LONDON MARKET GROUP

NO INSURANCE, NO SUSTAINABLE FUTURE

How insurance unlocks the growth of green projects

Foreword

To keep global warming to no more than 1.5°C – as called for in the Paris Agreement – global emissions need to be reduced by 45% by 2030 and reach net zero by 2050. Central to this vision is the growth of green projects – initiatives, technologies, and infrastructures that reduce carbon emissions and promote renewable energy.

While people often talk about green finance as the main driver of these projects, insurance is a crucial but often overlooked partner.

In this report, we showcase how insurance – and the London Market in particular, is a key partner in unlocking, promoting, and facilitating the transition to net zero, both in the UK and across the globe.

We have spoken to a broad representative group within the London Market – including brokers, syndicates, company market players, and MGAs – to gain their insights, perspectives, and case studies of how insurance has supported projects across each stage of the lifecycle – from the conception of an idea, securing financing, construction, operations and, where necessary dismantling or repurposing.

Whether through specialised versions of traditional insurance products or innovative solutions to tackle new complex risks, the London Market has shown it can use its scale, expertise, and history of innovation to help unlock the vision for a sustainable future.

Sean McGovern
Chairman
The London Market Group

Lifecycle stage	The role of insurance
Conception & invention	▸ Protecting those who will drive the transition through new ideas and intellectual property
Securing financing	▸ Securing financing for new, unproven green solutions ▸ Ensuring that loans can be repaid ▸ Minimising the impact of political instability on investors
Construction	▸ Protecting against construction delays and cost overruns, especially for new technologies or locations
Operations & maintenance	▸ Guarding against malfunction or underperformance where technology is unknown ▸ Shielding from terrorist attacks or cybersecurity risks ▸ Defending against third-party liability risks like injury
Dismantling & repurposing	▸ Mitigating the risks of dismantling or repurposing plant and equipment

Protecting green projects across their lifecycle

Stage	1. Conception & invention	2. Securing financing	3. Construction	4. Operation & maintenance	5. Dismantling & repurposing
	The transition needs improvements to current green projects or the invention of new green technology	Green projects need investment and loans to get off the ground	Green projects need to be built	Green projects need to be run & deliver the green energy expected	Green projects development can be enhanced by repurposing existing infrastructure
Risks	If green ideas cannot be protected, it will inhibit innovation	There are challenges to securing financing for green projects due to repayment uncertainty, especially for new technologies and amidst regional political volatility	Building green projects introduces fresh risks: third party liability, project delays, property damage, and machinery breakdown	Running a green project has risks such as business interruption, tech underperformance and cyber security	The dismantling and repurposing of green projects has risks such as third-party liability to waste disposal
How insurance helps	**IP insurance** Provides protection to IP, guaranteeing support if ideas are stolen	**Credit risk insurance** Protects against losses from loan defaults **Equity contribution guarantee** Protects against losses due to delays in the project **Political risk insurance** Protects against political risks such as war and nationalisation	**Construction insurance** Protects against risks during the construction of new projects	**Tech performance insurance** Guarantees energy output from new unproven technology **Energy price guarantee** Protects against energy prices falling below cost of production	**Repowering** Facilitates the upgrade of green projects when technology develops

The London Market

The London Market is the global epicentre for insurance. With its deep-rooted history, it is renowned for its unique ability to support complex and large-scale risks. A unique hub of expertise, collaboration, and innovation, the London Market offers specialised solutions that cater to diverse global needs. As the global push for net zero intensifies, the London Market's adaptability and expertise will become even more crucial, providing the necessary financial safeguards and support for green projects.

Scale and influence

£121bn

The London Market earns £121 billion in annual income

Specialisation and expertise

50,000 insurance experts work in the London Market

Collaboration

350 insurance businesses operate within 500m of each other in the City of London

Risk sharing

50%

Around half of London's business is shared between multiple insurance companies

What sets London apart?	Solving client needs	How can London help?
Scale and influence	Multi-billion-dollar green projects require significant financing and insurance protection	▸ London is the world's largest insurance market – larger than its next three competitors combined. This gives it the depth of capital necessary to support significant green projects. ▸ 73% of London Market participants we surveyed anticipate premiums from environmentally focused insurance products will triple over the next five years.
Specialisation, depth, and expertise	Innovative projects require a deep understanding and expertise of sustainable technology	▸ London's unrivalled breadth of expertise and concentration of knowledge offers first class support for cutting-edge green technologies.
Market collaboration	Green projects face a wide variety of risks that require diverse specialist insights	▸ The City of London contains the highest concentration of insurance talent in the world. This ecosystem allows for the collaboration that delivers specialised and customised insurance products for green projects.
Risk sharing	Many infrastructure projects are too big for a single insurer – the risk needs to be shared	▸ London's history of sharing risk provides the financial support and flexibility to encourage investors and businesses to engage in green initiatives.
Innovation and flexibility	The novel nature of green projects requires unconventional, creative approaches to handle challenges	▸ The London insurance market's innovative culture is aptly suited for addressing the dynamic challenges of green projects, offering coverage for untested technologies and new regulatory developments. ▸ 90% of London Market participants we surveyed are planning to introduce new insurance products designed to enable the growth of green projects in the next 12 months.

Conception and invention

Helping inventors and innovators to protect the value of their ideas

The transition to net zero needs continuous innovation of new green technologies and initiatives. We have seen this in action with a 59% increase in patent applications for green technologies between 2017 and 2021 (World Intellectual Property Organization).

Coming up with a new idea or technology is just the first step in a long lifecycle of many green projects. However, inventors and innovators face the risk that their ideas (intellectual property – IP) could be copied or stolen by competitors. This could lead to the project falling at the first hurdle.

Sustainable technologies face even greater intellectual property challenges due to their global nature and collaborative development processes. Rapid technology changes and complex supply chains further heighten IP risks for green projects.

Insurance offers a solution. IP policies can offer financial protection, covering litigation costs for defending patents, trademarks, and copyrights. They also shield against claims of patent infringement or trade secret misappropriation.

Ultimately, by safeguarding the value of intellectual property – a key innovation driver – insurance helps to promote the invention of new green solutions and helps to attract more players to the green tech sector.

CASE STUDY:

Defending intellectual property

Allows new green technology developers to defend against others copying their tech or infringing on their patents.

Situation	A small UK-based renewable energy company, specialising in energy-saving devices, noticed a competitor in the US selling a product similar to theirs. This raised concerns about a potential infringement on their US patent.
How insurance helps	IP insurance from CFC played a pivotal role in addressing the challenge. It allowed the renewable energy company to secure expert-recommended legal representation and effectively manage legal costs. This support safeguarded their proprietary technology, facilitating negotiations and the resolution of the patent infringement issue.
Impact	CFC's coverage significantly reduced their client's legal fees from $125,000 to $33,000, providing financial relief to support further research, development, and growth efforts. The company also secured a licensing agreement from their competitor, generating ongoing royalty payments.

53% of participants surveyed provide insurance products that enable the conception and invention of green ideas

Securing financing

Reducing financial risks to encourage investment into green projects

The successful development of green projects demands large amounts of financial backing. Global investment into clean energy projects and resources is estimated to top $1.7 trillion in 2023 (International Energy Agency).

Securing financing for green projects can be complex due to the risks associated with investing in new technologies and the unpredictable nature of markets focused on sustainability. Investors may worry about longer payback periods or lower financial returns compared to conventional ventures.

Two major hurdles to securing financing are related to the credit risk (risk that the return will not be as expected) and political risk (risk that the investment will be impacted by political interference).

Given the inherent investment risk associated with projects, potential investors and lenders will often require financing and credit guarantee mechanisms to protect their investment.

Insurance is one such mechanism.

A number of insurers have developed innovative insurance solutions that protect investors and lenders against financial losses when investing, unlocking financing for green projects. In addition, the insurance solutions applied during the construction and ongoing operation of green projects also help to secure financing by ensuring the projects run smoothly.

tierra ascot WESTFIELD SPECIALTY

CASE STUDY:

Financial confidence

Enables banks to fund more green projects by protecting against losses from loan defaults.

Situation	Green projects are often breaking new ground and therefore face the risk of construction delays, operational issues, market changes, and economic uncertainties. These issues can increase the risk of missed loan repayments and potential losses for banks providing the funding.
How insurance helps	Tierra's credit risk insurance, with capacity provided by Ascot and Westfield, provides financial protection to banks in case green projects fail to make loan repayments. This safeguards banks against potential losses.
Impact	Since 2021, Tierra has provided over $500 million in coverage for solar, wind, and battery projects. Credit risk insurance promotes confidence in financing sustainable initiatives, accelerating their development, and contributing to the transition to net zero.

80% of participants surveyed provide insurance products that encourage investment into green projects

howden

CASE STUDY:

Allocating resources

Enables developers to invest in multiple green projects at once through the deferral of equity payments.

Situation

Green projects often require financial guarantees from developers to assure lenders that contractual commitments will be fulfilled. Having to provide a financial guarantee upfront means developers can only undertake one project at a time.

How insurance helps

Howden's equity contribution guarantee protects against the risk of developers being unable to fulfil their financial guarantees to lenders. This enables developers to delay payments to lenders, allowing them to invest equity later in the project after the finance loan is secured rather than upfront.

Impact

Credit risk insurance accelerates green project financing, enabling developers to allocate resources across multiple initiatives, unburdened by upfront financial guarantees. As an example, Howden has insured guarantee needs for a $1.65bn Chilean wind and solar project. This boosted trade finance of the project from €90m to €200m – with the first phase of the project currently providing 1.35 gigawatts of electricity to the Chilean grid.

Parhelion

CASE STUDY:

Supporting clean power

Supports the launch of new geothermal projects by protecting against drilling and operational risks.

Situation

It costs $10 million per geothermal well drilling and there is a 20% well failure rate. These challenges deter development as few developers possess the required capital and risk tolerance.

How insurance helps

Parhelion offers coverage for unsuccessful well drilling expenses, underperforming wells, and exceeding agreed-upon drilling costs. This insurance intervention attracts capital to geothermal projects by reducing financial uncertainties and fostering developer confidence.

Impact

As part of the GeoFutures GreenInvest partnership, Parhelion aim to support 600 megawatts of low-cost clean power, supplying more than 31.5 million people, and avoiding 3.1 million tons of CO2 annually.

AON

CASE STUDY:

Transferring political risk

Enables banks to fund more green projects by protecting against losses from loan defaults.

Situation

Investors in a large renewable energy project in Asia were concerned about the ramifications of tensions between neighbouring countries on the project. Sudden political events could lead to delays, increased financing costs, and reduced market access, impacting the feasibility and profitability of the project.

How insurance helps

Using its previous expertise in such projects, Aon built an insurance solution to assess, price and transfer the political risk away from the investors.

Impact

By providing political risk cover Aon secured the future of a multi-billion-dollar renewable energy project in Asia.

Construction

Protecting developers while they build new green projects

Once you have secured financing for your new green project, the next step is actually building it. Any construction project comes with significant risks even if it is something that has been done many times before. Green projects often involve new technologies (e.g. geothermal power plants) or building in areas that have additional challenges (e.g. offshore wind farms) which increase the risk of the project failing. Insurance can be used to mitigate these risks.

Risk	Impact on green projects	The role of insurance
Property damage	Damage to the construction infrastructure from weather or accident.	Protects against financial loss due to damage to the property during the construction phase of the project.
Third-party liability	Damage or injury to others when building a green project.	Provides recompense to third parties impacted by the construction.
Delay in start-up	Financial returns are delayed due to longer than planned construction time.	Delay in start-up insurance protects against loss of revenue resulting from unforeseen delays in completing the construction.
Machinery and equipment breakdown	Delay to the completion of works due to machinery breakdown.	Replacement equipment provided to ensure efficient completion of the project.

Historically, construction insurance coverage was designed for conventional projects. However, as the demand for green solutions grows, there's a recognition that tailored insurance is needed to address the unique risks of building green projects. Green projects pose unique challenges due to their technical complexities.

Allianz

CASE STUDY:

Capturing carbon

Enables the construction of new carbon capture technology by providing financial safeguards against any damage and delays during construction.

Situation

Northern Lights, a first-of-its-kind carbon capture and storage project in Norway, offers European industrial companies a solution for safely and permanently storing their CO2 emissions. However, such projects can face potential complexities during construction, including the risk of damage during installation, project delay, structure/collapse, and fire/explosion risks.

How insurance helps

Allianz has taken a pivotal role in mitigating the construction risks of the Northern Lights project. It is the lead insurer of the construction of the carbon-receiving terminal and the offshore storage solution.

Impact

This partnership sets a precedent for carbon capture endeavours, supporting growth and stability in the carbon sequestration sector. Notably, Northern Lights' annual capacity could be five million tons of CO2 by 2026.

73% of participants surveyed provide insurance products that support the construction of green projects

bms.

CASE STUDY:

Storing energy

Provides coverage and engineering advisory for early stages of design and building of battery energy storage system projects.

Situation

Batteries are essential for storing energy during periods of low solar or wind output, providing on-demand release. However, the industry's rapid development and lack of standardised testing have led to emerging risks such as explosions, fires, and unproven technologies.

How insurance helps

To address these challenges, insurance brokers such as BMS are actively collaborating during design and construction phases, offering engineering expertise. They share insights from past incidents, recommend preferred types, materials, and manufacturers, and aid in promoting better safety measures. This partnership facilitates continuous improvement and knowledge exchange.

Impact

This collaboration ensures safer operations, advancing clean energy adoption. Globally, countries like the USA, China, Germany, Australia, and the UK lead battery storage growth, with UK insurers and brokers, notably in the London Market, playing a pivotal role.

CASE STUDY:

Powering offshore wind

Provides broad coverage for the construction of offshore wind farms .

Situation

From laying the fibre optic cable to ensuring that the turbines are safe, offshore wind projects are technically and logistically complicated to build. With 40,000 megawatts of offshore wind power planned in the US, the industry needed help addressing the intricate risks associated with the construction of such projects.

How insurance helps

Convex has taken a lead role in insuring offshore wind projects in the US. It has worked to create a tailored product to solve the issue of traditional onshore wind policies not reflecting the risks associated with offshore wind. Their expertise covered everything from construction liability to marine aspects, ensuring comprehensive protection.

Impact

Convex's tailored solutions unlocked growth in the US offshore wind industry. Their proactive approach, particularly around wording development, instilled confidence among stakeholders, streamlining project development. This has led to the London Market dominating US offshore wind placements.

Operation and maintenance

Mitigating risks to ensure the long-term success of green projects

Even once a project is up and running there are a multitude of things that can go wrong, especially with new technologies that have not been tested before. Insurance plays a pivotal role in the operation and maintenance of green projects by providing a safety net against a spectrum of potential risks. These risks encompass operational interruptions, maintenance challenges, financial setbacks, and legal liabilities that can arise throughout the lifecycle of a project.

By offering tailored coverage and support, insurance enables green projects to run smoothly and effectively, fostering long-term sustainability and success.

Risk	Impact on green projects	The role of insurance
Business interruption	Disruptions result in revenue loss and setbacks.	Business interruption insurance covers revenue losses during unexpected disruptions.
Liability	Legal action and financial losses due to accidents or environmental issues undermine the viability of project.	Liability insurance covers legal expenses, reducing the potential financial burden of legal action on the project.
Underperformance or failure of technology	Uncertainties about meeting goals impact stakeholder trust, e.g. inadequate technology performance.	Performance insurance assures stakeholders of meeting project performance criteria.
Data and cyber security	Data breaches disrupt operations, necessitating protection against cyber risks.	Cyber insurance safeguards against data breaches or cyberattacks affecting operations.
Regulatory non-compliance	Regulatory penalties and operational challenges hinder progress.	Specialist regulatory compliance insurance provides coverage for potential regulatory fines and penalties.

MARKEL

CASE STUDY:

Cradle-to-grave reassurance

Facilitates new offshore wind farm development by mitigating the challenging construction and operational risks involved.

Situation

The uncertainty over construction and operational risks of a new offshore wind farm in Asia is too high for banks to be willing to lend money to developers at an affordable rate without A-rated insurance capacity to cover off the key risks.

How insurance helps

Markel offer a cradle-to-grave insurance solution, providing a package of insurance products to cover large offshore wind projects. This covers risks that may arise during the construction and operation phase such as accidental damage or delay in start-up. Markel also send an in-house engineer to the site as its built to provide risk mitigation guidance and expertise.

Impact

Not only does this product help the developer obtain financing as the bank has more security over repayment, it also provides security for the developer in the event of onsite damage or liability. Through this, Markel is enabling the financing, construction, and operation of a multibillion-dollar offshore wind project in Asia.

80% of participants surveyed provide insurance products that support the operation and maintenance of green projects

Ariel Green

CASE STUDY:

Financial safety net

Enhances the reputation and encouraging repeat investment into green technologies by providing coverage for malfunction or poor performance.

Situation

Ecogensus, a leading sustainable waste management technology provider, sought to guarantee their technology's performance to investors and project owners over the long term.

How insurance helps

Ariel Green provides Ecogensus with insurance to cover the performance of their waste-to-fuels technology. If the technology fails to meet its processing capacity, Ariel Green will pay out compensation.

Impact

Ariel Green's insurance for Ecogensus' waste-to-biofuels technology serves as a financial safety net for investors and project owners in case the technology doesn't perform as expected and revenues are affected. If the technology underperforms, compensation protects investments and encourages further technology adoption.

Africa Specialty Risks
Protecting Africa

CASE STUDY:

Banking on sunshine

Ensures the bankability of solar farms by paying out if energy prices fall below the cost of production.

Situation	Volatility in energy prices can result in solar plants becoming uneconomical when energy prices dip below production costs.
How insurance helps	Africa Specialty Risk has developed an innovative parametric insurance solution that triggers payouts when energy prices dip below solar production costs.
Impact	This ensures the ongoing commercial viability of solar plants and unlocks new debt and equity financing possibilities, helping solar plants secure the necessary resources for funding, operation and growth.

beazley

CASE STUDY:

Triggering help

Provides a fast payout in the event that weather patterns impact the energy output of wind or solar farms.

Situation	Volatility and uncertainty of weather patterns impacts the output of solar and wind farms, reducing profitability.
How insurance helps	Beazley, in partnership with Arbol, provide a parametric climate risk product that pays out when there is insufficient wind or sun to generate power at pre-agreed rates. Parametric cover increases the speed of payout as the terms of the policy are based on quantitative and stated measurements, meaning there is little claim review time.
Impact	This reduces the financial risk for project owners from unexpected weather events and reduces uncertainty over the energy output of projects.

CASE STUDY:

Balancing emissions

Helps marine clients manage their carbon footprint by compensating vessels for excess emissions in the form of carbon credits.

Situation	The maritime sector accounts for about 2.8% of all global greenhouse gas emissions. However, the maritime sector has significant potential to decrease its emissions and facilitate the transition to net zero.
How insurance helps	AXA XL has partnered with ClimateSeed to create Excess Emissions Insurance. This extends their current marine hull coverage and compensates vessels for excess emissions due to unforeseen extended journeys. Payouts are in the form of voluntary carbon credits which contribute to environmental initiatives that offset emissions by supporting projects like reforestation and renewable energy.
Impact	Despite not directly impacting the growth of green projects, AXA XL's innovative insurance solution helps marine clients manage their carbon footprint, aligning with net zero goals. This proactive approach fosters responsible practices and sustainability within the marine sector, which is vital to facilitating the transition to net zero.

Dismantling and repurposing

Helping green projects deliver long-term positive outcomes

All good things must come to an end. Dismantling and repurposing are crucial stages in the lifecycle of a green project.

Dismantling

As projects conclude, responsible dismantling ensures eco-friendly component removal, minimising waste and environmental impact. Aligned with sustainability principles, this practice underscores the project's commitment to the transition to net zero.

Repurposing

Repurposing provides a second life for decommissioned assets, conserving resources and adapting to evolving technology. This integration of updated components maintains project relevance amid technological changes, aligning with sustainability and adaptability principles.

Whether a project owner decides to dismantle or repurpose, there are risks that need to be managed as part of the process. These can vary from third-party liability to long-term waste disposal.

The insurance industry is actively developing innovative solutions to support environmentally responsible dismantling and repurposing practices.

Marsh

CASE STUDY:

Build back better

Empowers businesses to pursue sustainable alternatives to damaged assets.

Situation

Traditionally, when projects experience damage or loss, the standard practice for recovery involves replacing or repairing the affected assets on a like-for-like basis, often including the principle of “new for old”.

How insurance helps

Unlike traditional insurance policies, Marsh’s Build Back Better coverage enables businesses to adapt and rebuild in ways that align with their environmental and sustainability goals, even if it means departing from their original plans. For example, if an energy company suffers a loss they could choose to utilise their insurance claim proceeds to construct renewable energy infrastructure instead.

Impact

Marsh’s Build Back Better coverage empowers businesses to align recovery strategies with environmental and sustainability goals, driving a transition to cleaner practices. This innovative approach not only supports green projects but also advances global efforts towards a sustainable future.

47% of participants surveyed of participants provide insurance products that support the dismantling and repurposing of green projects

nri NUCLEAR RISK INSURERS

CASE STUDY:

Long term help

Facilitates the development of nuclear power plants with long-term insurance covering the entire project lifecycle, including decommissioning.

Situation

Expanding nuclear energy is crucial for reaching net zero goals because it offers a reliable, weather-independent baseload power source. However, there are challenges with the development of nuclear projects due to prolonged risk exposure during plant development.

How insurance helps

Nuclear Risk Insurers (NRI) is pivotal in fostering nuclear energy growth as a global leader in nuclear insurance. NRI provides specialised 30-year insurance solutions for over 300 nuclear sites globally, safeguarding against property damage, machinery breakdown, business interruption, nuclear third-party liability, and nuclear transit liability. This coverage extends to intricate phases such as construction, chemical processing, uranium enrichment, waste management, reprocessing, transit, and the critical decommissioning phase.

Impact

As insurance is mandatory for nuclear energy plants, NRI expertise directly enables the growth of such projects. For example, NRI are currently supporting the Burakah Nuclear Energy Plant in the UAE, set to prevent 22 million tons of CO2 emissions yearly (like removing 4.8 million cars) and provide 5,380 megawatts of electricity, a significant boost for the region’s energy needs and net zero transition.

Participants

In preparing this report we have engaged with participants from across the whole spectrum of the London Market including brokers, syndicates, insurance companies and MGAs to ensure to provide a true representation of the work being done by the London Market to enable the transition to net zero.

We would like to thank all of the members of the London Market that have made this report possible.

cfc
ascot
tierra
WESTFIELD SPECIALTY
howden
Parhelion
AON
Allianz
bms.
convex
MARKEL
Ariel Green
Africa Specialty Risks
Protecting Africa
beazley
AXA
Marsh
nri
NUCLEAR RISK INSURERS

LONDON MARKET GROUP

About the London Market Group

The London Market Group is the only body which speaks collectively for all practitioners in this significant market, representing the views of insurance brokers, those insurers and reinsurers operating within Lloyd's, and branches of overseas insurers and reinsurers operating in London – reflecting the full extent of the Market.

For further information see

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Oxbow Partners

About Oxbow Partners

Oxbow Partners is a specialist management consultancy exclusively serving the insurance industry. Our clients include leadership teams at the world's leading insurers, reinsurers, brokers and private equity firms; and our consulting engagements span growth, operations, technology and M&A.

We have deep cross-industry expertise in ESG, sustainability and climate across the insurance sector, with a number of publications and ongoing client engagements.