

Clean Hydrogen

Supporting the energy transition

MARSH

Clean Hydrogen is set to play an important role in helping industries and countries reduce their carbon emissions.

The benefits of clean hydrogen as a storable, and transportable energy source in an increasingly electrified world is widely recognised. So, as the race to decarbonize dramatically accelerates, governments and hard-to-abate industries are investing strongly in clean hydrogen production and carbon capture and storage (CCS) facilities.

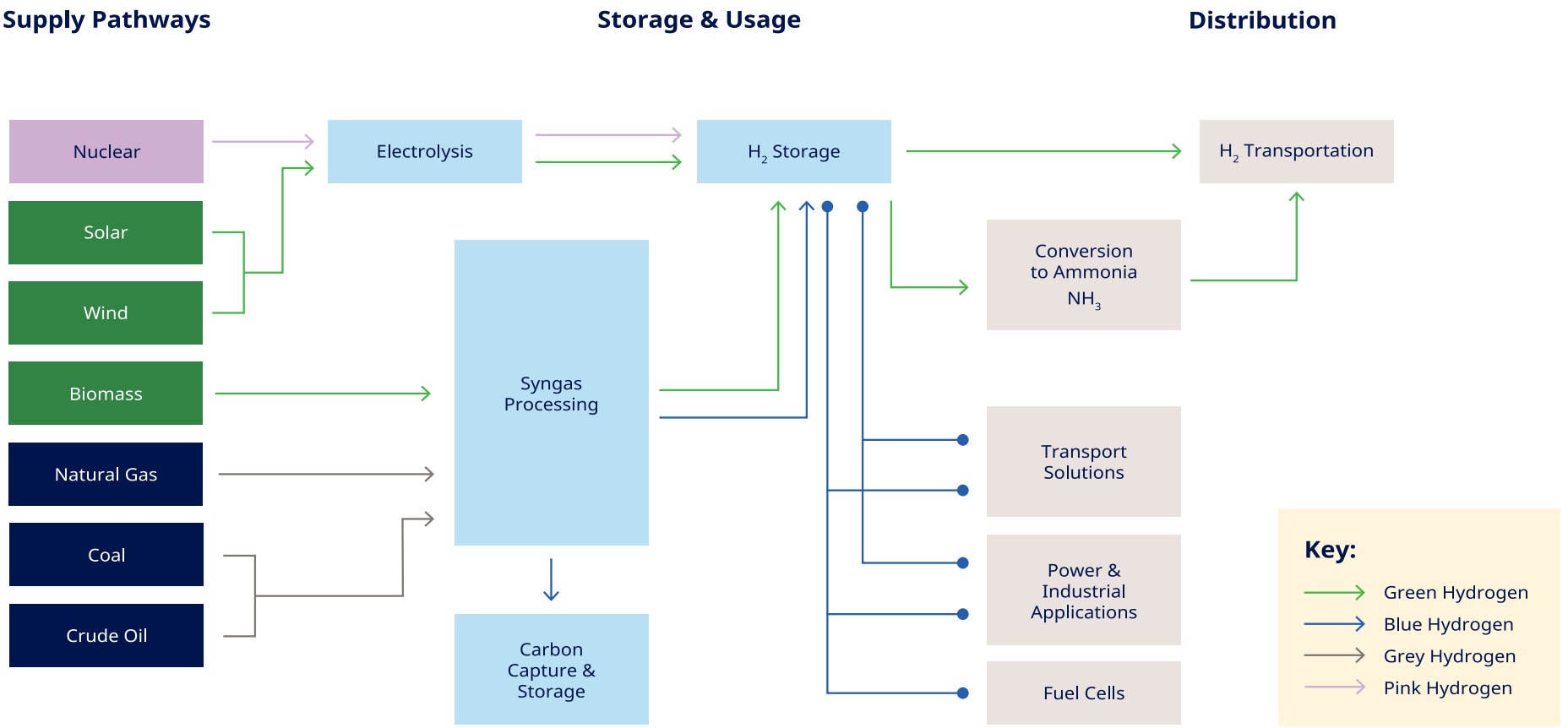
Marsh Specialty teams working across the energy and power, construction, credit, and cargo industries provide expert risk engineering analysis, tailored risk and insurance advocacy, and global placement services covering the full value chain of hydrogen and CCS investments. We provide comprehensive risk management and transfer solutions from feasibility studies through to the operational stages of your project.



Clean hydrogen supply and distribution pathways

Clean hydrogen production facilities will need to be integrated into existing energy networks. In some cases, existing infrastructure in refineries and gasification plants will be used in combination with new storage and transportation networks. In other cases, new electrolysis facilities will need to be built and integrated with solar or wind plants to produce green hydrogen from renewable energy sources.

The insurance landscape for hydrogen and CCS projects



Carbon credit and emissions trading value protection

Clean hydrogen investments can reduce CO2 emissions for end users where hydrocarbon based fuels or feedstocks are substituted with hydrogen. Emissions can also be reduced where traditional hydrogen production using natural gas or coal is combined with CCS, or where renewable energy sources are used in the production process. In regions with carbon credit or emissions trading schemes, monetary value can be created by reducing the overall cost of production, or by providing an advantaged position for emissions trading.

This creation of new and additional value introduces a novel type of business interruption (BI) exposure that traditional BI policies are not designed to address. Where such schemes exist, Marsh Specialty can design and place the enhanced BI insurance solutions that you need to protect this additional financial value. This insurance coverage enables you to recover the lost value that would have been generated from the sale of excess emissions allowances, or to contribute to an increase in costs associated with losing a carbon credit.

Some industries may also be subject to regional obligations to increase the use of renewable energy sources. This may be administered through the issue and trade of renewable obligation certificates, or via similar schemes. In circumstances where a project is planned to contribute to such an obligation, this contribution may be lost or delayed if property damage or project delays occur. The financial impact can be covered by adapting delay in start-up (DSU) insurance coverage.

New insurances are also under development to support CCS cluster developers. These insurances will address risk exposures related to a release of CO2 as well as the loss of government incentives that may result should the CCS operation suffer an interruption.

Marsh Specialty can design and place enhanced business interruption insurance solutions to protect your financial interests.

Supporting your hydrogen project

Our approach

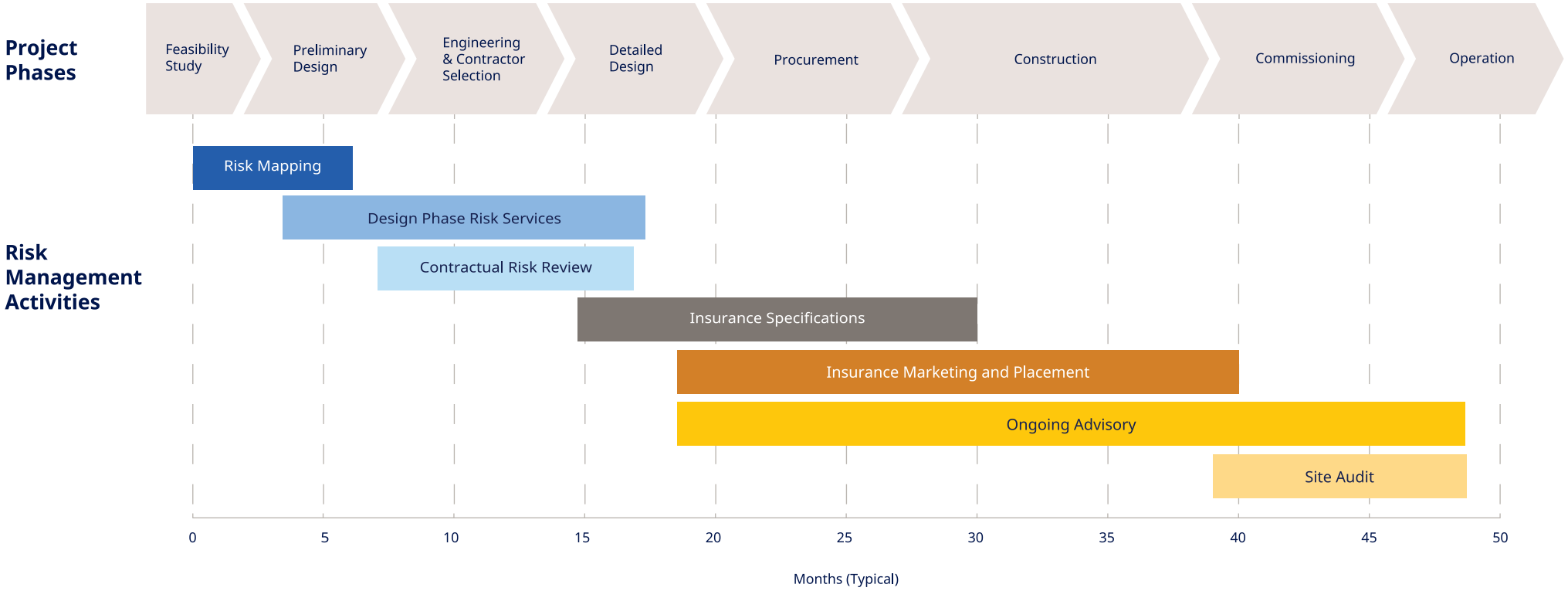
Marsh Specialty uses a structured project risk management framework to identify and manage risks throughout a project's critical path. Through workshops and detailed planning, we work with you to:

- Quantify and mitigate risks required to secure project finance.
- Help you improve your company and project risk profile.
- Ensure appropriate and cost effective insurance coverage for all production, CCS, and supply pathways.

Our specialist risk and insurance advocates will:

- Conduct insurance risk analysis to assess potential property damage, business interruption, and liability losses; including emissions related BI analysis if applicable.
- Advice on how to reduce overall project risk through insurance and financing mechanisms.
- Ensure that appropriate risk control features are incorporated cost effectively at the plant design phase, to avoid the need for subsequent and expensive plant retrofits.
- Review contractual documentation to ensure the appropriate stakeholder risk allocations and insurance specifications are provided.
- Ensure risk mitigation and project management measures are fully communicated to insurers to achieve cost effective coverage.

Project risk management framework



Comprehensive risk management solutions

A global insurance facility for hydrogen projects

Marsh Specialty is the only broker to offer a unique insurance facility for projects requiring up to US$400 million of insurance capacity.

The facility gives investors and lenders confidence by reducing the complexity of securing 100% of core insurances for all phases of a project.

Two lead insurers, and a panel of A rated global insurers offer pre-agreed coverage and uniform terms in a competitive process that gives you choice and puts you in control of selecting the most appropriate and cost effective insurance program.

You have the flexibility to choose either core construction or operational coverage, or a combined policy extending coverage through first year operations. To compliment the core suite of insurances, Marsh risk engineers will support your project team through customized technical workshops to identify and mitigate risks at various milestones, and site inspection surveys aligned to underwriting criteria.

Marsh Specialty will manage a competitive tender process to secure risk management solutions with global insurance markets. To select the appropriate insurance products and providers, we evaluate each project based on its location, technology, choice of contractor, and equipment supplier.



Hydrogen projects can involve complex ownership and contractual arrangements that require comprehensive risk management solutions to protect the interests of all project stakeholders. The core suite of insurances that may be required includes:

Construction phase

- Construction all risks.
- Delay in start-up (DSU).
- Third party liability.
- Sabotage, terrorism, political or regulatory uncertainty.
- Marine cargo.

Operational phase

- Property damage.
- Business interruption - traditional and emissions related.
- Third party liability.
- Marine cargo.
- Sabotage, terrorism, political or regulatory uncertainty.
- Technology failure or property damage caused by cyber attacks.

Additional coverage for construction and operational phases:

- Environmental impairment liability.
- Professional indemnity.
- Contractor's plant and equipment.

Insurance placement strategy

- Heat and power purchase agreement
- Energy storage and charging agreement
- Hydrogen supply agreement
- Engineering, procurement, and construction (EPC) contract
- Technology supply agreement
- Co_2 sequestration service agreement
- Hydrogen storage and transportation agreement
- Operations and maintenance contract
- Finance agreement

Benchmarking
Our team uses current placement benchmarking data to provide accurate cost forecasts that will support budget setting and contract negotiations with the project stakeholders.

Bespoke Marsh policy wording for integrated hydrogen projects
A comprehensive insurance package has been specifically developed by Marsh Specialty to meet the requirements of all types of hydrogen projects around the world. Our single policy wording minimizes potential coverage gaps to provide seamless insurance cover between the different project phases. Clean hydrogen projects utilizing renewable energy resources can elect to have the benefit of coverage for the potential contingent BI risks related to the source of renewable power.

First year commercial operations
Combining insurance coverage for the project construction phase through to commercial operations means you will have certainty of cover for the first 12 months of commercial operations. This integrated approach will help you meet lender's requirements, and enhance the bankability of your project.

Claims Advocacy
Successful claims management requires specialist experience and knowledge of the insurance markets, policy forms, and relationships with the claims handling teams. Our claims advocates have the expertise required to discuss complex, technical loss scenarios with all relevant stakeholders. In the event of a loss, our team develops a plan to aid the payment of claims as quickly as possible. We have claims advocacy teams located within all geographical regions which enables us to mobilize immediately to protect your interests.

Managing contractual risk
The contractual structure of energy production and distribution can be complex. This is particularly crucial for hydrogen and CCS clusters as each party may be operating on a stand-alone contractual basis. Marsh Specialty has extensive experience in designing comprehensive insurance programs, tailored to the unique contractual arrangements of each project.

Project finance
We take a proactive approach to project finance, starting with the production and submission of a detailed insurance strategy to project sponsors, lenders, and lender advisers. Our team will support your negotiations with legal advisers and the lenders' insurance advisers in order to rationalize insurance requirements for the benefit of the project.



Contact us

For more information about how we can support your organisation, please contact a member of our team:



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About Marsh Risk:

Marsh Risk is a business of Marsh (NYSE:MRSH), a global leader in risk, reinsurance and capital, people and investments, and management consulting, advising clients in 130 countries. With annual revenue of $27 billion and more than 95,000 colleagues, Marsh helps build the confidence to thrive through the power of perspective. For more information about Marsh Risk, visit marsh.com, or follow us on LinkedIn and X.



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