

Multiconsult Hydrogen/Ammonia Capability Statement

With more than 100 years of experience from the energy sector, Multiconsult have the capabilities to advice on all aspects of renewable energy, transmission and distribution, grid connections and energy storage as well as other related fields.

Introduction

Multiconsult is a leading provider of advisory and engineering services for hydrogen and ammonia projects, including due diligences and transaction advisory for vendors or buyers.

Multiconsult has a strong track record of delivering complex industrial projects in Norway and internationally. We have a deep understanding of the hydrogen and ammonia markets, and we can offer a complete package of services to these projects, from market studies, studies and engineering throughout the project development and technical due diligence services.

Our services

We have a team of experienced engineers and experts who can help our clients with:

- Developing hydrogen and ammonia production plants
- Optimizing the layout and design of hydrogen and ammonia production plants
- Selecting the right technology for hydrogen and ammonia production plants
- Optimizing logistics solutions in relation to shipping of hydrogen and ammonia
- Obtaining the necessary permits and licenses for the construction of hydrogen and ammonia production plants
- Solving issues arising from operating and maintaining hydrogen and ammonia production plants
- Conducting due diligences in transaction processes related to hydrogen or ammonia businesses or projects

Recent Reference Projects

- Hydrogen, ammonia and other relevant projects

Some of Multiconsult's recent hydrogen and ammonia references are listed below, with further details provided on selected references on the following slides:

- **2018** - Pre-feasibility and feasibility studies for Nork H2 (Hy2gen AG) for a planned hydrogen plant in Suldal. The capacity was planned to be up to 50 tons/ in several steps.
- **2019** – Client: RWE - Pre-feasibility study/proposal to RWE for a large hydrogen development I Northern Germany. Together with NEL Hydrogen and Kvaerner.
- **2019** – Client: Ruter - Feasibility study for Ruter for on-site hydrogen production, storage and filling-station at Bekkestua bus-terminal in Norway, with focus on analysing risk and safety, site lay-out and logistics for several alternative parts of the property.
- **2020** – Client: Yara - Pre-feasibility/proposal to a large industrial company in Norway. Together with NEL Hydrogen and Kvaerner.
- **2020** – Client: Statsbygg - Pre-feasibility for renewable energy supply for the Norwegian Antarctic research station Troll in Dronning Maud Land, Antarctica. Study of different options for fossil-free supply of energy to this remote and harsh outpost, including solar, wind, battery- and hydrogen energy storage.
- **2022** – Client: Confidential - Technical Due Diligence of a Portfolio of Green Hydrogen Projects (pressurized hydrogen) in Norway. The projects reviewed were developed to a Concept/Pre-feasibility level. Main issues reviewed: Grid connection, Grid capacity, Logistics/Shipping/Storage, CAPEX/OPEX Estimates, Process Equipment.
- **2022** – Client: Confidential - Technical Due Diligence of a Green Hydrogen/Ammonia Project in Southern Norway. The project reviewed was developed to a Concept/Pre-feasibility level. Main issues reviewed: Grid connection, Grid capacity, Logistics/Shipping, CAPEX/OPEX Estimates, Ground Conditions, Zoning, Safety Zones.
- **2022** – Client: Hydro Havrand - Concept study of Hydrogen Pilot Plant. covering site selection, necessary utilities, hydrogen production and compression facilities, with an emphasis on a cost estimate according to AACE International Class 3.
- **2022** – Client: Statkraft - Pre-feasibility study of one 2MW and one 20 MW Hydrogen production Plant. covering civil 1, necessary utilities, hydrogen production and utilisation facilities, with an emphasize on a cost estimate according to AACE International Class 4.
- **2023** – Client: Gen2 – Engineering design in relation to the development of the Nesbruket plant. Multiconsult is responsible for HVAC, electrical, road and utilities/piping.
- **2023** – Client: Confidential - Vendor's Technical Due Diligence of a Portfolio of Green Hydrogen and Ammonia Projects in Norway. Main issues reviewed: Grid connection, Grid capacity, Logistics/Shipping/Storage, CAPEX/OPEX Estimates, Planning Process



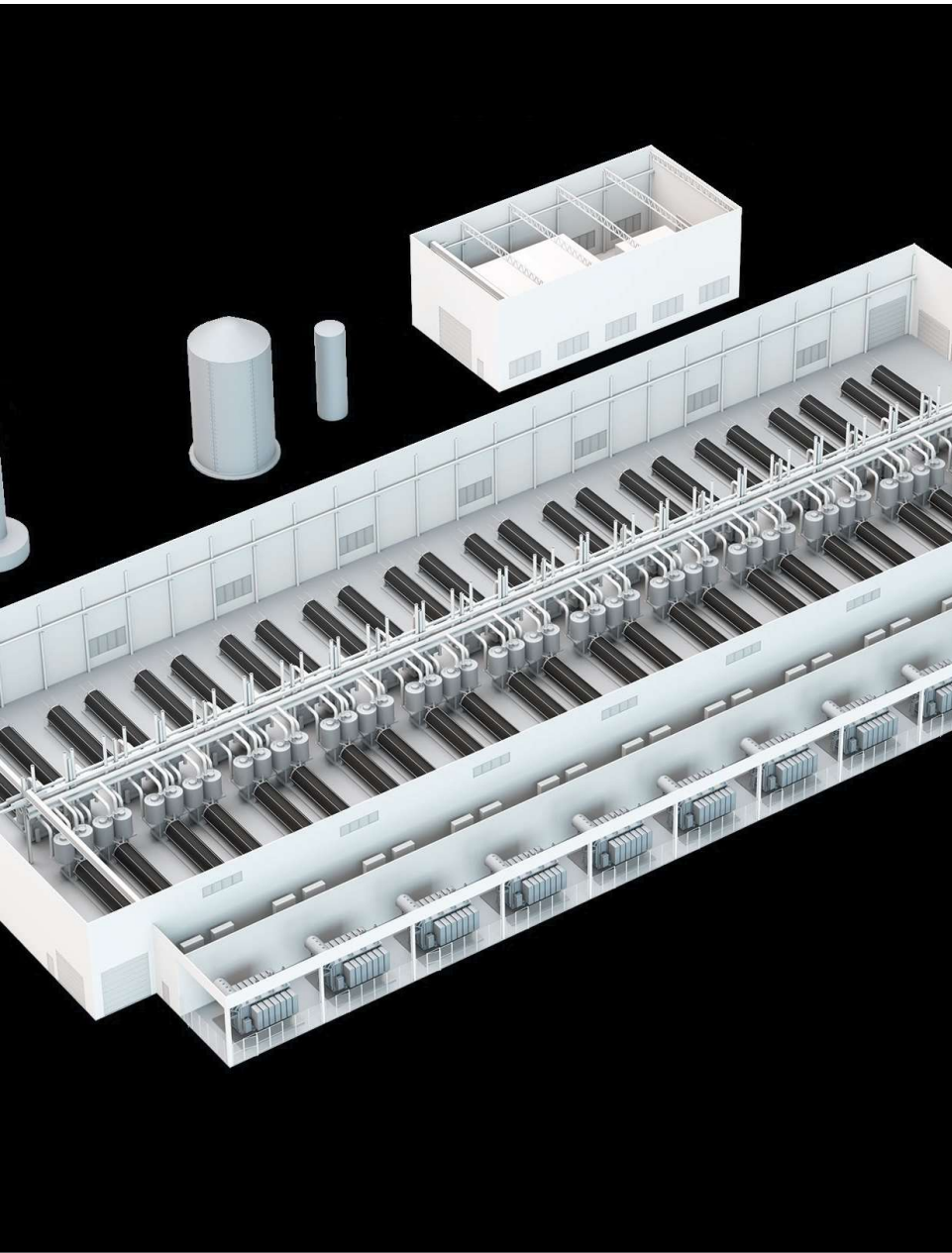
Technical Due Diligence Green Hydrogen Business

- Contract period: 2022
- Client: Confidential
- Scope of Work: Technical due diligence
- TDD for a potential buyer of a green hydrogen business, including evaluation of project development portfolio, shipping and logistics concepts, grid connection and grid capacity, hydrogen production facilities and CO2 compensation scheme for energy intensive industries and evaluation of the clients input to the financial model.



Technical Due Diligence of Green Ammonia Project

- Contract period: 2022
- Client: Confidential
- Scope of Work: Technical due diligence
- TDD for a potential investor in a planned green hydrogen/ammonia project in Southern Norway. The TDD focused on zoning/land use issues, grid capacity and grid connection, safety issues, geotechnical conditions on site and shipping/logistics concepts.



Green Hydrogen for Yara

- Contract period: 2020
- Client: Yara
- Scope of Work: Concept study/proposal to Yara Herøya (SKREI)
- Multiconsult, in collaboration with NEL Hydrogen and Kvaerner, delivered a concept study for a 20 t/d hydrogen plant to supplement Yara's ammonium production
- Multiconsult designed solutions for the civil work, including electrical, HVAC and fire detection and protection.



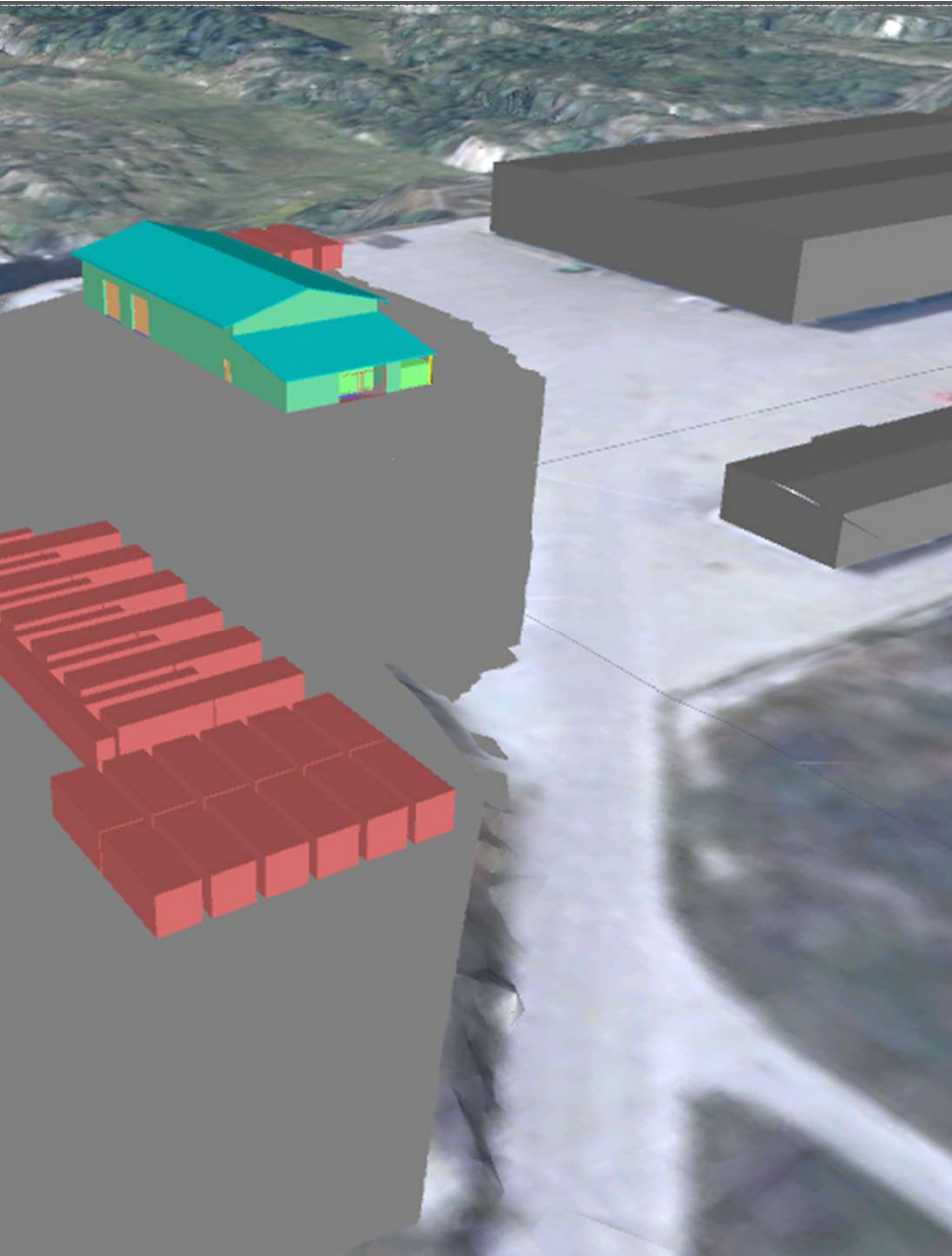
Feasibility study Hydrogen Bekkestua bus terminal, Oslo

- Contract period: 2018
- Client: Ruter / Bussanlegg
- Scope of work: Feasibility study
- Hydrogen production, storage and filling-station at Bekkestua bus-terminal in Norway. Feasibility study with focus on analysing risk and safety, site lay-out and logistics for several alternative parts of the property.



Location and conceptual studies, battery manufacturing plant

- Contract period: 2021 - 2022
- Client: JBI (Hydro, Equinor and Panasonic)
- Scope of Work: 1 – Location study
 - Review of 18 sites, on carefully selected criteria, including power availability, transport options, likelihood of meeting timeline, biodiversity and cost considerations. In-depth analysis of eight of the most suited locations, resulting in a ranked list.
- Scope of Work: 2 – Optimization study
 - Based on earlier work, Multiconsult optimized the layout and civil works for the battery manufacturing plant. The most noticeable results from the study includes a more efficient design of dry and clean rooms, better energy utilization, more precise budget prices from suppliers and a more detailed plan considering construction packages.



Concept Study of Hydrogen Pilot Plant

- Contract period: 2022
- Client: Hydro Havrand
- Scope of Work: Concept study
- Concept study for a planned hydrogen pilot plant covering site selection, necessary utilities, hydrogen production, compression facilities and distribution, with an emphasize on a cost estimate according to AACE International Class 3.



Location study, site preparation and process support - Northern Lights CO2 terminal and storage facility

- Contract period: 2017- ongoing
- Client: Equinor
- Scope of Work: Location study, site preparation and marine structures, support for process systems
- After the location study, Multiconsult was contracted to do the site preparation, including necessary all infrastructure and the administration complex. This included the design of the jetties and harbor facilities
- The process supplier involved Multiconsult in the detailed design of the substation and foundations for process equipment, including landfall design.



ESIA, Environmental and Social Impact Assessment

- Contract period:2021-2022
- Client: Elkem/Vianode
- Scope of Work: Development of ESIA for the planned synthetic graphite manufacturing plant

Summary

- Multiconsult's experience in a wide range of industrial sectors gives us the ability to understand the specific needs of our clients and their projects, and to develop innovative solutions that meet those needs
- Multiconsult's team of experienced engineers and experts is committed to delivering high-quality work and cover all areas related to hydrogen and ammonia projects
- Multiconsult is committed to sustainability, and we are always looking for ways to reduce the environmental impact of the projects we are involved in
- Multiconsult has a proven track record of conducting due diligences for vendors or buyers of hydrogen and ammonia plants. We have a deep understanding of the risks associated with these types of projects and we are able to identify and mitigate those risks.

Q&A and Further information

Contact: Anders Gustav Pettersen

Position: Managing Director (UK)

E-mail: anders.gustav.pettersen@multiconsultgroup.com

Mobile: +44 7769 990538

