NEWTRON

SHAPING THE FUTURE OF ENERGY

HYBRID POWER SOLUTIONS

1

DEMAND-ORIENTED SUPPY

The demand for electricity and heat must be available in sufficient quantities and at the required times.

2

PREDICTABLE COSTS

Energy costs must remain forseeable and within the individual budget.

3

REDUCE CO_2 BALANCE

The energy supply is significantly responsible for CO_2 emissions.
To achieve the GHG neutrality target, the focus should be on a holistic transformation concept according to BAFA EEW (up to 50%).

YOUR ENERGY UNDER CONTROL

Companies need innovative solutions for securing and supplying their electric and heat energy demands, for an example, the electricity demand of E-Mobility charging stations.

Take the initiative now and benefit 3-fols!

NEWTRON - THE ENERGY FUTURE

Avoid costly grid expansions while increasing your electric consumption through modern E-mobility.

NEWTRON	
Generates energy where needed	for maximum independence and energy reliability
Provides flexible energy	for 100% cost management and consumption optimization
is modular and expandable	for any initial situation

DEMAND-ORIENTED SUPPLY

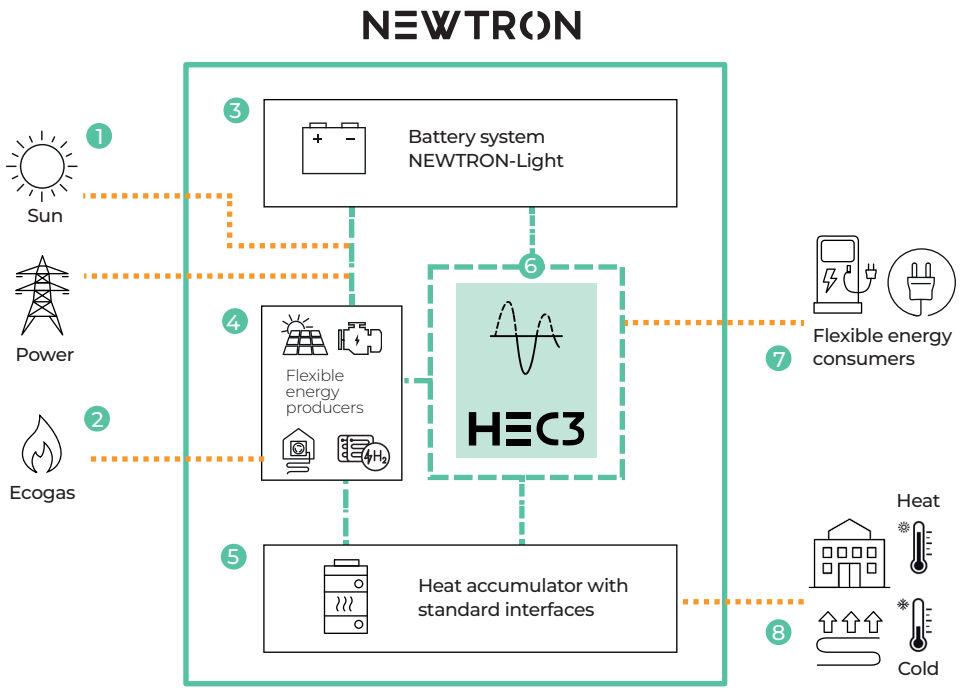
The required flexibilities and needs are synchronized through digital networking of the individual components and the intelligent energy distribution.

powered by WOLF [POWER SYSTEMS]

NEWTRON controls your energy supply comprehensively and complementarily. Heating and power supply are ensured for a commercial usage as well as for a harging infrastructure or process cooling & heating, if required. All energy requirements are monitored as a whole and supplied by a comprehensive energy automation system. As an energy source, NEWTRON combines self-generation units such as photovoltaics with suitable grid-supporting components and intelligent energy storage system. In this way, a cost-optimized and carbonneutral energy supply can be achieved. The site can be further expanded in the future.

We accompany you on your journey, from the design of your individual NEWTRON energy solution based on real data simulation, throughout each phase from the realization till the utilization phase. It goes without saying that we at NEWTRON provide comprehensive advice on subsidies, including BAFA modules 1-5 "Energy Efficiency in the Economy", as well as the necessary application for subsidies.

May we prepare your energy supply for the future?



HYBRID ENERGY CONTROLLER HEC3

The HEC3 management is the brain and the standardized interface to the energy components, which are monitored and energy flows are controlled according to demand. In addition, the HEC3 energy management system recognizes all latent energy requirements and inherently regulates the energy supply. In the process, additional functions such as peak shaving are realized or existing flexibilities on the electricity market are actively marketed.

1. Already existing or planned regenerative energy generators such as photovoltaic systems can be easily integrated into the intelligent HEC3 control system.
2. NEWTRON can also work exclusively with renewable energy, free of fossil resources, for example, with biogas CHP.
3. NEWTRON battery storage systems consist of state-of-the-art and safe lithium iron phosphate battery modules.
4. Flexible energy generators can be:
   - PV
   - Combined heat and power plants
   - Heat pumps
   - Fuel cells
5. The most common and frequently used heat storage systems are above-ground buffer tanks. Surplus heat is integrated into buffer storage tanks or into the local district heating network.
6. HEC3 is the intelligent control system that coordinates the energy flow from producers:
   - Plant control
   - Energy management
   - Visualisation
7. Flexible energy consumers such as:
   - Power-to-Mobility (e.g. e-charging stations)
   - Power-to-Heat (e.g. storage heaters, heat application, refrigeration machines)
8. Adjacent buildings are flexibly supplied with hot or cold thermal energy.

ENERGY STORAGE

Advanced storage technology Batteries and thermal energy storages are used in appropriately designed size and capacity.

CONNECTION OF REGENERATIVE ENERGY

The NEWTRON integrates already existing or planned renewable energy generators such as photovoltaics for a coordinated energy supply.

E-MOBILITY

E-charging stations can be integrated when desired. Slow or fast charging stations can be supplied with the needed power.

CHP WITH ECO-GAS

Highly efficient decentralized generation of electricity and heat through a combined heat and power plant.

POWER-TO-HEAT

Use of heat pumps for heat acquisition.

ENERGY RELIABILITY

The NEWTRON and its HEC3 intelligence increase the degree of self-sufficiency in order to continue supplying important consumers even in the event of a power failure.

PROFIT CONTRIBUTION THROUGH MULTI-USE

The focus is placed on the cost effectiveness of your energy supply. Each individual function of the NEWTRON creates its own profit contribution, which is why the NEWTRON is configured for multi-use.

USER-ORIENTED FUNCTIONS
Self-consumption optimization, peak shaving, load shifting, reliable supply for E-mobility

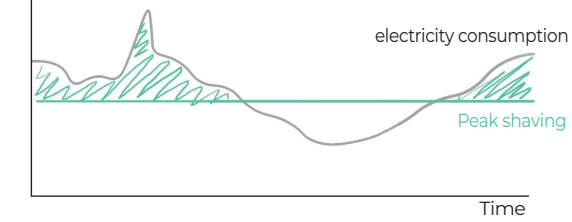
MARKET-ORIENTED FUNCTIONS
Spot-Markt-Trading Contribution to grid anschillary services

GRID-ORIENTED
Black-start capability

NEWTRON QUADRANT MODEL

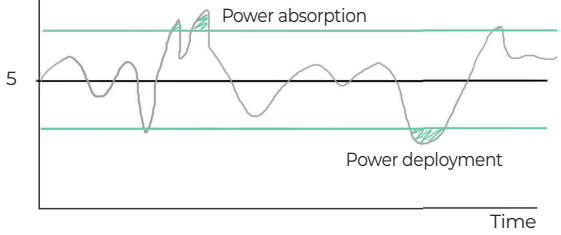
OWN DEMAND
User-oriented applications

Peak shaving
Unforeseen expensive load peaks, caused for example by fast charging of electric vehicles, are capped by NEWTRON and regulated to a chosen setpoint (peak shaving).



MARKETING
Market-oriented applications

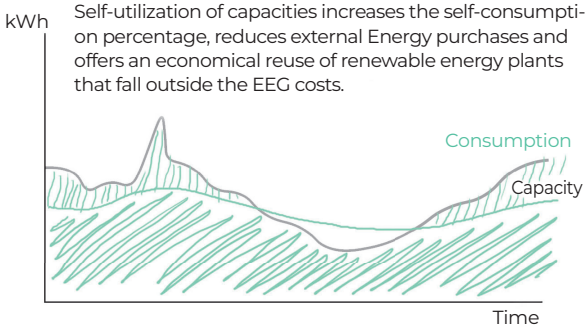
Grid stabilization
A reliable renewable energy supply requires grid services to exibly stabilize the grid in case of power shortages or surpluses (anschillary services).



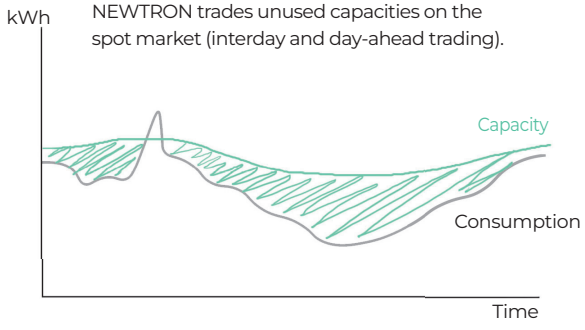
Reduce
Power tariff reduction

Energy
tariff reduction

Optimized self-consumption
Self-utilization of capacities increases the self-consumption percentage, reduces external Energy purchases and offers an economical reuse of renewable energy plants that fall outside the EEG costs.



Marketing of exibilities
NEWTRON trades unused capacities on the spot market (interday and day-ahead trading).



PEAK SHAVING AND LOAD DISTRIBUTION

The innovative system caps high consumption peaks and thus minimizes expensive external power purchases. Load peaks lead to increased power prices and thus to higher electricity bills.

HIGHER AUTARKY

The economic profitability and the degree of self-sufficiency of the local energy supply is improved by optimized self-consumption and the flexibility offered by storage systems.

ENERGY TRADING

NEWTRON trades urgently needed grid services that aims at stabilizing the public grid. This generates an additional profitability margin for NEWTRON.

REALISATION NEWTRON

WOLF POWER SYSTEMS KASSEL LOCATION

OBJECTIVE AN USE

- Needs-based supply of heat and power to a production area for in-house use
- Installation of charging points for company vehicles and customers with 1 x 22 kW and 1 x 75 kW (manufacturers Keba and IES)
- Avoiding expanding the network and pre dictable costs result in a ROI of 3.2 years
- CO_2 footprint reduced by 16.24 t (compared to regular power mix)
- Integration of a 30 kW lithium-ion buffer battery
- Connection of renewable energy generation: PV system
- User-specific functions with peak load capping and ongoing optimization of energy consumption
- Market-specific functions implemented with spot market trading

REFERENCE LOCATION:
WOLF POWER SYSTEMS GMBH
Unterm Dorfe 8, D-34466 Wolfhagen
www.wolf-ps.de

SPECIFIC APPLICATION

CHP

20 KW
electric power

45,70 KW
thermal output

BATTERY

30 KW
30 KWH
lithium-polymer battery

CHARGING INFRASTRUCUTRE

2 X
2 x charging columns type 2 (optional CCS or CHAdeMO standard)

22 / 75 KW
maximum charging power

CONTROLLER

Energy Management Controller (HEC3)

Intelligent link between cogeneration controller and charge management

Total energymanagement for property

PROFITABL OPTIMIZATION OF THE CO_2 BALANCE OF THE ENERGY SUPPLY

Highly efficient energy production plants thas use the cogeneration principle, reduce CO_2 emissions by up to 20 % per kilowatt hour compared to the conventional separate electricity and heat generation plants.

Powered by renewable energy sources, such as PV, eco-gas (e.g. bio-methane or green hydrogen), NEWTRON can ensure a 100% CO_2-neutral heat and power supply.

The system is also designed to be used with hydrogen (H2) in the scope of industrialization, that in the future explicitly H2 can be used for power and heat generation. (H2 ready).

Your individual NEWTRON energy supply will sustainably reduce the CO_2 emission factor in the European electricity mix through the use of heat pumps or CHPs. With the regenerative heat supply, the NEWTRON already makes an important contribution to CO_2 reduction in the heating sector.

REFERENZCE LOCATION:
Centrotherm Systemtechnik GmbH
Am Patbergschen Dorn 9, D-59929 Brilon

ARE YOU INTERESTED?

Please contact us. We will be happy to provide you with further details on the NEWTRON concept or prepare a personalized offer for you.
info@newtron.energy, www.newtron.energy

WOLF POWER SYSTEMS GMBH
Unterm Dorfe 8, D-34466 Wolfhagen
Internet: www.wolf-ps.de

IMPLEMENTATION PROCESS

CLIENT	TEAM NEWTRON
Interest aroused and contact established	
	Location analysis
	Energy concept with the HEC3 simulation tool
	Feasibility estimation and CO_2 balance calculations
Concept presentation with binding offer	Concept presentation with binding offer
Order placement	Order confirmation
Project Kick-Off	Support for funding applications
	Coordination of planning services
	Construction
Start of operation	Start of operation

NEWTRON