

## INP Reference

### Hydrogen / H2 electrolysis plants

**LOCATION:** Germany

**SYSTEM/TECHNOLOGY:** Electrolysis

**SERVICES:** Production monitoring, Commissioning, Quality assurance, Documentation, Pre-project planning and tendering, Basic-engineering and pre-engineering, Detail engineering

**INDUSTRY BRANCH/TYPE OF PLANT:** Green Energy, Power Generation

**PROJECT SIZE:** >EUR 500,000

**ACTIVITY PERIOD:** 2022 and ongoing

#### Tasks

The storage of volatile renewable energy is key to the success of the energy transition in Germany and to increasing the CO2-free share of electricity generation. The production and storage of hydrogen play a decisive role in this.

#### Project description

Some types of electrolyzers are well-known and proven plant components, especially in the chemical industry. The further development of electrolyzers has so far only been pursued in research plants or is being applied in pilot projects. However, to ensure the success of the energy transition, the performance of electrolyzers must be adapted and standardized for large-scale applications in energy generation/storage. In addition, the first large-scale electrolysis plants are now being planned and are in operation.

#### INP Services

- Optimization of the process engineering of H2 electrolyzers and electrolysis plants
- Design and standardization of components
- Collaboration in HAZOP and implementation of measures
- Creation, development and validation of plant design (basic documentation including R&Is, 3D models, isometrics, function diagrams, function descriptions, plant, service and maintenance documentation)
- Selection and standardization of automation
- Design of electrical high-voltage connection
- Specification of DC power supply (rectifier, transformer, MV filter, switch and cooling system)
- Modularization of electrical components
- Instrumentation and control planning incl. functional safety
- Hardware and software engineering for electrolyzer and balance of plant (BoP)

#### POINTS OF CONTACT



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## INP Reference

- installation, freight and assembly concepts
- Expediting and construction site/assembly preparation
- Commissioning of the electrolyzer incl. BoP