

Renewable energy: risk and reward

Innovation | #renewables #energy #disruption

Why renewables?

Climate
uncertainty

Rapid
technological
development

Global policy
support

Disruption to
traditional
energy industries

Price/cost
reductions

Key findings

- Wind and solar capacity will overtake both gas and coal globally by 2024 (world economic forum, 2020)
- Solar PV dominates renewable capacity growth with approximately 575GW to become operational globally by 2025.
- Wind capacity is forecast to grow almost 324GW to reach 839GW by 2023.
- Lithium-ion batteries, have become most popular technology for storing energy with 85% cost reduction in last decade.

Key risks for renewables

Cyber attacks

2019 - Attack on Utah based renewables company, minimal losses
 2019 – attack on Finnish renewables company resulting in £45m in losses
 2015 – Ukraine cyber attacks result in blackouts.

Extreme weather

Renewable technology is exposed to elements and require large land areas making projects more remote. Damage can occur from hail stones, high wind, etc.

Quality and contractors

Rapid growth means that supply chains, contractors and subcontractors are having to expand rapidly, leading to bottlenecks in areas of installation equipment, and a shortage in markets of necessary skills and construction experience.

Intellectual property

Number of green patents filed globally doubled between 2013-2017. Such developments could lead to IP disputes in court, over corporate licensing or public disclosure of green IP.

Technology and innovation

New types of equipment entering the market that may have a short track record of performance data. Insurers can support new technology through bespoke insurance products.

Political, policy and regulatory

Revenue for renewable projects is often set through policy or regulatory mechanisms such as feed-in tariffs or PPAs, or government-mandated auction processes.

Liberty Speciality Market

Solar power: cyber risk and system failure solution

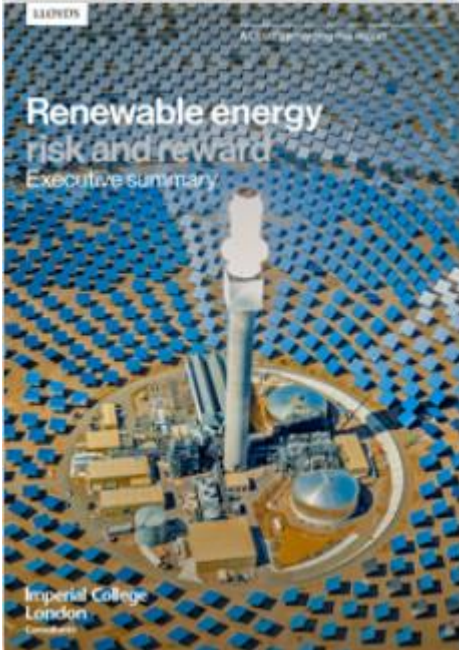
- As solar power facilities become more sophisticated and reliant on connected devices and wireless systems the threat of damages from cyber risks heightens.
- Liberty Specialty Markets (LSM) offers a specialist cyber product, which can insure against business interruption as a result of both malicious attacks and, in some cases, unplanned outages.

AXIS Capital

Battery Energy Storage Systems (BESS)

- Efficient electricity storage is one of the key long-term factors to consistent delivery of energy from renewable sources during peak demand.
- Four broad risk categories for BESS:
 1. Technical risks
 2. Commercial risks
 3. Market risks
 4. Natural event risks
- AXIS insurers cover projects from development through to operation, on risks ranging from standalone projects to utility scale portfolios.

Learn more at: <https://www.axiscapital.com/>



<https://www.lloyds.com/news-and-risk-insight/risk-reports/library/understanding-risk/renewable-energy-risk-and-reward>

LLOYD'S