



Greener energy: Your company's pathway to decarbonisation



Alternative energy sources are critical in achieving a successful global transition to a low carbon economy. It's clear that global power generation is changing, with renewable energy solutions increasing rapidly against a steady decline in the use of fossil fuels¹.

The insurance industry, Lloyd's and the SMI Insurance Task Force all have an important role to play in supporting the offshore wind, nuclear and hydrogen energy sectors with their transition ambitions. You can also play your part by reviewing your business' energy sources and gaining a competitive edge through transitioning to greener alternatives.

Offshore wind

Wind energy is essential to a sustainable energy system

Technological advancements such as floating wind technology, turbine evolution and drone servicing technology are driving the emergence of new offshore wind markets outside Europe. These advancements, combined with significant global commitments to increase production, are ensuring that the sector has a substantial growth trajectory.

Key challenges

Growth requires infrastructure transformation, from larger turbines to more robust cabling.

- Significant investment is required to develop greater capacity
- There are challenges regarding the recyclability of materials when decommissioning turbines
- The carbon intensity of turbine manufacture and construction places pressure on the carbon payback period (the time for carbon emissions displaced by wind power to equal the life cycle carbon emissions of the wind farm)

The changing risk landscape: As windfarms move further from shore and into deeper waters, new risks are emerging



New claims challenges due to breakdowns and foundation damage



New, unique risk profiles for deep-water/ floating sites



Variable nature of energy supply could impede investment in the sector

Nuclear

The second largest source of low-carbon energy, nuclear energy provides around 10% of global electricity supply²

Nuclear power capacity worldwide is increasing steadily, with around 50 reactors currently in construction. The next generation of nuclear technology includes advanced nuclear reactors, powering the production of hydrogen, and nuclear propulsion on ships. By nature, the complex risks associated with nuclear energy mean that risk-pooling between the insurance industry and governments is essential for the sector to thrive.

Key challenges

The nuclear sector requires bespoke and innovative coverage solutions, in part due to challenges such as:

- Development costs: the lifecycle of a project requires significant investment
- Wary investors: potential long-term health/environmental impacts can put off private investors
- Nuclear liability capacity: the perceived risk of nuclear energy is a key barrier to entry for many insurers
- Upcoming regulatory changes

Insuring the future of nuclear technology

There is a critical need for customised solutions to provide protection for new nuclear technologies, such as:

- Passive safety systems
- Digital continual plant assessment
- Small modular reactors
- Nuclear fusion

Hydrogen

Hydrogen power will be critical in providing stable renewable energy production in the future

The potential use of hydrogen spans the entire value chain, from renewable energy generation through to transportation, homes and buildings. When combusted with oxygen, the only significant emission which hydrogen fuel produces is water vapour. Owing to its great potential, the EU has put hydrogen at the heart of its green recovery plan, with a target of 40GW of electrolyser capacity by 2030.³

Key challenges

- Supporting infrastructure: required to achieve scale and operation across the full value chain
- Costly operations: infrastructure and the production of hydrogen itself are expensive
- Risks across the value chain: unless properly managed, hydrogen has flammable and explosive properties

3 - European Commission Brussels 8.7.2020 - "Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: A hydrogen strategy for a climate-neutral Europe"



Lloyd's climate action roadmap

Despite obstacles, a strong growth trajectory combined with a changing risk landscape means that the insurance industry can play a crucial role in driving the success of the sector.

Lloyd's has articulated a roadmap for tangible action to accelerate change:

Now

- Convene SMI workstream to focus on green assets
- Work with SMI Hydrogen Task Force to open discussions with customers
- Provide a platform to ensure co-ordinated action between investors, customers, governments, and the global insurance industry



Next

- Commit to expanding coverage to meet growing demand
- Lead research into specific risks posed by hydrogen and explore coverage requirements



Beyond

- Next generation nuclear technology



Considerations for your business

These questions below should help you prepare to face the changing energy landscape:

- 1 As the renewable economies continue to grow, do you understand the short, medium and longer-term impacts this may have on your business?
- 2 Are you scrutinising your business' energy sources and exploring switching to greener alternatives?
- 3 The use of alternative energy sources, especially hydrogen, introduces unique safety implications. Have you considered your approach to managing and mitigating these?
- 4 If operating within the renewable energy economy, do you understand the changing risk profile and subsequent coverage requirements needed?
- 5 Have you ensured there are no coverage gaps because of these?
- 6 Have you analysed the risks of not acting to transition to greener energy sources?

Want to find out more? Read the full chapter and Join the Reset at [Lloyds.com/jointhereset](https://lloyds.com/jointhereset)