YOUR TRUSTED ADVISOR ON THE
JOURNEY TO A SUSTAINABLE FUTURE

GENESIS

CAPABILITY OVERVIEW

Hydrogen and its Derivatives

Genesis has a dedicated energy transition team with a solid track record in hydrogen projects.

Our goal is to provide confidence in your hydrogen investment.

Hydrogen and its Derivatives

HOW WE CAN HELP

Our development experts provide independent services that deliver early phase design and engineering our clients can rely on.

At Genesis, we understand the economic and technical challenges facing hydrogen projects. Our objective is to ensure clients are provided with phase appropriate engineering and economics for assured decision making in their investment.

We have worked on some of the world's most prominent hydrogen projects with a significant track record in early phase projects, including prefeasibility, and now entering FEED.

HOW WE ADD VALUE

- We have executed more than 25 hydrogen projects in the past two years. We understand the changing landscape in technology maturity and uncertainties in hydrogen markets.
- We are not a technology, energy or renewables company. We are an established company with more than 30 years experience in holistic integrated design.
- Our extensive experience has shown us that many hydrogen projects have hidden costs, including civil, owner, safety systems, brownfield or feedstock integration costs. Our experience of building up a holistic technical cost from a basic concept is applied across all hydrogen projects, providing real levelized costs of hydrogen (LCOH).
- With our tools, we can rapidly assess multiple hydrogen concepts and optimize the levelized costs of hydrogen.
- We perform rapid evaluations to direct your investment or work with you to take your development to FID.

AVAILABLE TOOLS

- Ultra Front End™ Suite (UFE™)
- Genesis Carbon Assessment Tools™ (Gen-CAT™)
- Asset Development Evaluation and Planning Tool (ADEPT)
- Brownfield cost estimating tool
- Access to commercially available software and databases
- Genesis in-house LCOH models
- Green Hydrogen System Optimization tool
- Rapid Screening tool

OUR SERVICES

KEY INVESTMENT DECISIONS

- Technology selection & system integration
- Analysis of revenue streams & hydrogen carriers (NH_3, LOHC, synthetic fuels, methanol)
- Management in variability in feedstocks & exports
- Energy intermittency management
- Onshore & offshore developments

SUSTAINABILITY

- Lifetime carbon footprint assessments and optimizations
- Reuse of transportation infrastructures
- Environmental impact assessments
- Water resourcing management

ENGINEERING DESIGN

- Site layout studies and brownfield integration
- Pipeline and material engineering
- Flow assurance and dynamic modeling
- Technical safety studies

COST ESTIMATION AND FINANCIAL SERVICES

- Real cost estimation and generation of LCOH
- Funding application support
- Economic and market analysis

CONTACT US

Initial Inquiries regarding our hydrogen and its derivative services can be directed to:

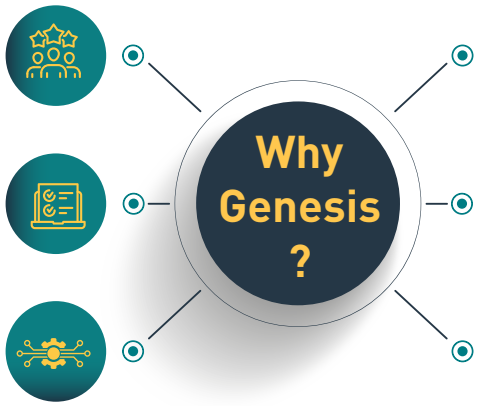
enquiries@genesisenergies.com

Hydrogen and its Derivatives

Our Track Record
More than 25 early phase projects executed recently. All uses of hydrogen and its derivatives (NH3, MeOH, efuels); clusters / hubs and full value chains.

Real Cost Estimating
We have levelized cost of hydrogen (LCOH) models and digital optimization tools (energy system design tools) to understand the economics now and in the future.

Our Processes in Complex Developments
We offer 30 years of experience in:
- Project management and framing
- Concept screening and selection and value engineering
- Early engagement, decision management and technology assessment (performance assurance, TRL.



Leveraging Our Organisation
Technip Energies has more than 60 years of experience in bringing concept to EPC, focus or modularization, plus decades in ammonia.

Holistic Systems Integration
We are not a hydrogen company or a renewable company. We understand issues with systems integration including renewables (balance of electrons), storage (balance of molecules), constructability and markets.

Agnostic Reviews
Experience in:
- Screening of licensors and vendors (pre-NDA)
- Working with licensors (NDAs)
- Agnostic technology assessments

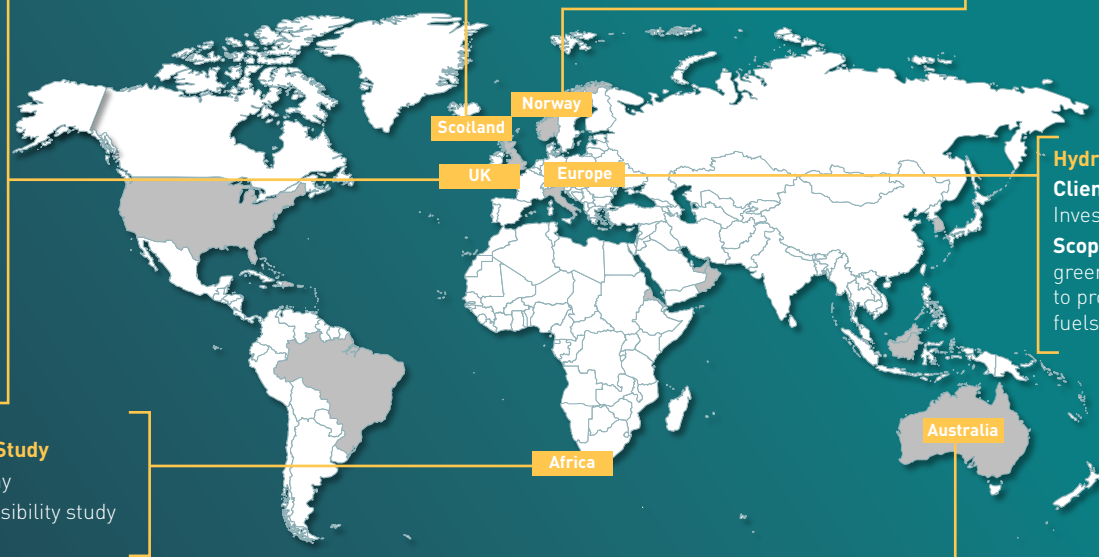
SOME OF OUR PROJECTS

Acorn - Blue Hydrogen & CCUS Studies
Client: Energy company
Scope: Feasibility, technology screening and concept select study phases.

Norway Blue Hydrogen and Blue Ammonia Study
Client: Energy company
Scope: Genesis led studies with input from licensors in comparing blue LH2, GH2, NH3 at giga scale.

Blue & Green H2 Study
Client: Energy Institute
Scope: Assessment of the emissions and efficiency of hydrogen value chains.

Hydrogen Project
Client: Energy company
Scope: Pre-FEED scope focussed on the hydrogen pipeline transport system.



Hydrogen Loop Study
Client: Private Investment company
Scope: Confidential green and blue hydrogen to produce synthetic fuels.

3GW Green Ammonia Study
Client: Energy Company
Scope: Confidential feasibility study

Blue Ammonia Study
Client: Energy Company
Scope: Prefeasibility study for the production of hydrogen, conversion to ammonia, CO_2 sequestration and export transport studies.

Ammonia Viability Study
Client: Energy Company
Scope: Independent technocommercial viability study: coal gasification-based ammonia and urea project.

Blue vs Green Hydrogen & Ammonia
Client: Energy company
Scope: Confidential technoeconomic comparative assessment of hydrogen production and transport vectors: 1.5-2 GW.

Renewables and Hydrogen
Client: Pilot Energy
Scope: Feasibility study for the integration of renewable power production and H_2 conversion into Australian power systems, LCOH assessment.

Green Ammonia Study
Client: Energy company
Scope: Feasibility study for a floating green ammonia facility

GENESIS

Your trusted advisor on the journey to a sustainable future

GENESIS

TECHNIP ENERGIES