

INP Reference

Hydrogen plant in the DACH region

LOCATION: DACH region

SERVICES: Project management, Basic-engineering and pre-engineering, Solution development / Feasibility studies

INDUSTRY BRANCH/TYPE OF PLANT: Green Energy

CLIENT: Petrol station operator/mineral oil company (subject to NDA)

ACTIVITY PERIOD: 2023-2024

POINTS OF CONTACT



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Tasks

The client is building a hydrogen production plant to supply the existing filling station on site and consumers in the surrounding area.

A containerized electrolysis system with a capacity of approx. 1MW (18kg H₂/h) is to be used. Expansion options for increasing the hydrogen capacity are to be planned. The hydrogen produced should have a quality of 3.7. For future use, the current trailer

filling system is to be modified and a maximum possible number of trailer parking spaces planned. The trailers can be used as buffer storage. It should be examined whether the heat generated from the process can be used as district heating and the oxygen produced.

The aim is to construct an electrolysis plant with storage and provision of hydrogen for the existing filling station and future trailer filling at a specified target plant price with a high number of operating full-load hours per year.

INP Services

- Customer workshop with coordination of input parameters, system size and project objectives
- Elaboration of the process flow diagram with the energy and material flows/technical parameters incl. expansion options
- Process and system planning for the entire system including machine and system technology, electrical and control technology
- Design of the required components: Electrolyzers, hydrogen conditioning, H₂ compressors, H₂ transfer station of the filling station, H₂-MD storage, H₂ filling stations for trailers, pipelines and fittings (BOP), transformers, switchgear, regulation and control systems
- Design and planning of interfaces such as electrical supply, connection to the water and wastewater network, connection to the heating network, connection to the filling station
- Documentation of the design and planning
- Market research and offers from manufacturers and suppliers
- Consideration of noise protection, risk assessments, fire and explosion protection measures in planning
- Specifications for construction planning

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- Support for the preparation of documents for submission to the approval authorities
- Project coordination
- Reporting
- Economic analysis and detailed cost planning