

You unleash hydrogen, we guide the journey safely ahead.

# Comprehensive services across the hydrogen value chain

# H<sub>2</sub> competence @ HydroHub

Our services run along the entire value chain in the hydrogen industry – from generation through transport and storage to use in various fields of application.

## Energy generation

Renewables  
(e.g. wind, solar)

Conventional power plants

Geothermal

## H<sub>2</sub> generation

Electrolysis  
Seawater  
desalination plants

Reforming processes

Methane pyrolysis

## Distribution/transport

Electrical grid  
Pipelines  
District heating

Intelligent networks  
Refuelling stations/  
filling systems

Tankers  
(lorry, train, ship)

## Storage

Battery storage  
Gas tanks

Cavern storage  
(H<sub>2</sub> and CO<sub>2</sub>)

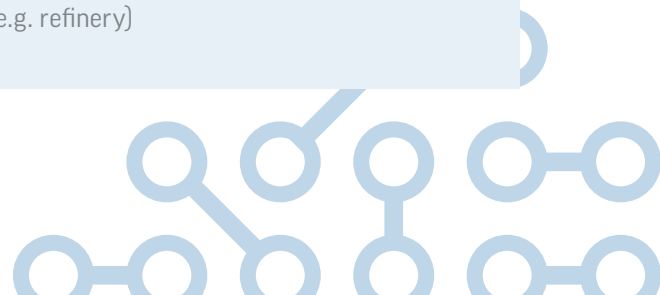
Pressure vessels  
H<sub>2</sub> hydride storage

## Consumption/use

Fuel cell system  
Methanol synthesis unit

Carbon capture and utilisation  
Mobility (e.g. e-fuels)  
Reconversion to electricity

Power to gas (gas, heat, liquid)  
Industrial applications  
(e.g. refinery)



We give comprehensive support to hydrogen projects and offer a broad spectrum of services in the concept/planning, production, operation and decommissioning/disposal phases.



### **Concept/planning**

We support you from the start with research and project planning measures and specific tasks. Already at the conception phase, we are there at your side with feasibility studies, strategic and financial consultation and a broad range of organisational and technical services. Alongside concept creation with consideration for legal, technical and economic conditions, we take on the task of analysing the requirements and support you in the process of determining feasibility through basic and design planning all the way to the approval process.



### **Production**

For over 150 years, it has been one of our tasks to analyse and manage technical sources of risk. With our wide range of specific services, we are thus able to offer you competent help in the integration of hydrogen technologies into the industrial value chain. Our range of services runs from fact-finding and construction through project management, administering documentation and operator's obligations, basic and detailed process engineering all the way to project support through geological, environmental and engineering services during the production process.



### **Operation**

We support frictionless operation with our extensive range of services and our primary goal of optimising operational reliability and preventing damage. Our services support you in the implementation of your operating strategies and in the accompanying optimisation, maintenance and upkeep concepts. Our safety-oriented process with operational monitoring and the creation of damage-limitation concepts contributes, in the final account, to establishing hydrogen in the popular conception as a safe and controllable technology.



### **Decommissioning/disposal**

Just as we are there for you in the first concept phase, we are also at your side at the decommissioning phase, providing all the required services for dismantling and disposal – including project management and comprehensive services to handle your operational obligations. We create concepts to the current legal requirements, standards and regulations and support you in identifying, analysing and avoiding the potential risks of your intervention.

Our services along the hydrogen value chain have been compiled into 16 detailed PDFs for you. You can easily access these through the QR code. Alternatively, visit: [www.hydrohub.de/en/downloads/](http://www.hydrohub.de/en/downloads/)



## HydroHub

An initiative of TÜV NORD GROUP companies

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