

### General Engineering of a green hydrogen production plant

**LOCATION:** Feuchtwangen, Germany

**SYSTEM/TECHNOLOGY:** electrolyser, compressor, low-/medium-pressure storage, hydrogen distribution station, trailer filling station

**SERVICES:** Project management, As-built status and data recording, Pre-project planning and tendering, Basic-engineering and pre-engineering, Solution development / Feasibility studies

**INDUSTRY BRANCH/TYPE OF PLANT:** Green Energy

**CLIENT:** H2 Hub nahKRAFT GmbH

**ACTIVITY PERIOD:** 02/2025 - 12/2025

#### Tasks

H2 Hub nahKRAFT GmbH is planning the construction of a 5 MW electrolysis plant for the production of green hydrogen. The plant is designed to convert electricity from renewable energy sources into hydrogen for cross-sector applications, store it, and supply it on demand – primarily for the mobility sector. In a second construction phase, the plant will be expanded to 15–20 MW.

#### Project description

INP Deutschland GmbH was ordered as Owner’s Engineer for the technical planning services, covering preliminary design, basic design, and permitting design. A digital twin was used to develop and simulate the total energy concept and for sizing the main components especially storage systems. In addition to the electrolysers, the plant comprises all required auxiliary systems, including cooling systems, water treatment, compression, storage, filling systems, electrical supply, and control systems.

In preliminary and basic design phases, the main and auxiliary systems as well as the associated buildings were planned in detail. For the permitting phase, the required documentation was prepared and submitted as part of the building permit application. A key aspect of the project is the energy concept. Regulatory requirements related to the power supply were assessed and incorporated into the design. Corresponding scenarios were developed and the necessary simulations were carried out. The goal is to prepare a complete engineering design package for a 5 MW plant, which will be approved as part of the building permit application. The plant is designed for a subsequent expansion to 20 MW, subject to approval under the German Federal Immission Control Act (BImSchG).

#### INP Leistungen

Folgende Leistungen wurden von INP übernommen:

#### POINTS OF CONTACT



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## INP Reference

- Coordination with the client, suppliers, appraiser, specialist authorities, and permitting partners
- Engineering design of the overall plant covering mechanical and process engineering, electrical and automation engineering, associated civil works, as well as fire protection and explosion protection
- Design and sizing of the main process systems (electrolysis, water treatment, compression, storage, filling equipment) and balance-of-plant components
- Process design in detail, layout planning and installation planning
- Design of utility interfaces (electricity, water, wastewater, communication)
- Preparation of technical specifications for vendor selection
- Support during vendor selection and procurement procedures
- Preparation of permitting documentation
- Active support during the permitting procedure, including coordination with the authorities
- Detailed schedule and cost planning
- Technical project management

