



Energy storage - an essential component for the economical operation of your energy systems in the future

# Energy storage - your contribution to the energy turnaround

Position yourself for the future and actively respond to the challenges of the energy turnaround with an energy storage system. STEAG Energy Services GmbH offers you energy storage solutions for a wide variety of applications. You will benefit from our experience in the field of diverse storage technologies.

## Solutions for a wide range of applications

We'll help you to find the optimal energy storage for your needs, no matter which energy source you use and which requirements you have, such as:

- Flexibilization of grids and generation fleets
- Compensation of load changes which reduces wear and tear and thus maintenance costs
- Integration of renewable energies
- Reduction of grid charges and forced electrical operation
- Stabilization, back-up and optimization of grids
- Load shift and participation in energy markets
- Expansion of sector coupling (electricity, heat, gas, mobility products)

## Our experience is your benefit

Trust our decades of experience in building energy storage systems that pay off.

- Complete range of services from the concept study to the total handling of a project
- Experience in operation, maintenance and optimization of STEAG's own energy storage systems
- Professional advice through in-house expertise, such as grid connection and calculations, fire protection, approval and procurement processes
- Extensive experience with the integration into existing plants and the establishment of the grid connection
- Cost-efficient solution through manufacturer and technology neutrality

We will support you in all questions concerning energy storage and find the optimal solution. In addition, we'll accompany you from the first concept to engineering and construction up to the operation and optimization of the plant.



## Our services in detail:

- Technical and commercial consulting
- Concept development and site investigation
- Advice on the use of funding opportunities
- Preliminary, draft and implementation engineering
- Approval engineering
- Procurement engineering (with an EPC or lot-wise)
- Project management, site management, quality management and commissioning
- Interface processing and integration on site
- Delivery of complete turnkey solutions
- Grid calculation, grid integration
- Simulation and optimization of charge management
- Optimized maintenance through IT-supported predictive maintenance

### Selected References

- Electricity storage, Duisburg (Tendering and evaluation: 240 MWh, 2017/18)
- Large battery storage, 6 locations (Engineering and implementation: 6 x 15 MW, 2016/17)
- Salt storage power plant, Lünen (R&D study, 2015/16)
- Solar thermal power plant Arenales, Spain (Operation: 1000 MWh molten salt storage, since 2013)
- Storage in the distribution grid with a high solar content (Study, 2013)
- Green Island Project, Greece (Study, 2010)
- LESSY battery storage system, Völklingen (Pilot project: 1 MW, 2009-2017)
- Creavis Science-to-Business Center Eco<sup>2</sup>, Marl (Battery Research, 2009-2014)
- Ruth storage, Duisburg (Engineering and implementation: 120 t/h, 1988/89)



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