

## Solar Energy South Africa

# Wind turbine generator damage claims



## Overview

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Do wind turbine failures cause financial losses?

In manufacturing, these risks involve physical asset damage, system failures, and employee safety. Financial losses from wind turbine failures include energy sales loss (opportunity cost) and replacement equipment costs (direct cost) (Rieger 2004). This study focuses on uncertainty in random failures that can cause significant financial losses.

Are offshore wind farms a risk for insurers?

This article originally featured in Insurance Day, July 2024. Serial defects in renewable energy projects, particularly offshore wind farms, remain a significant risk for insurers, as the rising demand for clean energy drives larger turbine capacity and rapid technological advancements.

How many offshore wind losses are attributed to power cable failures?

According to Lloyd Warwick, an international specialist loss adjusting and claim management company, around 83% of all offshore wind related financial losses and insurance claims are attributed to power cable failures.

What happens if a wind turbine fails?

In the wind energy industry, this means having multiple turbines in a farm to ensure continued power generation if one turbine fails. Turbines operate independently, so a failure in one, such as from a lightning strike, does not affect others. This is the same for failures of components such as generators, blades, and gearboxes.

How risky are wind farms with small numbers of turbines?

Wind farms with small numbers of turbines carry significant risk relative to investment from mechanical failures. Failure processes are modelled directly from annual data rather than lifetime averages. This work is funded by an Irish Research Council Pathway Award: IRC \* 21/PATH-A/9348 Peter Deeney SFI-IRC

Pathway/.

How can we improve the contractual risk profile of a wind turbine?

Early engagement with our team can help improve the contractual risk profile in the project owners' favour. Wind turbines have become more efficient through innovation in design and technology, but an increase in the size of blades has attracted attention from insurers because of high claims costs due to lightning strikes.

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### Review of the Typical Damage and Damage-Detection Methods of Large Wind

In serious cases, it will lead to the complete damage of the wind turbine generator set, resulting in disastrous consequences and huge economic losses . Especially for offshore ...

### Full article: The financial risks from wind turbine failures: a value

This paper models the financial risk associated with the cost of turbine failures over the lifetime of a wind farm. These failures cause significant variation in realized profit on ...

**1mwh** (500kw/1mw)  
AIR COOLING  
ENERGY STORAGE CONTAINER



### Wind Turbine Claims: New Technologies & Claim ...

This webinar presents an expert's perspective of engineering investigations required to determine the cause following a wind turbine claim. The presenters will use several case studies to highlight the various steps required to ...

### Preventing lightning damage to turbines , Wind ...

Preventing lightning damage to turbines. By. michele-admin - February 15, 2021. 14129. Facebook. Twitter. Pinterest. WhatsApp. Wind-

turbine damage caused by lightning strikes seems unavoidable. After all, wind-turbine ...



## Wind Turbine Insurance

How does a home-mounted wind turbine work? Like most industrial wind turbines, the wind will cause the domestic wind turbine's blades to turn. This causes the turbine to produce electricity that can be used to power appliances in your ...

## Managing the lightning risk of wind turbines

Wind turbines have become more efficient through innovation in design and technology, but an increase in the size of blades has attracted attention from insurers because of high claims costs due to lightning strikes.



## Addressing the growing risk of blades detaching from ...

Wind turbines are an increasingly popular form of energy generation. Although dependent on size, their ability to potentially power a home for two days with a single rotation has contributed to a 9% YoY growth of total ...

## When to Repair and When to Replace a Wind Turbine ...

Minor issues such as damaged wiring can often be repaired with relative ease, but more serious problems could render a wind turbine generator unsuitable for repair. The extent of the damage will determine possible next ...



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