NEWTRON

SOLUTIONS FOR SEWAGE TREATMENT PLANT OPERATORS

+ Reliable energy
+ Self-consumption optimization
+ Intelligent load shifting
+ Black out start capability (island operation)
+ Cloud data integration

= Maximum self-sufficiency

Operators of wastewater treatment plants are currently facing major challenges. Sewage treatment plants are part of the critical infrastructure. They must ensure safe and economical operation.
This includes the intake and treatment of wastewater with guaranteed discharge values. In addition, a secure power supply at cost-effective prices must be available all the time. This is achievable with the NEWTRON system.

For the operation of sewage treatment plants, CHPs can be utilized as energy sources. Additionally, a battery storage system can serve as an additional energy source to offer more system flexibility.
The following use cases can be implemented using the mentioned energy sources:

- Charging the battery during weak load operation and sewage gas surplus (flare operation)
- Charging the battery at low electricity prices for own consumption optimization
- Discharging the battery in case of low availability of sewage gas for own consumption optimization
- PtH (Power to Heat) for heat utilization in case of low availability of sewage gas
- Island operation via the battery system in case of breakdown or failure of the public grid
- Island operation using the battery system in parallel with a CHP unit in case of failure of the public grid
- Peak shaving via the battery system

Together 100% economical - future-proofed and intelligent

YOUR ENERGY UNDER CONTROL

Sewage treatment facilities need innovative solutions for securing and supplying reliable heat and electricity as well as for optimizing their own consumption.

Take the initiative now and benefit 3-fold:

RELIABLE ENERGY. ECONOMIC. SUSTAINABLE.

We accompany our customers all the way in their projects from the project dimensioning to the feasibility study. We support you in the planning and in the developing of your custom-made concept.

If desired, we can offer assistance with the installation and the full maintenance of the desired project.

May we prepare your energy supply for the future?

MODERN NETWORKING

Cloud data can be used to control the energy deployment from the CHP unit and battery in a manner, that, for example, sufficient energy for high-load operation of the sewage treatment plant is guaranteed.

Existing components can be integrated in the design concept. For example, buffer storage tanks can be fitted in the heating concept. Existing PV systems are considered for the energy balance, spot-market trading and for optimizing the costumer's self-consumption.

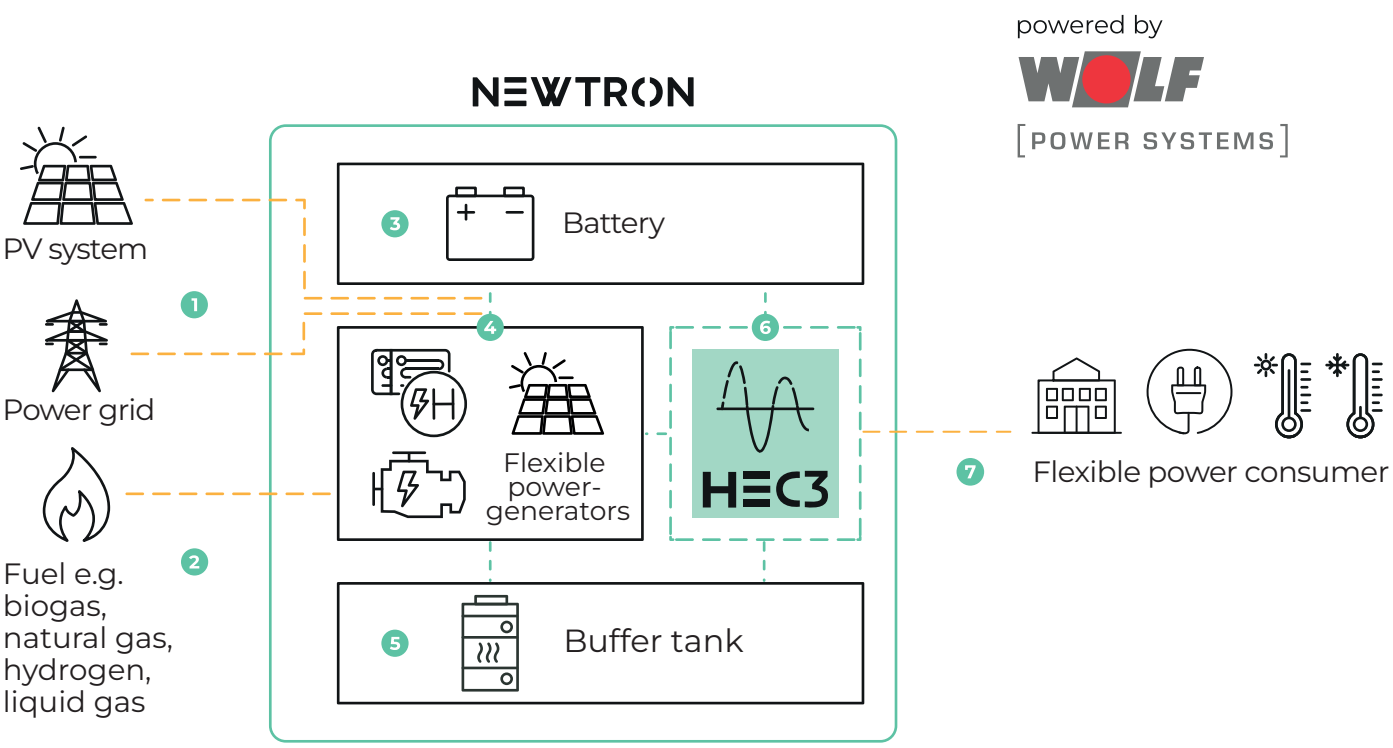
DEMAND-ORIENTED SUPPLY

The required flexibilities and demands are synchronized through the digital networking of the individual components and an intelligent energy distribution.

NEWTRON controls your energy supply comprehensively and complementarily. This ensures reliable heat and power supply for your energy demands, e.g. adjacent buildings, fermentation processes or water treatment, etc.

All energy demands are monitored holistically and supplied by a comprehensive energy automation system. NEWTRON, as an energy source, combines self-generation such as communal PV plants, CHP plants, biogas plants with suitable grid-supported components and smart energy storage systems.

In this way, a cost-optimized and carbon-neutral energy supply can be achieved and the location can be further expanded in a sustainable manner.



HEC3 is the managing core and possess the standardized interface to different energy components, which are configured as requested. With the HEC3 energy management system, energy flows are identified and flexibilities are actively traded on the electricity market.

1. Already existing or planned regenerative energy generators such as photovoltaic systems can be easily integrated into the intelligent control of the HEC3.
2. NEWTRON can operate with renewable energy, free of fossil resources as well as with communal biogas CHPs.
3. NEWTRON battery storage systems consist of state-of-the-art and safe lithium iron phosphate battery modules.
4. Flexible energy generators are, for example, an existing CHP.
5. The most common and most frequently used heat storage systems are buffer storage tanks. Surplus heat is stored in buffer tanks or directly integrated into the local heating network.
6. HEC3 is the intelligent control system that optimizes the energy flow from the energy producersand consumers. It consists of: **Plant control, energy management, centralized system**
7. Flexible energy consumers such as water treatment, digestion process and heating for buildings.
8. Heat demands, such as building and underfloor heating.

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