



# **The application of climate-related physical risk data to invest most effectively in resilience & productivity**

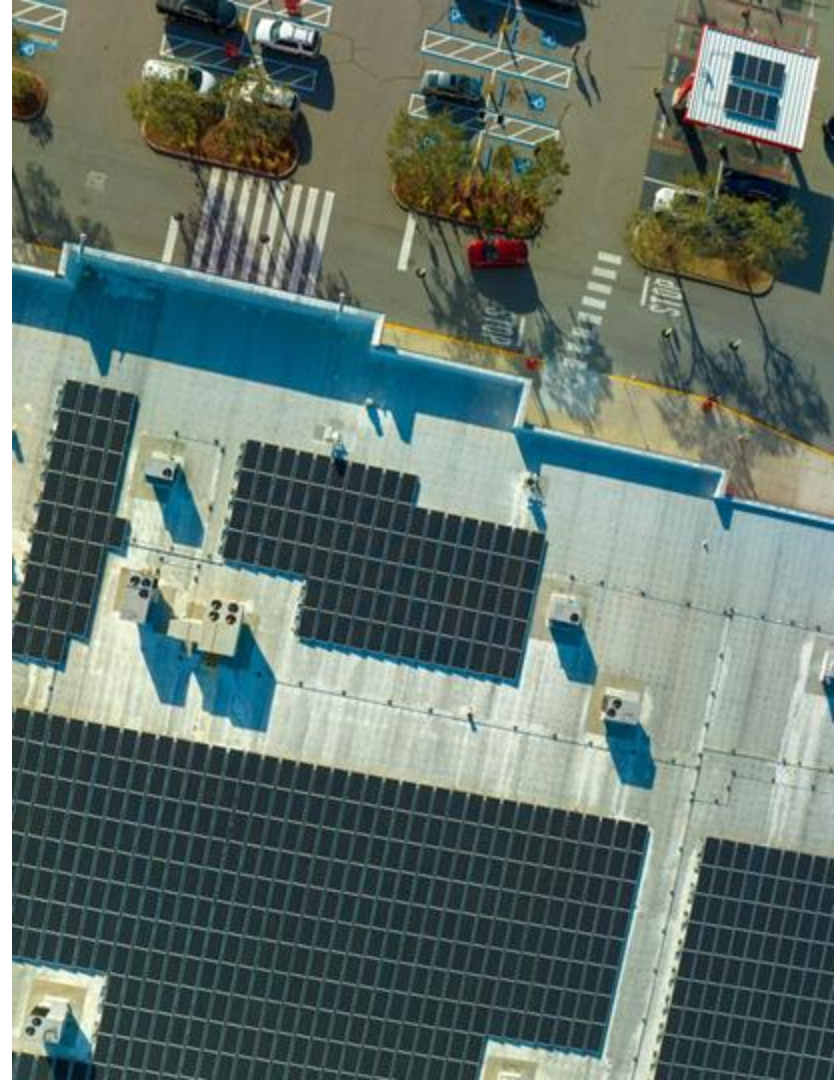
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# Climate Data

What we do

Why it matters

- Renewable Energy Production (Profit / Loss)
- Design Resilient Infrastructure
- Life Extension
- Value Chain



# Climate risk analytics

Turning sophisticated **climate science** into **actionable data**

## All Climate Perils



WIND



FLOOD



PRECIP



HAIL



HEAT



COLD



WILDFIRE



DROUGHT

## ClimateScore Global

High-Resolution Analysis

~90 Metrics & Many More  
On Demand

Latest, Vetted, & De-biased  
Global Climate Models

Scenarios in 5-year Increments

2020 to 2100

## Business Impact

Risk Assessment & Planning

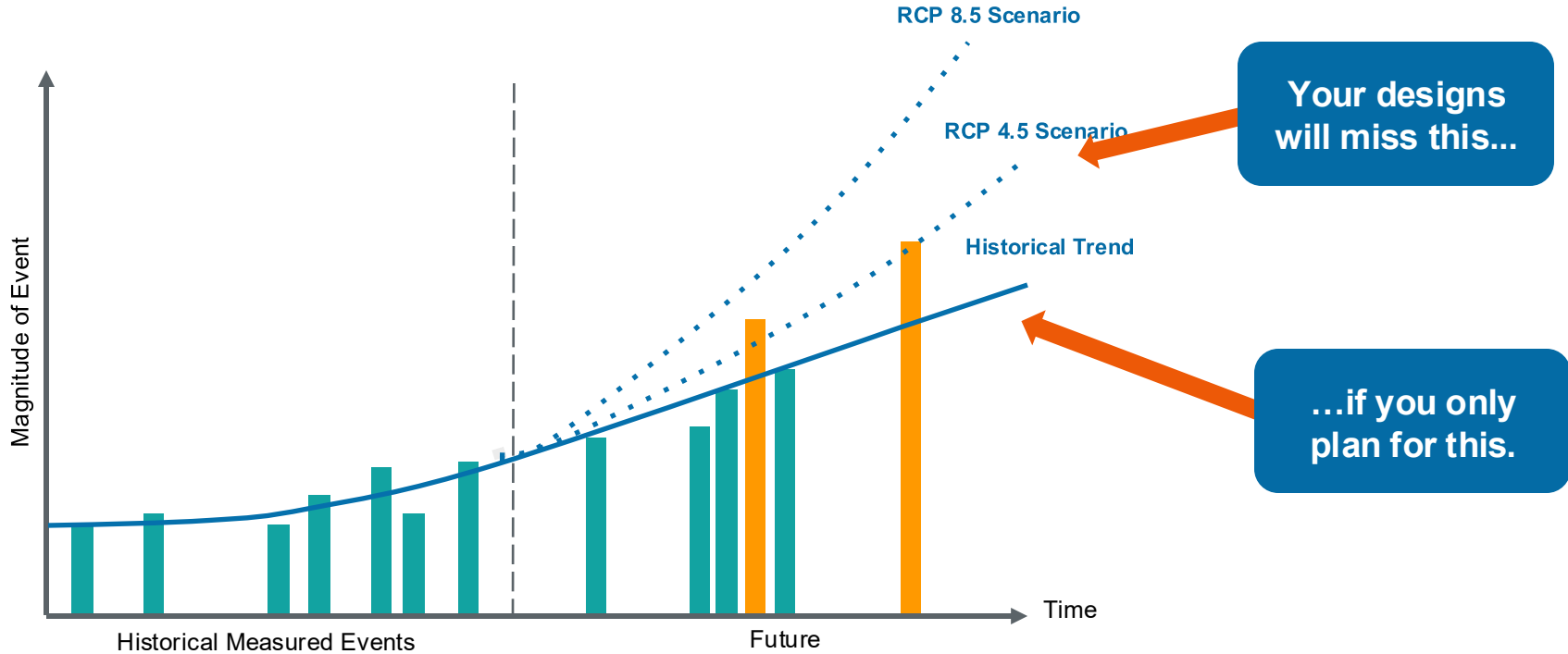
Resiliency & Adaptation

Portfolio & Asset Management

Loss Modeling

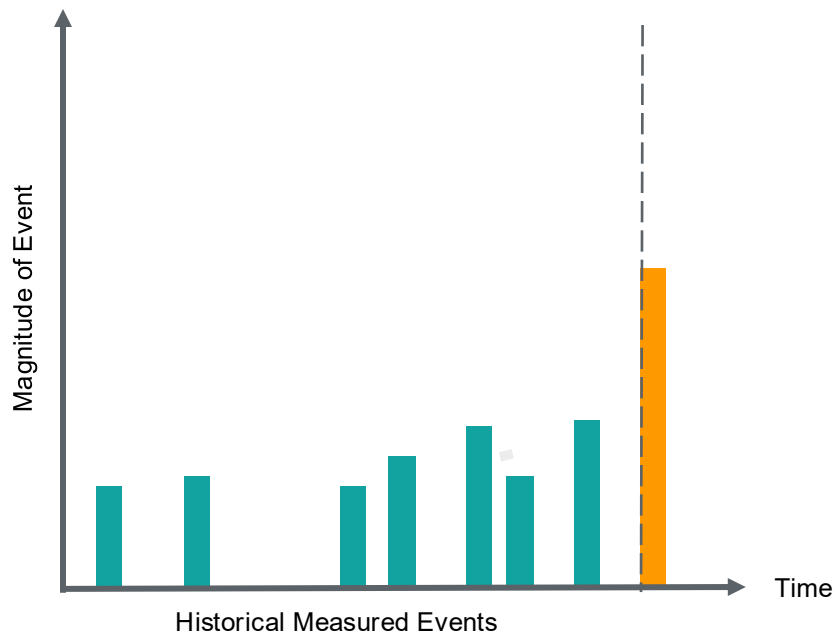
Regulatory Disclosure

# Historical data is a poor predictor of the future.



# “Unprecedented” Events

Do you really know what could possibly happen **now?**



## Dubai

*A historic weather event that surpassed anything documented since the start of data collection in 1949.*

## Greece

*These unprecedented flash floods were triggered by rainfall from the arrival of Storm Daniel... In the village of Zagora, a record-breaking 754mm of rain fell in just 18 hours.*

*The **Hong Kong Observatory** said that 6.22 inches of rain had fallen in the hour from 11 p.m. Thursday (11 a.m. ET Thursday) to midnight, the highest recording since records began in 1884.*

## New York City USA

*The 8.65 inches (21.97 centimeters) at John F. Kennedy Airport surpassed its record for any September day.*



# Renewable Energy Production

# Wind

## Wind Droughts:

SSE: ~32% **less renewable power** between April and September 2021

In September 2021, the UK's wind contribution fell to just 2% of generation, leading to the reactivation of two coal plants.

**The power in the wind is proportional to the cube of its speed**



# Solar

## Transition Opportunity:

Demand 

## Physical Risk:

Damage 

## Production:

Solar Irradiance 

Efficiency 



# Biofuels



## Multiple impacts for Agriculture:

- Yields - Seed types, Fertilizers
- Growing Regions
- Seasonal Shifts

# Hydro Power

Precipitation & Drought

Variability and Uncertainty





# Design for Resilience

# Design and Invest Adequately for Future Events





# Extension of Asset Life

# Extending Life in a Harsher Environment





# Value Chain

# Outside the Fence

Suppliers



Customers



# Thank You!

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