



S4 energy

KINEXT

COMBINED HEAT AND POWER

INSTALLATIONS (CHP)

ADVANCED STORAGE TECHNOLOGY TO OPTIMIZE ENERGY GENERATION, TRANSPORTATION, DISTRIBUTION AND USE

RAMP UP PROFITABILITY BY SUPERCHARGING ANY CHP SITE

Combined Heat and Power (CHP) installations are used in many industrial operations. When a CHP is primarily used to generate heat, it generates electricity as a byproduct. Often, this electricity is sold and fed to the grid for a low price on the spot market. A much more profitable alternative is entering the ancillary services market. The Frequency Containment Reserve (FCR) keeps the grid frequency at a stable 50 Hz by quickly feeding power to or dissipating from the grid. FCR services require a fast response time, which the CHP cannot provide by itself. By adding KINEXT, it can.

Now, the CHP runs at a constant baseload for daily electricity supply, while KINEXT responds to frequency deviations. Only for larger deviations, CHP assists by marginally changing its baseload. The Energy Management Systems controls both the assets and FCR input.

KINEXT ENERGY STORAGE

Technology	Flywheel
Capacity	30 kWh
Stand-By Loss	7 %/hr
Power Capacity	Modular, 0,1 – 1 MW
Cycle Efficiency	92 %
Response Time	< 20 ms
Lifetime	20 years/1.000.000+ cycles
Footprint	4 x 4 meters

APPLICATION EXAMPLE

- 5 MW gas powered CHP engine is operated at a 4 MW load.
- Two KINEXT units with a power of 400 kW are in charge of the ancillary services for 95% of the time.
- When the grid frequency is too low, KINEXT feeds power to the grid.
- When the grid frequency is too high, KINEXT dissipates power from the grid.
- The CHP only has to ramp up or down in the rare cases that more power or longer contribution to the grid is required.

KINEXT uses proven flywheel technology to power scalable energy storage solutions that increase operational efficiency. Whether its primary application is peak shaving, increasing network stability and power quality, or UPS: KINEXT saves costs by optimizing the grid connection demand and efficiency, production uptime, equipment lifetime, residual energy recycling while integrating sustainable sources and limiting on-site emissions.

KINEXT can be installed in a matter of weeks. Would you like to know more? Contact our team to discuss your application today.

Please call **+31 (0)10 742 0840** or visit **S4-ENERGY.COM**

BENEFITS

- Production equipment operates at full load and has only a small contribution to the grid services.
- Generation of additional revenue streams for better prices than spot market electricity price.
- KINEXT keeps the local network stable.

