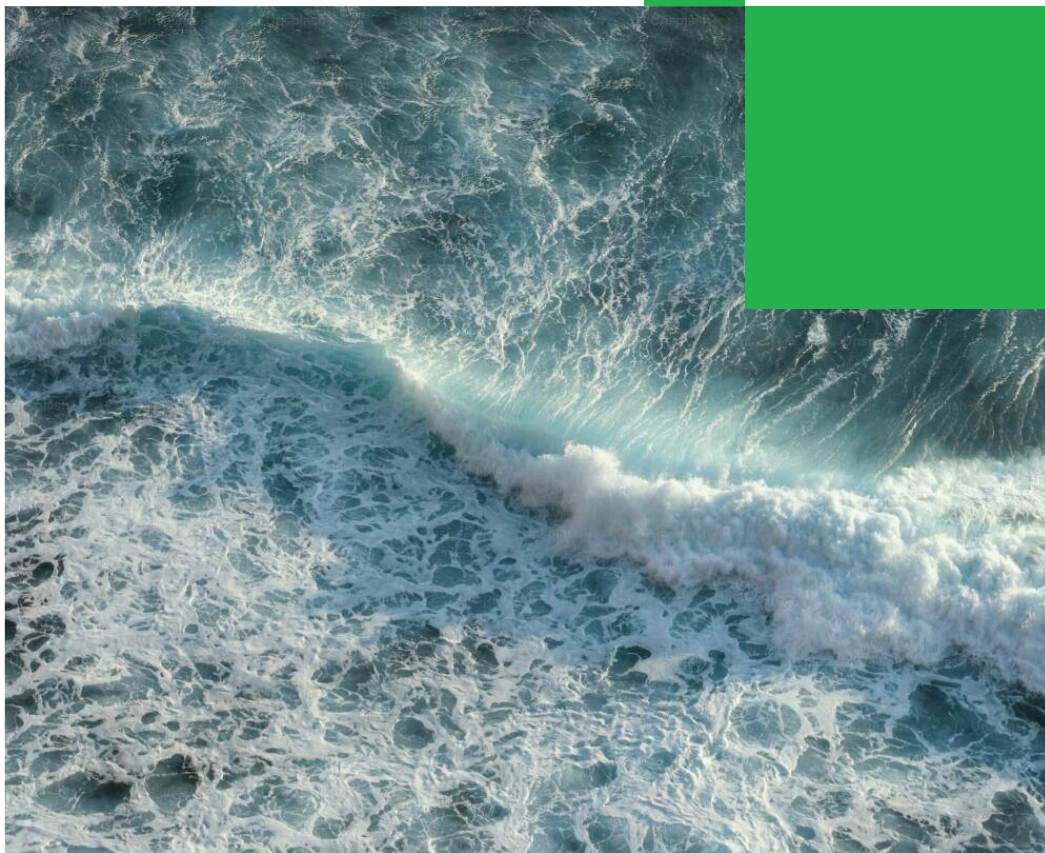
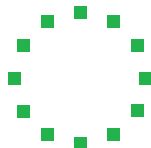


# Insuring offshore innovations

A practical guide to insuring demonstration projects of offshore innovations at sea



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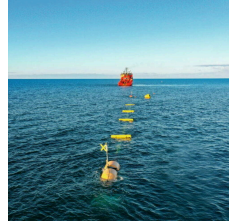
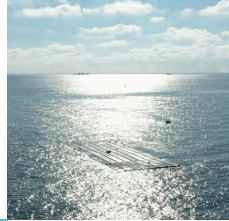
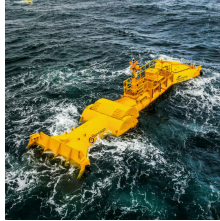
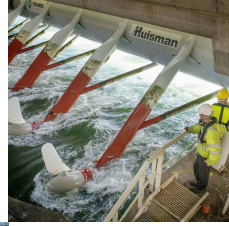


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# In this guide



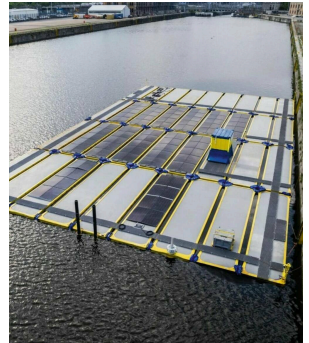
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# Why this guide

Emerging offshore innovations like wave energy converters, tidal turbines, and offshore solar systems face dynamic and challenging marine environments with distinct risks. Wave energy converters operate under high-energy waves and extreme storms, while tidal turbines harness strong currents, presenting significant installation challenges.

Demonstrating marine technologies requires substantial investments and innovative engineering, creating a need for specialized insurance. Tailored coverage mitigates financial risks and protects stakeholders like consenting bodies, developers, and site owners in time-limited projects.

This guide draws on insights from insurance providers, wind farm operators, and SMEs. It offers practical advice to help reduce risks and support innovations in offshore renewable energy.



# Why insurance is crucial

Insurance plays a vital role in the success of Offshore Renewable Energy (ORE) projects by addressing risks inherent to these innovative technologies. It not only provides financial protection against unforeseen events but also boosts investor confidence, facilitates quick recovery post-incident, and ensures regulatory compliance.

## Attracting investment

Insurance can be a deciding factor for investors considering the ORE industry, as it signals preparedness and risk mitigation. Demonstrating adequate insurance coverage provides assurance that projects are protected against unforeseen incidents, improving the overall investment appeal.

## Financial loss mitigation

Delays or operational interruptions due to accidents, weather, or mechanical issues can result in substantial financial losses. Insurance can cover the costs of delayed startup and downtime, helping projects recover and resume operations more swiftly.

## Quick recovery post-incident

Insurance coverage enables projects to bounce back more quickly after an incident, minimizing project downtime and ensuring continuity in operations. This rapid recovery is crucial for high-stakes demonstration projects.

## Compliance

Insurance often meets regulatory requirements, ensuring compliance and enhancing reputational credibility.





# Challenges of insuring offshore pilot projects

The insurance market for ORE projects is still evolving, and developers may face the following challenges:

## Sector novelty

Limited historical data and rapidly evolving technology make it difficult for insurers to assess risks accurately, often resulting in high premiums.

## Mechanical vulnerability

As ORE technologies develop, their mechanical and operational performance remains uncertain. This uncertainty increases risk profiles and insurance premiums.

## Historic losses in Offshore wind projects

Significant past claims in offshore wind projects have led insurers to adopt a more cautious and hesitant approach to new offshore energy risks.

## Extensive requirements

Demo projects on existing offshore wind farms face extensive insurance liability requirements often beyond the capacity of small companies to secure.

## Cost of liability for SMEs

Higher liability costs can hinder small businesses from completing demonstration projects. Choosing risk-specific insurance helps avoid overpayment and leaving coverage gaps.

## High Indemnity Demands

Wind farm owners often require mutual indemnity agreements of €100-200 million, posing a major barrier for smaller companies to enter and compete in the sector.

## The high costs of salvage, recovery, installation, or decommissioning

Large, expensive offshore vessels are readily available. However, smaller, cost-effective vessels suitable for small-scale projects are currently unavailable, posing a challenge for technology developers.

## Variable site conditions

Each project site has unique maritime risks, installation times, and asset values, impacting insurance requirements and coverage suitability.

## Preference for long term commitments

Insurers prefer long-term commitments and volume to generate revenue, leading to reluctance in insuring short-term or small-scale demo projects.

## High impact cost on existing infrastructure and shipping

The potential cost of impacting existing infrastructure and shipping is high, even though the tests are small-scale. While the risk of such an impact is low, if it does occur, the financial burden is significant and could be unaffordable for small startup companies developing the technology.

# Key insurance types for offshore pilot projects

To adequately cover the distinct risks involved, consider the following insurance options:

## **Company All Risk Insurance**

Covers company assets against unforeseen damage or loss, crucial for safeguarding innovative technologies.

## **Employee Insurance**

This is vital for protecting staff from increased physical risks as standard employee insurance doesn't necessarily cover work conducted offshore.

## **Operations All Risks (OAR) Insurance**

Protects against equipment damage due to fire, severe weather, or mechanical failure.

## **Construction All Risks (CAR) Insurance**

Covers the construction and installation phases, including site activities, accidents, and associated liabilities.

## **Construction Erection All Risks (CEAR) Insurance**

Covers damages during project assembly and structure erection and any damages incurred during setup

## **Cyber Risk Insurance**

ORE projects, which rely heavily on technology, are vulnerable to cyber-attacks. Cyber insurance protects against malware, data breaches, and ransomware threats.

## **Physical Damage Insurance**

Covers equipment damage during construction, whether from environmental factors like storms or accidental human error.

## **Transport or Cargo/Stock Throughput Insurance**

Protects against loss or damage to equipment during transport from purchase to storage and to the installation site.

## **Hull & Machinery (H&M) with Protection & Indemnity (P&I) insurance**

Covers equipment damage, transportation, installation, moorings, and third-party liabilities, especially for lighter projects like floating solar installations.

## **Advance Loss of Profits**

Protects against anticipated revenue losses by compensating for lost gross profit caused by delays in a project's scheduled commercial start date.

## **Third-Party/ General Liability Insurance**

Covers claims from third parties for damages caused by the insured. This is a legal requirement for many ORE projects. However, in the Offshore Renewable Energy (ORE) sector, standard policies exclude offshore crew and personnel, such as observers, from coverage.

## **Operations Business Interruption**

Covers revenue losses during downtime from incidents like fire or equipment damage, but has a high deductible, requiring the owner to cover initial losses.

# Tips on reducing insurance premiums

Before requesting insurance quotes, it's important to take proactive steps to reduce premiums. Implementing strategies such as Technology Qualification and Failure Mode, Effects, and Criticality Analysis (FMECA) helps demonstrate a project's risk management efforts, which can lower premiums.

Below are strategies to optimize coverage and minimize costs:

## 1. Technology Qualification and Risk Assessment

Use Technology Qualification (e.g., IEC TC 114) and Failure Mode, Effects, and Criticality Analysis to address potential failures early, and demonstrate effective risk management, reducing insurer exposure and premiums.

## 2. Leverage Knock-for-Knock Agreements

These agreements simplify risk management and reduce insurance costs, benefiting smaller firms.

## 3. Demonstrate a strong safety culture

A documented safety program and strong safety record show insurers you're minimizing risks, helping to reduce premiums.

## 4. Smart insurance selection

Choose insurers from countries familiar with the technology to avoid high premiums due to uncertainty about the risks involved.

## 5. Provide robust installation and maintenance plans

Insurers prefer projects with clear operational and maintenance plans. By providing detailed installation and maintenance schedules, including regular inspections and component replacements, you demonstrate a commitment to preventing issues and reducing the risk of costly downtime.



# Tips on selecting insurance

Given the high liability costs, choosing the right insurance involves due diligence and expert advice.

Here are some strategies for optimizing coverage:

## 1. Collaborative Risk Mitigation (to be reviewed)

Participating in consortia or joint ventures with other developers can help share risks by pooling resources and insurance costs, reducing the premium burden on smaller companies. Using standardized contracts like LOGIC or BIMCO can clarify liability and insurance responsibilities. However, for innovative projects, premiums may still be higher, and even larger developers might be hesitant to take on such risks under their existing insurance coverage.

## 2. Tailored Solutions

Seek insurers with experience in offshore and renewable energy projects. Customized plans, or special EU or governmental arrangements, can cover larger or unique risks specific to ORE.

## 3. Leveraging Umbrella Policies

Consider working with larger operators under their insurance umbrella (such as wind farm operators) to reduce exposure and leverage their scale for better premiums.

## 4. Adopt a Comprehensive Insurance for Offshore Personnel

Ensure insurance policies cover all offshore personnel and observers to avoid liability gaps and provide full protection.

## 5. Innovative models

Explore innovative models like PCCs for mitigating insurance gaps in novel technologies.

## 6. Franchise per event

This ensures that a single deductible is made when multiple damages are recorded in an event reducing financial risk and making insurance costs more predictable.





# Final Considerations

An appropriate insurance plan is essential to the success of wave, tidal, and floating solar demonstration projects. It can lower financial risks, attract investors, and provide stability to young projects in uncertain waters. Before committing, carefully assess your project's unique needs, site conditions, and risk tolerance with the guidance of an insurance expert.

## Further reading

1. Rapportage inventarisatie verzekerbareheid medegebruik van windparken op de Noordzee, Marstad, 2023.
2. The Ocean Energy Accelerator proposes a Protected Cell Company (PCC) as a captive insurance model to fill the gaps left by traditional insurers, especially for untested technologies lacking performance data. (Ocean Energy Accelerator UK (PDF)).
3. The OceanSET 2021 Design Options report explores the idea of insurance and guarantee funds to mitigate risks and encourage investments (OceanSET Report).
4. For comprehensive insights into all aspects of Offshore Renewable Energy, explore [Deftiq's online course library](#), with Part 6 focusing on finance and insurance, covering investment strategies, risk management, and insurance considerations for marine energy projects.



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About the Partners: Offshore For Sure unites a diverse set of industry leaders, including Bluespring, Parkwind N.V., Ecopower, Rijkswaterstaat, Dutch Wave Power, Water2Energy, FLASC, Tocardo, Offshore Solar BV, World Class Maintenance, IMDC, ZMf, Ghent University, HOWEST, and Deftiq. These partners are collaborating to advance offshore renewable energy technologies through innovation, certification, and research, driving the transition to a sustainable energy future.

**Photos used in this factsheet:**

- p2 Tocardo, Oceans of Energy, WavePiston and Mocean
- p3 Slowmill Wave Power, Oceans of Energy and Corpower
- p4 Water2Energy
- p7 FLASC offshore energy storage
- p8 Orbital Tidal Power
- p9 Dutch Wave Power at MARIN

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