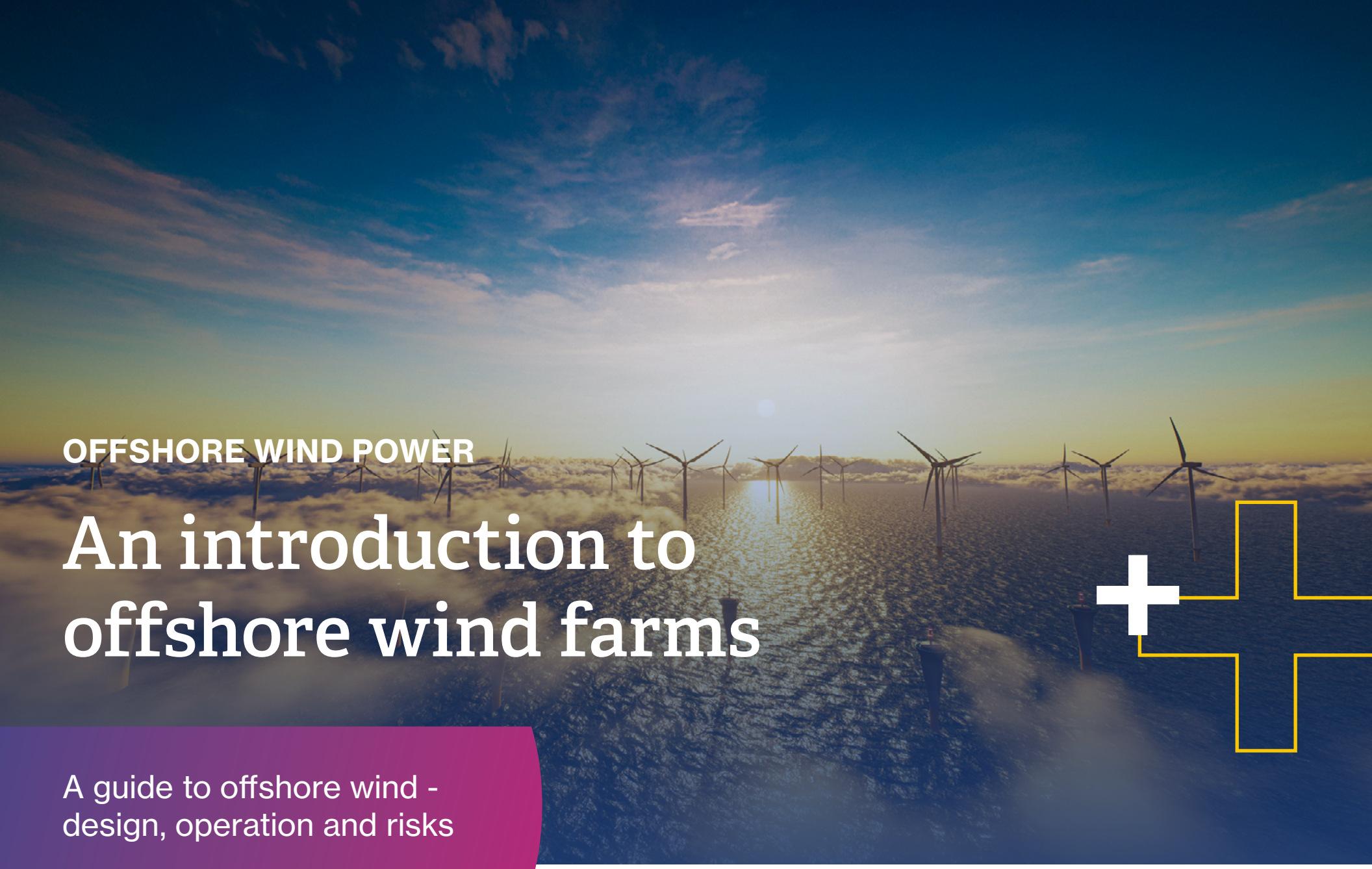

OFFSHORE WIND POWER

# An introduction to offshore wind farms

A guide to offshore wind - design, operation and risks

Crawford®

Global Technical Services

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# Integrated offshore wind solutions

Offshore wind projects demand more than traditional loss adjusting. They require integrated engineering insight, marine experience, and insurance precision working together across complex, high-value assets.

Global Technical Services (GTS) brings together specialist offshore engineering knowledge and decades of marine and transportation claims expertise to support the full lifecycle of offshore wind projects. Our teams work alongside developers, operators, EPC contractors, brokers, and insurers across risk surveys, complex damage investigations, technical advisory services, and major loss adjusting.

We apply lessons learned from offshore oil and gas, large marine losses, and heavy infrastructure projects to the rapidly evolving challenges of renewable energy. As turbine capacities increase, floating foundations expand, and subsea systems become more sophisticated, GTS provides clarity wherever engineering meets coverage and risk meets financial exposure.

We operate as a collaborative partner, delivering:

- Engineering-led causation analysis grounded in technical evidence
- Commercially sound repair and recovery strategies
- Accurate financial quantification and downtime modelling
- Strong health and safety leadership throughout investigations

Through Crawford's global network, clients benefit from international reach combined with consistent technical standards. Our scale enables rapid mobilisation across jurisdictions, coordinated multi-country investigations, and seamless collaboration between marine, energy, and specialty experts.

Backed by Crawford's reputation for expertise, quality and disciplined claims management, GTS delivers technically rigorous, commercially practical solutions that reduce uncertainty, protect capital investment and support resilient offshore wind operations.

# Offshore wind overview

### 1. Specialised offshore wind expertise

GTS bridges insurance and engineering in offshore wind loss adjusting, asset risk surveys and technical advisory services.

### 2. Complex marine energy systems

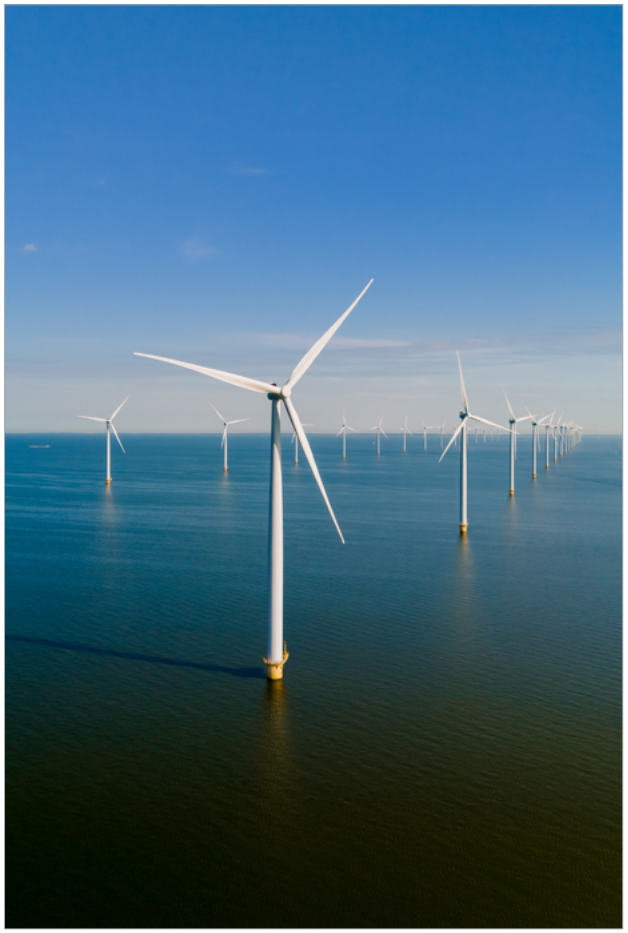
Offshore wind involves marine-based energy systems with heavy engineering, including fixed and floating turbine foundations, subsea cable infrastructure, offshore substations, and high-voltage export systems.

### 3. Risk and loss management

We provide clarity on causation by accurately processing and analysing technical data, defining scope, and quantifying financial impact. This reduces uncertainty and accelerates the resolution of complex claims.

### 4. Trusted industry collaboration

Our services are trusted by operators, contractors, and technical specialists to facilitate cooperation and drive efficient claims investigation and settlement.



# Complexity and risk in offshore wind projects

### 1. Engineering and installation complexity

Offshore wind projects involve large wind turbine generators, subsea foundations, and extensive cable networks. These require specialised construction and installation vessels and coordinated marine logistics.

### 2. Operational and maintenance challenges

Operations and maintenance activities depend on weather-critical windows and complex marine access. Scheduling is often unpredictable and so operational challenges are significant.

### 3. Contractual and risk complexities

Multi-party engineering, procurement, and construction contracts, together with service and warranty agreements, introduce contractual complexity and can complicate the understanding of risk allocation and liability.

### 4. Claims handling expertise

Specialist adjusters with insurance and offshore engineering knowledge provide accurate causation analysis, defensible claim outcomes and technical recommendations that help mitigate risk and avoid recurrence.

# End-to-end claims support

### 1. Comprehensive claims management

GTS manages claims from initial incident through to final settlement, covering the full spectrum of offshore wind damage scenarios.

### 2. Loss adjusting expertise

Our experienced adjusters investigate and quantify losses across all relevant offshore and onshore assets, including:

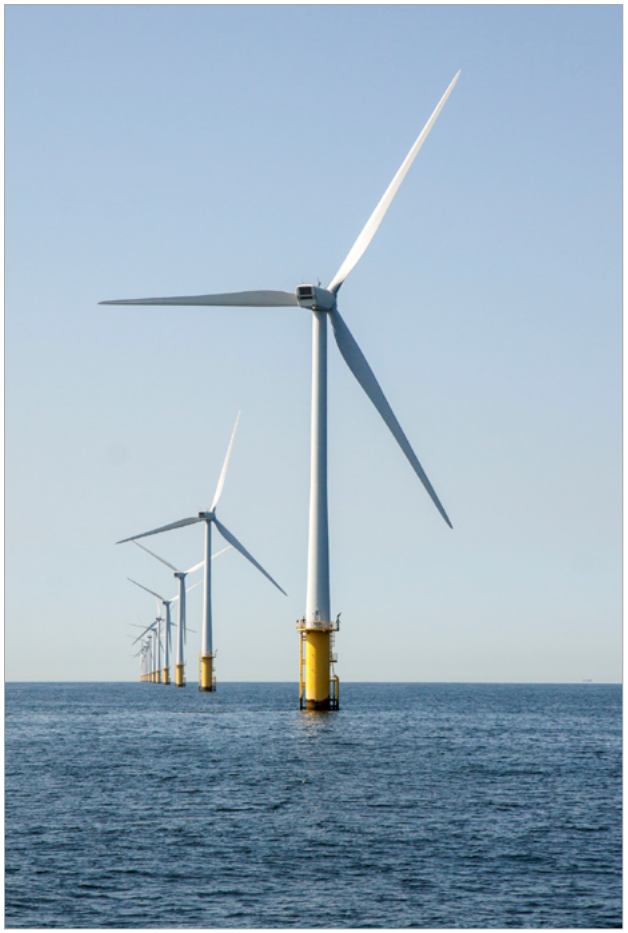
- Turbines and foundations
- Subsea and export cables
- Offshore substations
- Onshore operations and maintenance facilities
- Installation and logistics vessels
- Installation and commissioning exposures

### 3. Risk and cost mitigation

Accurate repair scoping and downtime estimation reduce costs and prevent escalation.

### 4. Efficient resolution process

Our structured and disciplined claims approach accelerates settlement and protects offshore wind investments.



# Scope of loss adjusting in offshore wind

1. **Construction and commissioning**

   Foundation and turbine damage arising during transportation, installation and commissioning.

2. **Turbine and component failures**

   Mechanical stress failures, manufacturing defects and environmental damage.

3. **Foundation and subsea losses**

   Complex engineering assessments addressing underwater structural damage and installation-related challenges.

4. **Cable and export system damage**

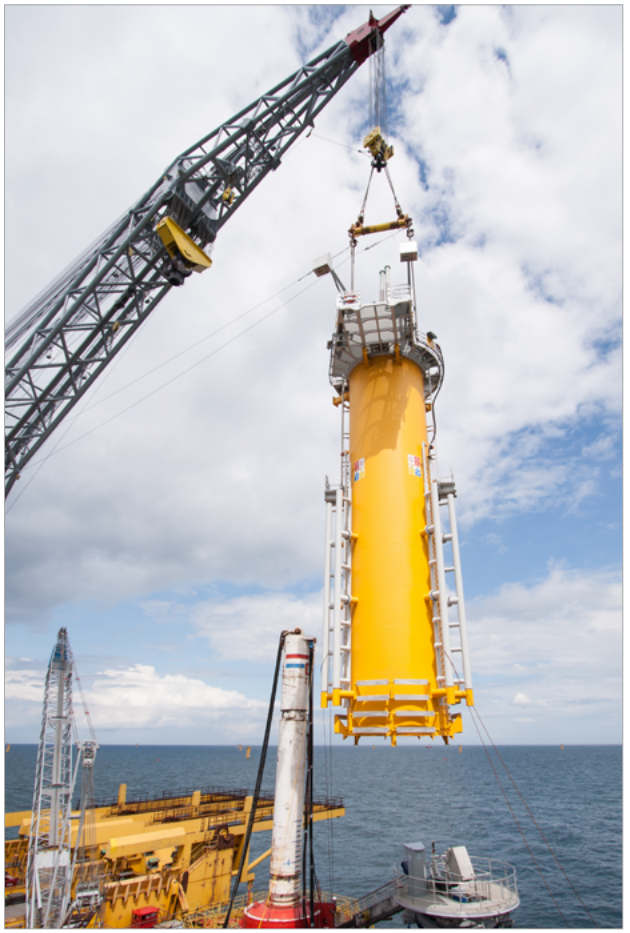
   Subsea cables are vulnerable to vessel strikes, anchoring incidents, and thermal stress, all of which can result in significant financial losses.

5. **Offshore and onshore substation losses**

   High-voltage transmission cabling, transformers, and switchgear damage during installation, commissioning, and operation.

6. **Weather and installation incidents**

   Weather delays, crane failures, and construction incidents requiring rapid insurance response and expert technical evaluation.



# Engineering analysis for insurance clarity

### 1. Failure mode analysis

Identification of root causes including sudden events, gradual deterioration, defective components, or external factors.

### 2. Compliance and design review

Assessment of construction and installation practices to deliver compliance with design standards and identify structural weaknesses.

### 3. System integrity assessment

Evaluation of cables, subsea systems, and turbine components to determine integrity, reliability and performance risk.

### 4. Insurance clarity and risk quantification

Accurate quantification of repair costs and downtime exposure supports informed underwriting decisions and reduces disputes.

### 5. Asset management and reliability

Reliability analysis and review of operational philosophy and asset integrity management to identify opportunities for improvement.

# Trusted expertise and industry alignment

**1. Bridging technical and insurance expertise**

GTS translates complex offshore engineering issues into clear, insurance-focused explanations and robust repair strategies.

**2. Strong industry relationships**

Established relationships with operators, EPC contractors, and O&M providers improve data access and accelerate cooperation.

**3. Reducing risk and financial leakage**

Accurate scoping and timely resolution reduce uncertainty, friction, and unnecessary financial exposure.

**4. Impartial technical rigour**

Our impartiality and precision make GTS a preferred partner for critical offshore wind claims.

# Stakeholders in offshore wind risk management

1. **Diverse stakeholder support**

   We support underwriters, reinsurers, brokers, developers, and asset owners across offshore wind projects.

2. **Technical clarity and claims resolution**

   Collaboration with operators and O&M providers delivers clear technical insight and efficient claims handling.

3. **Risk assessment and asset protection**

   We assist underwriters in assessing exposure and help asset owners and operators maintain operational continuity.

4. **Comprehensive support model**

   By fostering supply chain collaboration, we deliver thorough investigations and defensible outcomes in offshore wind risk management.

# GTS: Unique expertise combination

GTS integrates engineering knowledge with insurance expertise to resolve offshore wind claims effectively.

### Risk reduction and recovery

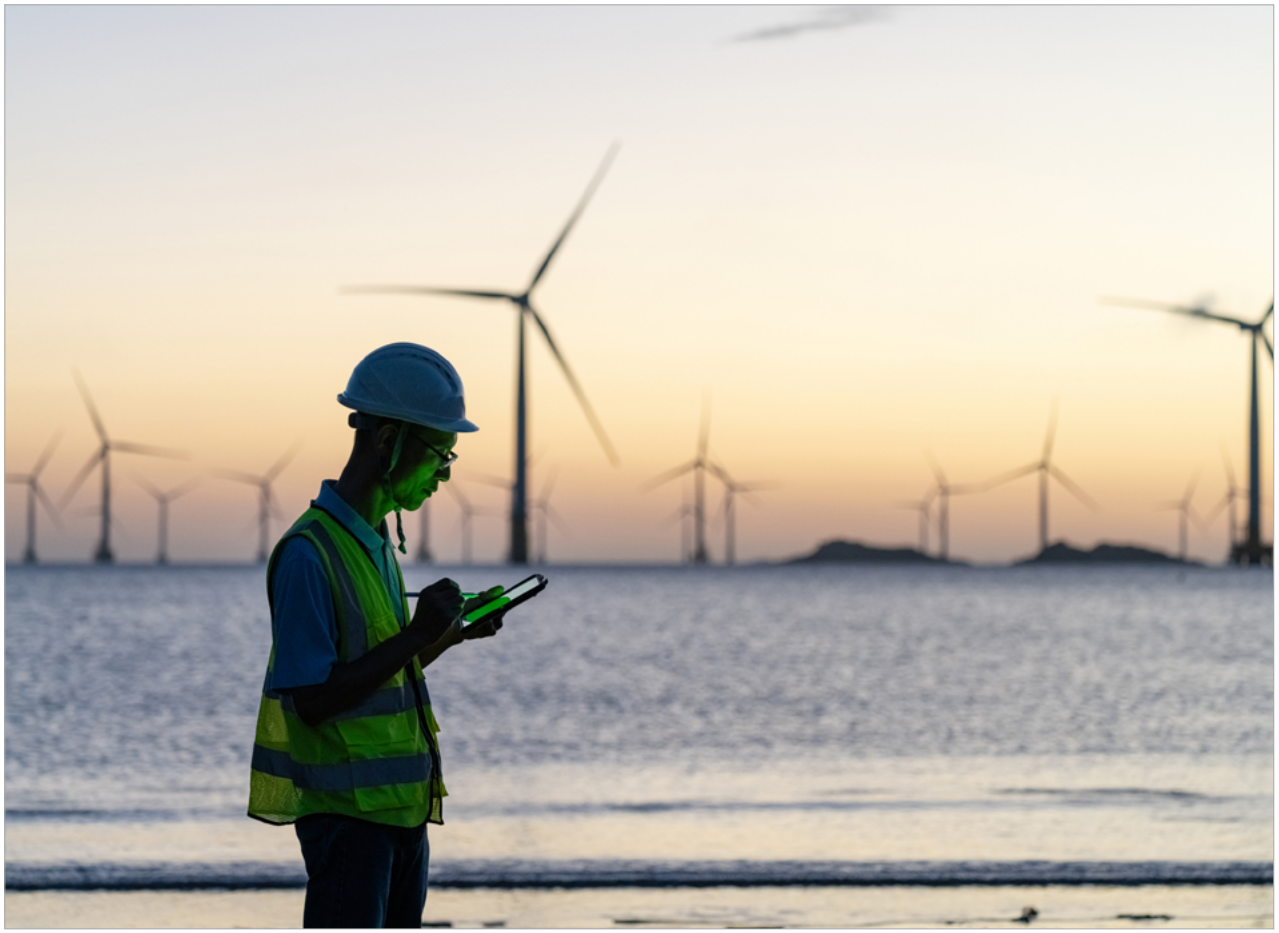
Our breadth of services reduces uncertainty, prevents financial loss and accelerates recovery for offshore wind projects.

### Strategic support for stakeholders

We provide tailored technical insight and strategic guidance to insurers, brokers, and asset owners.

### Crawford renewable energy loss database

Crawford's renewable energy loss database captures more than 3,000 major renewable energy losses. This provides valuable insight into recurring causes and contributing factors, helping insurers, risk managers, and project owners strengthen risk management practices.



For more information, visit our website.

# About Crawford & Company®

For over 80 years, Crawford has led the industry through a relentless focus on people and the innovative tools that empower them.

**10K** employees | **50K** field resources | **70** countries | **$18B** claims managed annually

Crawford® GTS

Learn more at
www.crawco.co.uk