this will provide perfect conditions for optionally recycling phosphorus, an extremely important resource for agriculture.

Through our joint venture, sludge2energy, we are also establishing energy-self-sufficient sludge utilisation plants, for example, in Halle and Hannover-Lahe. Projects like these are shaped by the ongoing research and development work we carry out. Most recently, our focus has been on research projects that are intended to further support wastewater purification and energy generation from various wastewater streams, such as microbial fuel cells.

In view of these and many other measures taken in order to achieve our sustainability goals, we are confident that we will continue to master clean water and sustainability challenges in the future – strengthened by our many years of experience and innovative capacity.

We have already successfully completed or are in the process of implementing more than 120 projects in 18 countries. Today, WTE Wassertechnik's wastewater treatment plants treat around 10,000,000 m^3 of wastewater every day. In the future, we will continue to take action on a daily basis in line with our commitment to responsibility with a wide-ranging vision, having a clear focus on clean water for nature and mankind. This is something you can count on.

Best regards,

Essen, in May 2022

Dr.-Ing. Ralf Schröder
(Spokesman of the Management Board)

Dr. Robert Dick
(Member of the Management Board)

Information sources in the first paragraph: United States Geological Survey, 2017; UNESCO, 2018; EU-Commission, 2021; DW Akademie, 2018.

Management board

Dr. Robert Dick

- Managing Director since 2021 (Member of the Management Board)
- Doctoral Studies in Business Administration at the University of Linz
- 2007 Joined the EVN Group

Dr.-Ing. Ralf Schröder

- Managing Director since 2006 (Spokesman of the Management Board)
- Industrial engineering studies
- Doctorate in Engineering at the University of Rostock
- 1996 Joined the WTE Group

Responsibility with vision

Sustainability at WTE

Sustainability is our business. As one of the leading European providers of municipal and industrial water management, as well as being an experienced environmental service provider, the WTE Group plans, finances, builds and operates projects worldwide, ranging from wastewater disposal and water supply, all the way to the sustainable treatment of sewage sludge and energy recovery. In close co-operation with its parent company EVN AG, a leading international energy and environmental services company based in Austria, the WTE Group is exploiting steadily growing potential for sustainable action and the expansion of its business area with new future-orientated solutions.

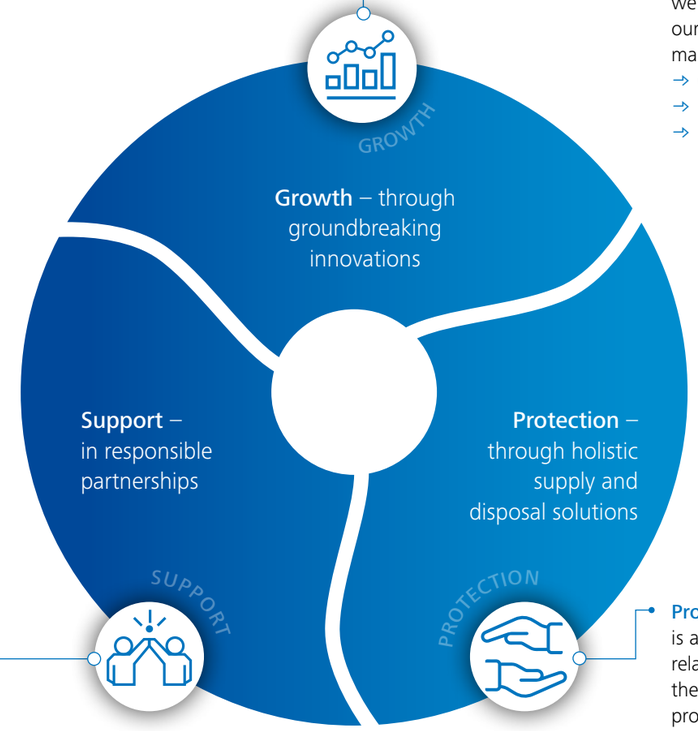
Due to our actions and our way of working, we not only deliver customised solutions made in Germany, but also provide the greatest possible reliability and predictability for our customers. We do not work reactively but rather actively for their success in order to achieve optimum results. In doing so, we always have the big picture in mind: With a good feel for customer requirements, we take all aspects and levels of a project in their entirety into account, including the various dimensions of sustainability.

Taking action for the future today

As a reliable and experienced partner of municipalities and companies, with our complete range of services, we preserve and care for water, one of the most valuable resources. In doing so, we set process and technology standards, thereby ensuring the life quality of future generations with precise solutions.

The **logo** and our **Sustainable Streams**

Both our logo and our main dynamic design elements, the **Sustainable Streams**, embody all the values and competencies that define the WTE Group: the professional treatment of water by means of innovative technologies, the individual customisation of our planning and implementation to the demands of our customers, as well as the continuous development of our group of companies and our solutions for customers all over the world.



Growing Increasingly more municipalities are benefiting from our solutions, which go far beyond water supply and wastewater disposal – because we continue to develop ourselves and our services for comprehensive water management.
- → Offering customised solutions
- → Driving innovation forward
- → Driving digitalisation forward

Protecting Environmental protection is an important goal of our work related to clean drinking water. With the help of innovative technologies and processes, we also recover raw materials from sewage sludge and produce climate-friendly energy.
- → Closing the resource cycle
- → Protecting the climate

Providing support Our services are made for people. We are committed to them: with the implementation of good working conditions, the protection of diversity and providing support for each and every individual.
- → Ensuring security of supply
- → Improving life quality
- → Providing support to employees and junior staff
- → Improving working conditions and promoting health
- → Supporting diversity

Growing, protecting, providing support

Our sustainability goals

Sustainability is a multi-layered principle of action that encompasses the economy, the environment and people. In our sustainability goals, which we have developed and are constantly expanding to align all WTE Group activities, we take each of these three dimensions into account – a holistic system with which we want to do justice to the complexity of sustainable action.

Our in-house sustainability system, which applies to all branches worldwide, can be summarized to three basic tasks: growing, protecting and providing support.

Our motivation

The Sustainable Development Goals of the United Nations

The WTE Group is inspired by the United Nations 2030 Agenda, which defines 17 concrete goals for sustainable development. As a globally active company in the water-cycle and energy industry, we see ourselves in a particular position to make decisive contributions to a fairer world and ensuring prosperity among a wider range of people.

The 2030 Agenda

With the Agenda 2030 (Transformation of our world: The 2030 Agenda for Sustainable Development), the United Nations has developed a global plan to promote sustainable peace and prosperity and protect the planet. Since 2016, all member states have been working to translate this common vision into national development plans in order to achieve the 17 goals by 2030.

With the sustainability goals that we have defined for the WTE Group, we particularly identify with six goals of the UN Agenda.

Our current focus areas

Through our sustainability measures, we promote the health and well-being of people as well as the protection of the environment. We ensure sustainable supply by preserving water and providing energy – both with the highest demands on climate protection. By implementing these tasks, we are strengthening our partners all over the world.

We have the aspiration to continuously increase our contribution, particularly with regard to measures that affect economic and social developments.

Wastewater treatment, Umm Al Hayman, Kuwait

Lighthouse project for holistic sustainability

1,700,000 people will be safely supplied with the help of the new wastewater treatment.

Long-term security of supply, resource and climate protection, safe working conditions: In the largest project in the history of the WTE Group to date, we are making contributions to achieving all the sustainability goals that we have thus far defined, thereby helping to shape the long-term future of the growing population of an entire country.

In its function as general contractor, WTE is particularly responsible for the planning and construction of a wastewater treatment plant and, together with partners, a sewer infrastructure with pumping stations. Umm Al Hayman is one of the world's largest projects to treat wastewater and supply agriculture and industry with process water treated to the highest standards.

Major task with future prospects

The dimensions of the project, which is carried out by WTE as general contractor, are enormous: At its core is the wastewater treatment plant, designed for 1.7 million people and extendable at a later date, which is part of a 450-kilometre network of sewage and service water pipes, pumping stations and storage basins. The construction of this new infrastructure is a prerequisite for the effective use of treated wastewater by agricultural and industrial enterprises throughout Kuwait.
The plant has also received its own 300 kV substation via WTE and will produce and convert its own biogas into electricity in the clarification process, with which it will cover the majority of its energy demand.

A timeframe of 30 and 48 months is planned for the implementation of the wastewater treatment plant and for the sewerage network with pumping stations and reservoirs. WTE will then operate the treatment plant for 25 years and the sewerage network for 3 years.

Step by step to realisation

Milestones at a glance

23 January 2020
The project starts with the award and signing of the contract.
Quantity of orders: USD 1.4 billion
Area of future wastewater treatment plant: 500,000 m²

29 July 2020
The closing with participating banks and the Ministry of Public Works in Kuwait is successfully achieved. This means that the contract has entered into force in its entirety.

December 2020
The project is named the **PPP Deal of the Year for the Middle East and Africa** at the 2020 PFI Awards.

20 April 2021
Trucks with 300 kV cable spindles arrive at the construction site.
Total length of cable: 20 km

September 2021
The first tunnel boring machine for the emergency sea outlet is ceremoniously installed in the starting pit.

Total length of sea outlet: approx. 6 km

Onshore pipe
Inner diameter: DN 2,400
Length: approx. 3.8 km, of which approx. 1.6 km laid in micro-tunnelling

Offshore line
Inner diameter: DN 2,200
Length: approx. 2 km laid in micro-tunnelling

27 and 29 September 2021
The Factory Acceptance Test (FAT) of the run of the pumps are carried out at KSB in Halle.

13 October 2021
Four heavy-duty trailers, each with a 205-tons transformer, arrive at the construction site.

Length: 28.50 m
Weight: 246 t

28,5 km

Port of Shuaiba → Umm Al Hayman

23 November 2021
Breakthrough of Onshore Tunnel 1 (823 m)

26 January 2022
Breakthrough of Onshore Tunnel 2 (768 m)

20 February 2022
Start of boring, Offshore Tunnel (1,960 m)

Wastewater treatment, Umm Al Hayman, Kuwait

Security, motivation and appreciation

Best conditions for participants from all over the world

Orhan Civelek

"For me, the most important thing is to touch people's lives."

More than 3,500 people from 15 nations are involved in the implementation of the Umm Al Hayman project. They all benefit from compliance with the highest safety standards and fair working conditions. Three employees report:

Orhan Civelek, 40 years old, from Turkey, is the project manager for the emergency sea outlet pipe of the Umm Al Hayman project.
He has been working at WTE for about two years.

What has been your most interesting work experience in the UAH project so far?
I think the most interesting part is yet to come. The offshore salvage of the EMMA tunnel boring machine. We will use specialised divers to attach huge inflatable bags that will be used to lift the 150-tonne tunnel boring machine and tow it to the nearest port where it will be dismantled. This is kind of a project within a project.

How does WTE help you with your development?
For most of my career, I was on the side of the contractor and had to execute the order for acceptance by the client. At WTE, we kind of act as a client and hire first-class subcontractors to carry out the work, but we are still the only responsible party to the client. I think it was a good and rare opportunity to look at things from the client's and the contractor's point of view at the same time.

With respect for people and the environment: the Equator Principles

The Umm Al Hayman project is being financed by a consortium of banks led by the German KfW IPEX-Bank. All project partners have committed themselves to complying with the so-called Equator Principles: a recognised set of rules of international banks and export credit insurers that, based on the corresponding requirements of the World Bank, formulates strict environmental protection and social standards for the implementation of projects. These include, in particular, guidelines for the implementation of social and environmental impact assessments as well as measures to mitigate, monitor and manage environmental and social risks.
Compliance with all these requirements in our project in Kuwait is regularly checked by an external consultant to the banks. In addition to the Equator Principles, of course, all the standards applicable in the EVN Group regarding human rights, ethics and integrity also apply to this project – out of responsibility towards all people involved in our projects.

Sarah Habeeb

Sarah Habeeb, 25 years old, from Kuwait, is an electrical engineer in the DBO network. She has been involved in the Umm Al Hayman project for nine months.

What are the biggest challenges in your profession?

I'm the only female electrical engineer around and the only female engineer. In addition, as a recent graduate, I work among a lot of experienced engineers. But I take responsibility for the work and keep it going.

What has been your most interesting work experience in the project so far?

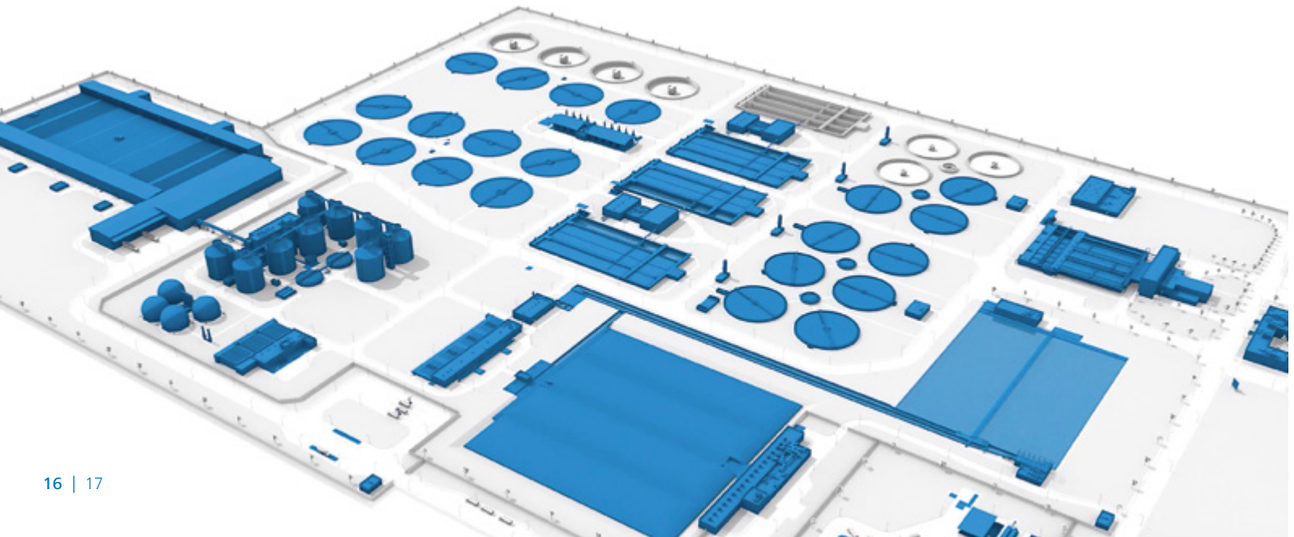
To experience how the project develops from the ground up and is brought to success. The connection of the state and private sectors ensures that a collective group of engineers is involved, who contribute our energy and experience to the project.

"For every problem, big or small, there is a solution."

DBO = Design-Build-Operate

Biogas from wastewater supplies a large part of the energy requirement

In a three-stage process of wastewater purification using mechanical and microbiological degradation processes, the plant produces its own biogas in such quantities that it covers a large part of the energy demand.
Thanks to this enormous CO_2 saving, the 100 percent use of process water and the significant reduction in the need for expensive desalinated drinking water, the plant makes an important contribution to the implementation of the "Kuwait 2035" vision and Kuwait's national energy efficiency strategy.



Mohammad Aslam Hussain

"As an HSE manager, I am responsible for ensuring that everyone comes home safely every day."

Mohammad Aslam Hussain, aged 50, from India, is the Health-Safety-Environment-Manager for the project. He has been working with WTE for about a year and a half.

What milestones of the project have you already experienced so far?

Thus far, there have been no major incidents or accidents within the framework of the project; we have worked a total of 2.7 million safe manhours without lost-time injury since the project started; the laying of the pipes in open construction for the excess treated wastewater outlet pipe was safely completed; the onshore micro-tunnel construction was completed across a length of 680 metres.

Which aspect of working for the UAH project means the most to you?

Developing an emergency-response strategy is the most important step in preventing and minimising workplace injuries and achieving the HSE milestone *"Zero Harm"*. The training, growth and development of the environmental management programme are realised through the implementation of environmental strategies and actions to ensure sustainability.

- → Development of guidelines and safe working procedures as well as dissemination to all parties involved
- → Definition of the project-specific HSE objectives and the management programme
- → Review of the subcontractor's HSE documents, including procedural instructions, risk assessment, security personnel, etc.
- → HSE campaigns and posters to raise awareness
- → Risk assessment and risk reduction plan
- → HSE roles and responsibilities for all

HSE = Health, Safety and Environment

With the highest standards for achieving "Zero Harm"

Every employee should come home safely and healthily from work. To this end, we promote a safe working culture and carry out comprehensive HSE campaigns at our project locations. Also, in Umm Al Hayman: Here, in November 2021, we launched the Zero Harm programme, starting with a presentation and live demonstration of safe lifting operations in multiple languages (English, Arabic and Hindi).

Growing – with the aid of pioneering innovations

We continue to develop our corporate group in order to offer our customers solutions for securing the circular economy and recovering valuable resources in the future.

By disseminating our innovative technological and digital solutions, we want to enable increasingly more municipalities to efficiently supply their populations with clean drinking water and energy at the same time, as well as to treat wastewater according to the highest quality standards.

Offering customised solutions.

”
The combination of a bank-funded USD 700 million PPP project and a USD 1,200 million turnkey construction project funded by the Kuwaiti state in a single contract is unique in the international project business and pioneering for other clients.”

Achim Dudey, WTE Wassertechnik GmbH, Head of Finance; Umm Al Hayman for Wastewater Treatment Company K.S.P.C., Board of Directors

We develop our plant concepts, including financing and project delivery method, according to the individual needs of our customers, perfectly adapted to the conditions at the place where they are implemented. This makes each of our solutions unique.

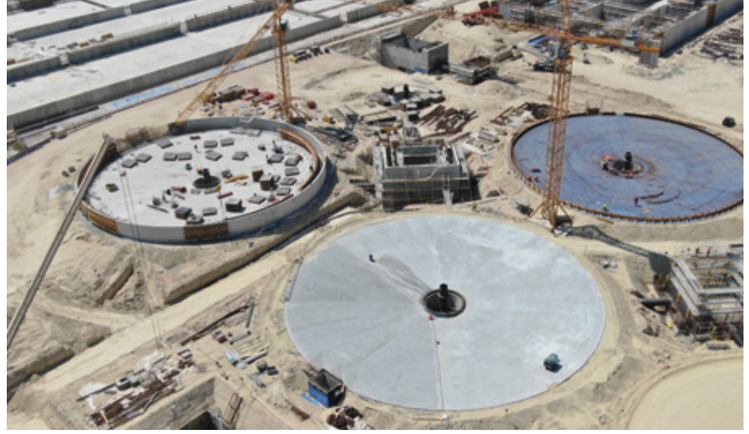
From the collection, discharge and treatment of wastewater to the provision of drinking water and the thermal treatment of sewage sludge: As a company that focuses its services on the needs of its customers, the WTE Group actively protects the environment and preventively the health of residents and employees of municipal companies in numerous countries.

We work together with our customers to develop the facilities with which we achieve these goals. The following seven projects are examples in which we tackle or have already mastered specific challenges with the help of individual solutions:

PPP = Public Private Partnership

Common basis: Integrated management system

Through our integrated management system, we ensure that every project is planned and carried out with the same high standards. It includes certifications in the areas of quality, environment, safety and health at work, as well as energy, and is established in all WTE Group companies.



Umm Al Hayman, Kuwait

For the new wastewater treatment plant, a comprehensive overall concept for wastewater disposal, wastewater treatment and reuse had to be created and planned. Wastewater disposal is not only a challenge for the selection of materials due to the length of the network (450 km) and its associated complex tunnel work, but also due to the chloride-containing soil.

Supporting national energy targets

The wastewater treatment was designed in line with Kuwait's Green Energy Strategy: Among other things, this envisages a share of 15% of renewable energies in the energy mix by 2030. In order for our plant to make a contribution to this, digester gas is first generated from the resulting sewage sludge for energy recovery. While the residual sludge remains in a composting plant, the water is further disinfected and then completely used as process water for industry and irrigation water for agriculture.

In general, the construction measures are not only exceptional due to the very long outlet pipe (5 km), which is partly laid under water, but also due to other components to be built partly below sea level. In order to cover the energy requirements of the large-scale plant and to achieve the required electrical drive power, a separate substation is being built. Nevertheless, we are aiming for a total construction period of only 30 months for rapid commissioning – a very short period for a project of this size, in which a total of more than 3,500 people from 15 countries are involved.

BOT model
Wastewater treatment
For **1,700,000 inhabitants**
500,000 m³ of treated wastewater per day
25 years of operation by WTE

More on the project: see p. 12 ff.
BOT = Build-Operate-Transfer

Tubli, Bahrain

In Manama, the capital of the Kingdom, the capacity of the existing wastewater treatment plant will be doubled by an extension. As a result, the mechanical cleaning and pumping station will be able to work reliably in the future, even in heavy rainfall.
In addition, we use a hybrid form of biological purification; continuously fed sequencing batch reactors (SBR) are optimally used for wastewater purification through time-separated operating phases. This ensures space-saving operation with high flexibility. Elaborate extended cleaning and disinfection of the treated wastewater prevents the infestation of the water with parasites, including helminths. In addition, we are supplementing the plant with thermal hygienisation, sewage sludge incineration with associated dewatering and drying in order to utilise the sludge from the existing and the new wastewater treatment plant.

Defying temperatures and pressure
On the one hand, the high ambient temperatures pose special challenges during construction that we counter using a special concrete composition and processing method. On the other hand, the construction is partly below the groundwater level, which is why we take buoyancy control into account in the planning. After completion of all constructions and commissioning of all components, there is an option for WTE to operate the new plant in its entirety for a period of 10 years.

”
A supply solution that is perfectly tailored to the geographical and climatic conditions of the desert state in the sea.”

Torsten Hentschel, WTE Wassertechnik GmbH, Head of Process Engineering

DBO model
Wastewater treatment and sewage sludge incineration
For **1,600,000 inhabitants**
400,000 m³ of treated wastewater per day
Option for the plant to be operated by WTE for a period of **10 years**

DBO = Design-Build-Operate

Kočani, North Macedonia

In the municipality of Kočani, WTE has built a state-of-the-art wastewater treatment plant according to the Green Energy Concept. By using a sequencing batch reactor (SBR), we have already reduced the use of resources during construction and achieved a high degree of system flexibility.

Energy generation for the plant and the public grid
In addition, the plant has been optimised for the most cost-effective and energy-efficient operation possible: On the one hand, biogas is produced from the resulting sewage sludge and electricity is indirectly generated from it; on the other hand, the system also has a photovoltaic system.

The sewage sludge is dewatered after intensive digestion and processed in a composting plant. Odour nuisances are prevented by using biofilters with reduced operating costs – without the use of chemicals. The plant was handed over to the customer on a turnkey basis in 2020.

Turnkey model
Wastewater treatment
For **65,000 inhabitants**
7,150 m³ of treated wastewater per day
452,000 kWh of photovoltaic electricity per year

”
An important contribution to an energy-self-sufficient municipal supply.”

Thomas Gebel, WTE Wassertechnik GmbH, Project Management

New Nicosia, Cyprus

For Cyprus' capital Nicosia, the existing overloaded wastewater treatment plant was renewed. Due to the limited resources, infrastructure and space available on site, we have designed the plant concept for maximum efficiency and recovery. Among other things, through the use of membrane bioreactors: With their help, the very space-saving wastewater treatment is done in such a way that it can be used directly for irrigation. Biogas is produced from the sewage sludge, which is used in an associated CHP plant to generate electricity and heat. The dewatered sewage sludge is used in agriculture.

First bicommunal infrastructure project for the city divided into two parts
This sustainable concept convinced both the Turkish and Greek Cypriot Communities and is, therefore, an important step for co-operation in the region. Since its commissioning in 2013, the plant has been operated by us within a planned period of 10 years; the operating staff consists of a multinational team.

DBO-Modell (Design-Build-Operate)
Wastewater treatment
For **270,000 inhabitants**
30,000 m³ of treated wastewater per day
10 years of operation by WTE

"Thanks to our plant, the two municipalities of the divided city have become long-term partners."

Stefan Geurts, WTE Wassertechnik GmbH, Head of Tendering Department Wastewater/Water

CHP = combined heat and power plant

Prague, Czech Republic

"On Imperial Island, about 15 million litres of wastewater per hour are now treated without diminishing the character of the park above the plant."

Volker Langusch, WTE Wassertechnik GmbH, Head of Business Division Technology & Project Management/Authorised Signatory

Turnkey model
Wastewater treatment
For **1,200,000 inhabitants**
354,000 m³ treated wastewater per day

For the capital of the Czech Republic, we have built a new and unique wastewater treatment extension in the middle of the Vltava River, on the small island of Cisarsky (Imperial Island). At the customer's request, the plant was built underground so that the areas above it can be planted with greenery – perfectly integrated into the landscape.

Special protection against flooding, noise and odours
To do this, we had to take into account the safety against flooding of the structure and build the entire facility with retaining walls around it. In order to prevent noise and odour nuisance above the plant and to ensure extraction and fresh air supply at all times, we have set up various measures. The plant eliminates nitrogen from the wastewater, precipitates phosphorus and thickens and dewaters the resulting sludge. After a year of trial operation, we handed the system over to the customer; it has been reliably treating the capital's wastewater since 2018.

Berlin-Waßmannsdorf

For Berliner Wasserbetriebe (BWB), WTE is responsible for the planning, construction and commissioning of a fully functional and approved, turnkey and operational sludge utilisation plant. This will be designed for the future planning horizon of 2040 with a sewage sludge volume of 64,000 t DM/a plus 4,000 t DM/a of screenings. The modular design of the plant with three separately operating lines even makes it possible to expand it by another line. A space reserve is also provided for optional later phosphorus recycling – perfect conditions with regard to the upcoming obligation to recover phosphorus.

360-degree concept for optimal energy supply
Together with modern multi-stage flue gas cleaning, heat generation that provides a feed into the district heating network, as well as a highly efficient reaction turbine for energy-self-sufficient supply, it is a particularly future-oriented utilisation plant.

”
Everyone is talking about Building Information Modelling (BIM). We do it! “With the planning of the project in Revit, we create a digital twin of the plant.”

Jörg Köring, WTE Wassertechnik GmbH, Head of Business Division Technology/Plant Design and Operations/ Authorised Signatory/Managing Director of WTE Betriebsgesellschaft mbH

Turnkey model
sludge utilisation
64,000 t DM/a of sewage sludge
4,000 t DM/a of screenings
30 MW of fuel heat output

DM = dry matter

sludge2energy

Joint venture for a ground-breaking process

Thermal sewage sludge utilisation makes an important contribution to environmental protection and disposal safety. This guiding principle led to the development of the sludge2energy process – and to the establishment of the joint venture of the same name together with HUBER SE; an international environmental technology company that has already installed over 50,000 systems for drinking water treatment, wastewater treatment and sludge treatment.

S2E
sludge2energy
by HUBER & WTE

Halle-Lochau

In Halle-Lochau, we have commissioned a state-of-the-art sludge utilisation plant with electricity generation via a steam turbine and generator.
The drying concept is adapted in such a way that all aqueous residues of the vapour treatment can be utilised separately.

With high performance to sustainability
Since the commissioning of the belt drying and sludge incineration plant in the fourth quarter of 2021, 33,000 t/a of dewatered sewage sludge (dry matter content of 25%) and 2,750 t/a of externally dried sewage sludge (DM content of 90%) can be utilised annually for energy purposes. In the future, the ash can be processed for the recovery of essential agricultural phosphorus. The ceremonial inauguration of the facility took place on 7 April 2022.

Sewage sludge utilisation
10,750 t DM/a of sewage sludge
Up to **3.4 MW** fuel heat output
Up to **250 kW of** gross electrical power
Additional **2,750 t/a of** externally dried sewage sludge

”
One of the first sludge utilisation plant for Central Germany and a major step towards the future recovery of phosphorus.”

Thomas Roitzsch,
WTE Betriebsgesellschaft mbH, Head of Operation Division, Managing Director as of 01.06.2022

Driving innovation forward

”
With our innovative strength, we are constantly developing our contribution to a sustainable circular economy.”

Dr.-Ing. Leon Steuernagel,
WTE Wassertechnik GmbH,
Head of Business Division Tendering

In order to conserve resources and to use waste and wastewater as sources of raw materials, the WTE Group is breaking new ground – especially with a view to increasing global water consumption. Cities and municipalities are the focus of our innovations in the areas of water treatment technologies and energy recovery strategies.

In October 2021, an innovation strategy of WTE for the years 2021 to 2025 was adopted. Accordingly, we want to plan and operate new drinking water and wastewater treatment plants even more sustainably in order to meet the increasing requirements for wastewater disposal and drinking water quality. The plants must also be better integrated into the modern landscape of cities and municipalities and enable better utilisation of water, energy, phosphorus and nitrogen. Another important goal is the reduction of greenhouse gas emissions and the achievement of climate-neutral wastewater and drinking water purification.

Ongoing and planned R&D activities	Priorities	Contribution to EVN's Sustainability Strategy 2030
Nitrogen removal from water - Reverse osmosis retentate - Nitrate reduction in groundwater	• Transfer of experience from wastewater treatment to drinking water treatment	• Increasing the quality of the water supply • Further improvement in the quality of water bodies
Microbial fuel cell - Electricity production - Wastewater treatment	• Energy generation from wastewater • Upscaling of MFC technology • World's largest single-chamber MFC plant tested	• Phasing out the fossil fuel industry • Water-Energy-Nutrient-Nexus • Increasing the share of renewable energy in total primary energy demand • Environmental relief
Water recycling / trace substance removal in a closed water cycle - Precursor grey water	• Wastewater as a source of raw materials • Optimisation/relief of the wastewater treatment plant	• Quality increase of the wastewater treatment plant discharge • Water reuse • Conservation of resources

Innovative processes in development

Our current focus is on nitrogen and nitrate reduction in waste and drinking water as well as energy generation in wastewater treatment plants.

Advanced biological nitrate removal

The increased leaching of nitrate puts a considerable strain on groundwater bodies – and thus also on drinking water. Therefore, the German Drinking Water Ordinance sets a maximum allowable concentration for nitrate of 50 mg/l in drinking water.

In order to comply with this, operators of waterworks have various options, including the abandonment of existing well fields or the exploration of ever deeper groundwater reservoirs. Waterworks operators can alternatively also invest in innovative treatment technologies. To this end, WTE Wassertechnik has developed, implemented and operated various processes over the past seven years in semi-technical plants:

ANELIS (Advanced Nitrogen Elimination System)

The ANELIS technology is a biofilm process on selectively acting carrier bodies in which nitrification and denitrification are carried out in parallel in a reactor. Here, the required reaction volume can be significantly reduced compared to the aeration process. The process was developed in co-operation with the Hamburg University of Technology.

Advantages:

→ Advanced nitrogen removal → contributes to compliance values of the EU Water Framework Directive
→ Lower oxygen demand → energy savings
→ Smaller tanks for new wastewater treatment plants → less space required
→ Cost-effective optimisation to increase performance (retrofitting)

NELIS (Nitrogen Elimination System)

The NELIS technology was developed by WTE on the basis of the ANELIS findings. It is a biofilm process for completely autotrophic denitrification on special carrier bodies. The development was accompanied by scientific supervision in co-operation with the University of Duisburg-Essen, the Ruhr University Bochum and the University of Washington (Seattle) as part of a doctorate.

Advantages:

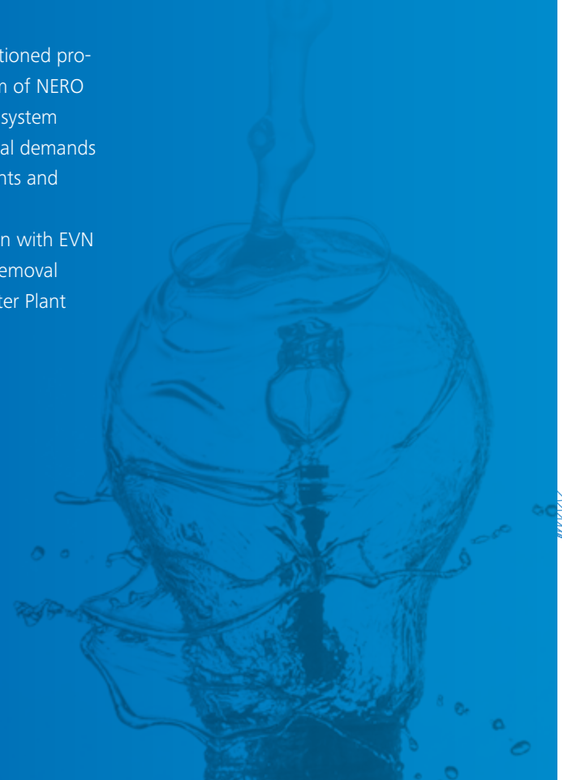
- → Expansion of existing plants (drinking water, nitrate-containing groundwater)
- → Reduced reaction volumes → reduced space requirements
- → No aerator energy required → energy savings
- → No external elctron donating carbon source required

NERO (Nitrogen Elimination from Reverse Osmosis Concentrate)

This technology, in turn, is based on the experience of the two aforementioned projects and is also an in-house development of WTE Wassertechnik. The aim of NERO is the efficient biological, heterotrophic denitrification with a biofiltration system of the retentate from a reverse osmosis plant. Retentates place very special demands on processing, as very high concentrations of nitrate, hardness components and other dissolved substances are present.
Pilot testing was successfully completed in 2021 and 2022 in co-operation with EVN Wasser GmbH; for this purpose, a semi-technical test plant for nitrogen removal was built and successfully operated in the Obersiebenbrunn Drinking Water Plant (Austria).

Advantages:

- → Very stable and reliable process
- → Almost complete nitrate degradation
- → Treatment of groundwater and low-carbon wastewater
- → Use in new construction and extension of existing plants
- → High market potential



„Microbial fuel cells represent a promising technology for future-orientated, energy-positive wastewater treatment."

Dr. Ekaterina Vasyukova,
WTE Wassertechnik GmbH,
Head of Research & Development

SPONSORED BY THE
Federal Ministry of Education and Research

Energy generation from wastewater

Organic material and components in wastewater are a virtually inexhaustible source of renewable energy – but so far, only about up to a quarter of their energy potential has been utilised. An innovative option to directly increase the energy yield from wastewater and to cover the high energy demand of wastewater treatment plants themselves is the use of microbial fuel cells (archetype of bioelectrochemical systems). These use the metabolism of bacteria to generate bioelectricity; part of the wastewater is also purified.

The process was already tested from 2018 to 2020 in the AGaBZ joint research project, which was funded by the German Federal Ministry of Education and Research. Together with the Institute of Urban Water Management and Environmental Engineering at Ruhr-University Bochum and AWITE GmbH, a manufacturer of gas analysis systems, we first tested the method on a laboratory pilote scale and then on a 1 m³ pilot scale. At the Hecklingen Wastewater Treatment Plant in Saxony-Anhalt, the technology could be tested for reliability under real conditions. The pilot plant has one of the world's largest single-chamber MFC. The valuable experience gained from this project is the basis for further process development and for the future large-scale implementation.

Advantages:

- → This biotechnology links anaerobic and aerobic wastewater treatment with further physicochemical material conversion processes with simultaneous energy production
- → High resource recovery potential (energy and nutrients, such as nitrogen and phosphorus)
- → Production of green energy contributes to environmental awareness and CO_2 reduction
- → Suitable as a supplement to the aeration process, whilst no external aeration is required

More options for the future

AGaBZ = Automated Microbial Fuel Cells (MFC) with Advanced Gas Utilisation at Municipal Wastewater Treatment Plants

We have already defined which innovation tasks we will tackle in the near future – including the removal of nitrate from wastewater and groundwater, the generation of energy from wastewater and the use of it as a resource or material source.

With the ongoing arrival of new challenges in research and development, we want to continue to provide important impulses for the water industry in order to improve drinking water supply and wastewater treatment not only in Germany but in many other countries worldwide, and at the same time exploit potential for energy production and raw material recovery.

Leading the digital way

”
The WTE Group uses the potential of digitalisation to improve itself in terms of customer service, sustainability, quality, safety and economic efficiency.”

Dr.-Ing. Bojan Pelivano,
WTE Wassertechnik GmbH, Tendering Department Wastewater / Water
Managing Director of WTE Betriebsgesellschaft mbH as of 01.06.2022

We are constantly developing our internal processes and products in order to implement systems with a high degree of automation for our customers – as important contributions to Water Management 4.0. In addition, we offer you digital solutions for comprehensive control of water supply processes, for more efficient plant operation and many other purposes.

More safety, efficiency and speed

Sewage networks and wastewater treatment plants are part of the critical infrastructure, which is why their operational safety is particularly important. Demand-orientated, intelligent control technology and networking, as well as communication not only make our systems more flexible and safer to operate, but also more efficient. This applies to all processes, from planning to control and maintenance, and also has a positive effect on costs and working hours.

In addition, we want to replace the procedures for project processing, which are established in the water industry and usually include planning times of one to three years. We are working towards processes that correspond to new technologies and the pace of innovation of the IT industry and thus Water Industry 4.0 – for timely usable results that can be further improved and form the basis for future developments and standards.

WARIOS Software Suite

For more than 25 years, WTE Betriebsgesellschaft has been developing digital solutions for the collection, management and evaluation of large amounts of data. They enable our customers to optimise work processes and at the same time minimise costs. The software suite WARIOS comprises four applications designed for use in complex environments with high user numbers and large data sets.

WARIOS®

Over **250 installations**, **160 hosting customers** as well as **570 users**

WARIOS|kanal®
A sewer database that is reduced to the bare essentials but offers all relevant functions for operational management. WARIOS|kanal can be used, among other things, as a planning tool for flushing services, camera inspections and mirror inspections and supports various connections to geographical information systems.

GBM4®
With the software for managing fees and charges, users can record and optimally evaluate all property data. An outstanding feature of GBM4 is the complete historical management of all data sets – completely automated and up to date.

WARIOS|cmms®
The computerised maintenance management system systematically supports our customers in the planning, implementation and documentation of their measures for maintenance and servicing of water industry plants, incineration and industrial plants as well as medical technology. As a web application, WARIOS|cmms can be called up platform-independent, without client installation.

WARIOS|reports®
The software is used for the collection, documentation and monitoring of operating data, as well as the preparation of reports and transfer to external partners.
WARIOS|reports can be connected with various SCADA systems and enables the consolidation of all data and information from water management systems. Using the integrated editor, entry masks can be created, value parameters can be specified, multi-level plausibility features can be defined, and online variables can be linked to data points – without any programming knowledge.

”
With the help of the software developed by us, our customers can extend the service life of their operating resources and thus live with economic sustainability.”

Alexander Staedtke,
WTE Betriebsgesellschaft mbH,
Head of the IT Department

Internationally networked work

Not every colleague on the construction site has CAD programs and the knowledge to operate them. Nevertheless, they often have to make changes, additions and comments to the drawings at short notice. For construction project management in Umm Al Hayman (Kuwait) and Tubli (Bahrain), we have therefore set up digital workflows using Bluebeam® Revu. In this way, changes to drawings made on the construction sites can be digitally returned in real time and incorporated into the original drawings.

SCADA = Supervisory Control and Data Acquisition

Protecting – through holistic supply and disposal solutions

With our water supply and wastewater treatment plants, we close the natural water cycle, recover valuable materials of fundamental importance for agriculture and industry, and protect ecosystems and the health of millions of people.

At the same time, we are further expanding the generation of renewable energies for the benefit of the self-sufficient operation of our plants, but also for the connected communities, which we can also supply with them.

Closing the resource cycle

With the help of our plants, we recover the valuable resource of water – but also numerous reusable materials, which we extract from residual materials using innovative processes, thereby specifically introducing them into the natural material-recycling process. In this way, we want to make a contribution to maximum raw material efficiency and holistic recovery with each of our projects so that no value is lost.

Wastewater contains various impurities ranging from undissolved solids to fats and carbon compounds to drug residues and microplastics. The task of our plants is not only the removal of these impurities from the water, but also the return or use of the contained recyclable materials.

The undissolved solids are separated from the wastewater using their different physical properties (sieving/screening/settling), cleaned and then disposed of.

Undissolved fats are separated and collected. Digestion processes produce methane gas, which is used to generate heat and electricity.

Organic components serve as a nutrient in biological treatment: Microorganisms use them to build up their own biomass. In the form of sludge, this mass is used for the production of methane gas and when dried, it is an energy-rich fuel.

Nitrogen is an important constituent for the growth of plants. However, in the high concentration that prevails in the wastewater, it leads, among other things, to eutrophication of water bodies, to the detriment of aquatic organisms. For this reason, we remove nitrogen compounds from the wastewater and, with our second research project on microbial fuel cells, are laying the foundation for the recovery of ammonium, which is contained in fertilisers, for example.

Phosphorus is as important to plants as nitrogen. However, its recovery is more difficult because phosphorus is bound in the biomass of the microorganisms and therefore discharged together with the sludge. For this reason, we enrich the phosphorus content in the incineration ash in sewage sludge mono-incineration plants so that it can then be recovered as a valuable material via a treatment process.

Water, the most valuable component, is purified during the treatment process and can then either be returned to its natural cycle, used directly as process water or indirectly introduced into drinking water treatment.

Wastewater treatment Czajka, Poland
The wastewater treatment plant in Czajka treats more than **435,000 m³ of wastewater** every day – that is the equivalent of about **25 trucks per minute.**

”
Our holistic concepts largely recover the energy potential contained in wastewater. This is how disposal becomes supply.“

Fabian Lappé,
WTE Wassertechnik GmbH, Head of Business Division Technology/ Plant Design

Wastewater Treatment Ataköy, Turkey

Our wastewater treatment in Ataköy near Istanbul produces about 75,000 m³ of digester gas per day from the wastewater sewage sludge of 2.0 million inhabitants. That corresponds to the filling of approx. **24 hot-air balloons** per day.

Mono-sewage sludge utilisation plant Halle

About 3,000 kg of sewage sludge is incinerated per hour here. The contained energy is converted into heat and electricity. The released heat approximately corresponds to the energy demand of **1,000 single-family homes**.

Waste → Water

Protecting the climate.

The WTE Group is actively committed to climate protection. To this end, we are designing our future plants so that they can generate energy themselves and use it directly. In this way, we can conserve natural resources, meet the requirements for climate protection in the best possible way and further reduce energy costs within the companies.

Climate protection includes various measures that we take into account in the planning and implementation of our plants:

Saving energy	Avoiding the use of fossil fuels	Minimising CO_2 emissions	Recovering energy

Climate-friendly right from the start

In the planning phase of our plants, we take climate-friendly implementation and corresponding long-term use into account. Through the use of combined heat and power plants and technologies for the use of renewable energies, including photovoltaic systems, as well as the selection of energy-efficient generators, the external electricity demand can be drastically reduced to keep energy consumption and costs low during later operation of the plants.
In addition, we involve construction and electrical engineering experts from the country in which the project is being built in the construction of plants. In this way, we keep the logistical effort as low as possible and thus save CO_2 emissions.

Exploiting energy sources

We are constantly pushing ahead with the expansion of plants for the production of renewable energy. In this way, we make the energy sources of the entire process chain usable during the construction of our plants – for energy-self-sufficient, environmentally friendly operation. In the case of water technology plants, this not only includes the use of photovoltaics, but also the production and use of biogas. This is produced in the digestion process of the sludge treatment and is used to generate electricity and heat. Both forms of energy can be used directly on the plant to increase the degree of self-sufficiency and thus reduce dependence on fossil fuels. In the case of sewage sludge mono-incineration plants, the waste heat generated in the process is on the one hand used for internal consumers, while on the other hand it can be used for district heating and/or supply electrical energy, which can also be fed into the public grid. In this way, the WTE Group makes an important contribution to conserving resources and avoiding fossil fuels.

Zagreb, Croatia

With the realisation of the Zagreb Central Wastewater Treatment Plant, the WTE Group set a milestone in European environmental policy. The capital of Croatia, the pulsating centre of the emerging country with over one million inhabitants, had only rudimentary wastewater treatment. In order to improve the situation for people, the environment and especially the Sava River, we have built a completely new wastewater treatment plant.

Production and consumption directly on site
In addition to the biological technology for water treatment, the current plant, which the WTE Group planned and built as consortium leader, includes a sludge digestion plant for biogas production and a CHP plant: The digester gas generated on site is converted directly into electricity and thermal energy in the CHP in order to minimise residual materials and energy costs.

The CHP plant generates an annual average of around 17,000 MWh of electricity and around 20,000 MWh of heat. With the green electrical energy of the wastewater treatment plant, about 5,000 households[1] could be supplied with electricity for one year.

The waste heat is used to heat the digesters and, in the winter months, the sludge treatment building. 73% of the electricity generated covers the energy requirements of the wastewater treatment plant. The large-scale plant will be operated by WTE's subsidiary Zagrebačke Otpadne Vode until 2028.

”
With the integrated production of digester gas and its use in the CHP plant, we are taking the next step towards energy-self-sufficient wastewater treatment.”

Markus Schieborr,
WTE Wassertechnik GmbH, Head of Business Division Technology & Project Management / Authorised Signatory

BOT model
Wastewater treatment
For **1,200,000 inhabitants**
330,000 m^3 of treated wastewater per day
28 years of operation by WTE

[1] 2.5 person household with 3.4 MWh of consumption per year

Providing support – in responsible partnerships

With our services, we ensure the disposal of wastewater, the thermal utilisation of sewage sludge, and the supply of clean drinking water for millions of inhabitants of different countries. On the other hand, we give people career prospects, improve their working conditions and promote their health.

Particularly through our diverse commitment to junior staff, we make an important contribution to a sustainable circular economy and further expansion of our international partnerships.

Improving quality of life

Ensuring supply reliability

Access to clean and safe water is a human right – but the extent to which this right can be exercised in individual countries depends, depends not least on the technical solution, on the technical solutions for water supply and treatment on site. With our activities, we create modern and environmentally friendly infrastructures and enable our customers to increase the quantity of treated wastewater and achieve a higher water quality.

On behalf of cities, municipalities, councils, as well as states, WTE Wassertechnik fulfils the obligation to dispose of wastewater, thereby performing an important public-service task, namely the protection of the environment and the provision of health care. Depending on the local conditions, we start by building a sewer network, such as in Umm Al Hayman, Kuwait (p. 12 ff) – an essential prerequisite for regulated wastewater disposal and the supply of treated wastewater to industry and agriculture.

Purified wastewater: treated sewage effluent (TSE)

Energy supply through wastewater treatment

We also promote security of supply through the sensible use of energy and further use of renewable energies. Especially through the treatment of wastewater, a continuous energy source with extremely high priority for the independent energy supply of the treatment plants themselves, but also of the municipalities involved.

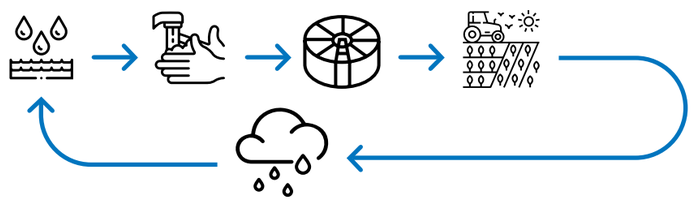
Through our solutions for water supply and wastewater treatment, we contribute to ensuring that increasingly more people have access to clean water and sustainable energy sources – two elementary prerequisites for a sustainably high quality of life.

The WTE Group's plants are based on 360-degree concepts that are consistently geared towards sustainability. Three goals are taken into account:

- Treatment of wastewater
- Supplying consumers with high-quality drinking water
- Supplying green energy

Supporting natural cycles

Our holistic approach supports the cycle that the water goes through: The groundwater or surface water from rivers and lakes is used by humans. It enters the wastewater treatment plants as wastewater. After cleaning, it is used in agriculture to irrigate fields or discharged into natural ecosystems such as rivers and lakes. Via the soil, it returns to the groundwater, or it evaporates and returns to the rivers and lakes as rain.



In doing so, we take into account all influencing factors that contribute to meeting objectives: To protect the environment and water as a resource, to ensure the high quality of water and provide people with sufficient quantities of clean drinking water.

The EU Water Framework Directive

Directive 2000/60/EC, which entered into force in 2000, aims at the sustainable and environmentally sound use of water. Accordingly, among other things, wastewater treatment must correspond to the best available technologies. A clear incentive for the WTE Group to set these standards higher and higher through optimisation measures and further developments – for the benefit of a higher quality of life for people in the European Union and beyond.

Supporting employees and junior staff

WTE Wassertechnik GmbH, HQ Essen
ø approx. 10 years affiliation

64 new employees in the last 5 years

We see ourselves as a future-orientated employer with a focus on people. That is why we create optimal working conditions and give our employees the opportunity to get involved in our company and personally develop. The know-how of our staff is the basis of our added value – a valuable asset that we are expanding through a variety of measures. This also includes the support of pupils and students, the next generation of experts, whom we want to strengthen today for the challenges of the future.

Successful entry

WTE Betriebsgesellschaft mbH
ø approx. 14.5 years affiliation
31 new employees in the last 5 years

At WTE, new employees are integrated into our corporate culture and work processes from day one. Our sponsorship system provides them with a contact person who accompanies them on their first steps. In addition, our proven onboarding processes ensure a successful start at WTE. These structures are regularly reviewed and, if necessary, optimised – for good co-operation right from the start.

Training with future prospects

WTE Wassertechnik GmbH, HQ Essen
15 apprentices in 20 years
100% takeover

We plan our apprenticeships conscientiously with the aim of offering trainees a perspective after their apprenticeship. The relatively small number of junior staff benefits from all the more intensive training and guidance.

We support former trainees in their further development, for example, by offering specialist courses and practical support through their studies.

Targeted further training and qualification

3,000 hours of training in 2020/2021
– despite corona-related restrictions

The standard at our headquarter location in Essen includes the offer of several language courses: On the one hand, we offer our employees with foreign roots a German course, on the other hand, various English courses for all employees. These range from communication courses for beginners or professionals to specialist courses for engineers.

In addition, we inquire at least once a year with our employees whether additional further training offers are desired or needed – including general further training, for example, to learn new systems. In the Group's own EVN Summer School, we intensively prepare prospective managers for their future tasks.

Promotion of university degrees

We also support our employees in a targeted manner in order to qualify them for certain positions. In recent years, for example, we have made it possible for some employees to undergo special further training in the academic field. Two employees have already completed their doctorates in this way, and another is currently working on his. In addition, there is the support of four employees who aspire to or have already obtained a Master of Business Administration degree. In this way, WTE combines the wishes of its employees with the needs of the Company.

Holistic support for students and pupils

WTE maintains contact with various universities throughout Germany – including the Universities of Duisburg-Essen and Bochum. As a result, we can regularly offer bachelor theses for students of process and civil engineering. We are also currently supervising two student interns from North Macedonia who are participating in a Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ – Association for International Co-operation) programme. Our support ranges from finding accommodation to teaching practical knowledge, all the way to issuing a certificate recognised in your country of origin. During their three-month internship, they get to know the technical areas of WTE in particular.

The WTE Group's commitment to junior staff also extends to the support and promotion of pupils – partly within the framework of long-term co-operation. For example, WTE Betriebsgesellschaft mbH (WTEB) entered into a sponsorship agreement with the Börde School in Oschersleben back in 2009. As a sponsoring company, the WTEB contributes to the human, (everyday) practical and financial support as well as the support of pupils. Donations were used, for example, to make school trips possible and to promote the digitisation of the school.

12. IWA Eastern European Young Water Professionals Conference

The success of the WTE Group is based not least on the co-operation of people from different countries. In order to promote this dialogue at an early stage, since its foundation in 2009, we have been the Golden Sponsor of the IWA Eastern European Young Water Professionals Conference for the twelfth time. In 2021, it took place for the first time on a digital platform under the title “Water Research and Innovations in Digital Era”.

130 participants from
37 countries and
5 continents
120 scientific presentations in 2021

Worldwide exchange between talents
The conference series is primarily aimed at young professionals in topics ranging from water and wastewater treatment to sludge treatment and operational optimisation. Through sponsoring and active participation with specialist lectures, the WTE Group makes its contribution to providing young talents in particular with ideas and solutions to solve the global challenges surrounding the supply of clean water and the environmentally friendly disposal of wastewater.

Improving working conditions and promoting health.

To appreciate and motivate our employees, we create good working conditions and a healthy working atmosphere. In order to implement the numerous measures via which we create these basic prerequisites for successful and considerate work, we use more than just established guidelines: In addition, we have developed in-house standards for co-operation in the sense of sustainability, with which we go beyond the legal requirements and set standards.

Committed to environmental and social standards

In every country in which we operate, we want to meet the highest possible health and safety requirements, take into account all potential stakeholders, including construction site residents and local farmers, and deal conscientiously with cultural heritage funds.
The Equator Principles serve as the basis for the implementation of these and other project-related goals: 10 guidelines based on the environmental standards of the World Bank and the social standards of the International Finance Corporation (IFC) and used across industries to meet corresponding targets.

Health protection and working conditions on a high level

Out of responsibility towards employees and shareholders, the WTE Group has established preventive health protection as the basis of occupational safety management. Hazard detection, risk assessment and monitoring as well as comprehensive training and instruction form the basis our employees’ performance.
We also achieve improvements in working conditions on a continual basis: To this end, we keep the legal and regulatory requirements in the respective projects up to date and sensitise our employees to comply with them within the scope of their activities.

Prudent health management

The aim of our health management is to deal with the needs of our employees more closely and to enhance their health, as well as increase their satisfaction. This includes, among other things, minimising stress factors, but also facilitating access to information and programmes for stress management as well as other health-related topics. In principle, employees should be made more aware of health issues and awareness of physical and mental health should be sharpened.

Successful health and safety concept in Tubli, Bahrain

Since the start of construction to expand the Tubli Wastewater Treatment Plant in 2019, more than 4.3 million accident-free man-hours (no accidents with downtime) have been performed – a success that is primarily based on the prudence and discipline of employees, who are continuously trained within the scope of a 360-degree health and safety programme. It includes a series of training on specific construction site challenges:

- Working at heights
- Working with power tools
- Handling of chemicals
- Fire prevention
- Firefighting

Commitment at all locations

Our commitment to good working conditions and satisfied employees extends to all companies of the WTE Group – including Zagrebačke Otpadne Vode, which operates the central sewage treatment plant in the Croatian capital Zagreb.

- → 0% fluctuation in 2021
- → ø Sick leave 3.9%
- → 18 new employees since 2017 in the last 5 years, ø age 33 years
- → ø affiliation 12 years
- → Parental leave for fathers, part-time for mothers
- → Financial support for and/or exemption for postgraduate studies
- → Company canteen
- → Team building programme
- → Shift schedule with many free shifts and free weekends

WTE Wassertechnik GmbH, Essen location
ø Sick leave 2.12% in the years 2017-2020 (**national average: approx. 4.2-4.5%**)

”
The co-operation of people from various countries is the guarantee for sustainability, quality and occupational safety in the WTE Group.”

Volker Hessenbruch,
WTE Wassertechnik GmbH, Head of Quality and Environmental Management

Diverse workplace health promotion

Comprehensive physical health includes relaxation, exercise and a healthy diet. But even supposedly taboo topics such as stress and addiction management should not be ignored. For this reason, we regularly offer our employees workshops on the subject of health, courses such as back fit or meditation courses, health checks and health campaigns. These and other measures of our company health management are constantly monitored, controlled and improved by a qualified health management officers.

Realising more sustainability.

By acting holistically, we are currently pursuing several sustainability goals. We are already planning and implementing projects in order to achieve these goals in the future. In doing so, we want to constantly expand the circle of our focused sustainability goals – for a fully sustainable water management that does justice to this valuable resource.

Focus on future challenges
We are already tackling our tasks for the future today: with forward-looking planning, constant innovation and goal-orientated implementation.

Recycling of phosphorus
By 2029 at the latest, wastewater treatment plants with more than 100,000 population equivalents will have to recover the vital raw material phosphorus from sewage sludge; plants with smaller capacities will also have to do so by 2032. We are already building plants that provide the basis for recovery and can thus fulfil this important task in the future – for example in Berlin and Halle.

Removal of trace substances
In a fourth treatment stage, we can remove anthropogenic trace substances from the wastewater by combining various processes. We sustainably remove the trace substances bound in the sewage sludge from the cycle through thermal utilisation.

Conversion to green energy
In our new plants, we want to continue to replace the use of fossil fuels with renewable energy sources. Among other things, focus is on the use of the energy contained in the wastewater as well as electricity generated by photovoltaic systems.

Sustainable design of cities and municipalities
Today, more than ever, we see our services and designs as contributions to smart cities: Cities and municipalities that strive for energy efficiency, technological progress, environmental protection and social inclusion – in every country in which we operate. This also includes the long-term operation of our plants, such as in Kuwait and Zagreb.

Our goal is holistic sustainable action in the three dimensions of economy, environment and people. To this end, we focus our attention on new topics, expand our range of services and further develop our innovative solutions – towards a future worth living, worldwide.

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Masthead

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We have prepared this sustainability report with the greatest possible care and have reviewed the data. Nevertheless, rounding, typesetting or printing errors cannot be ruled out. This sustainability report also contains forward-looking estimates and statements that we have made on the basis of all information available to us up to the editorial deadline. These forward-looking statements are usually described as “expect”, “estimate”, “plan”, “calculate”, etc. We would like to point out that the actual circumstances, and thus also the actual results, may differ from the expectations presented in this report due to various factors.

Editing deadline: May, 16 2022

Scan the QR code now and download our sustainability report as a PDF document.

wte
EVN Group

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