

# De-risking offshore wind projects

## #Thought Leaders Forum

April 4, 2019  
Ronny Bendlin Spür

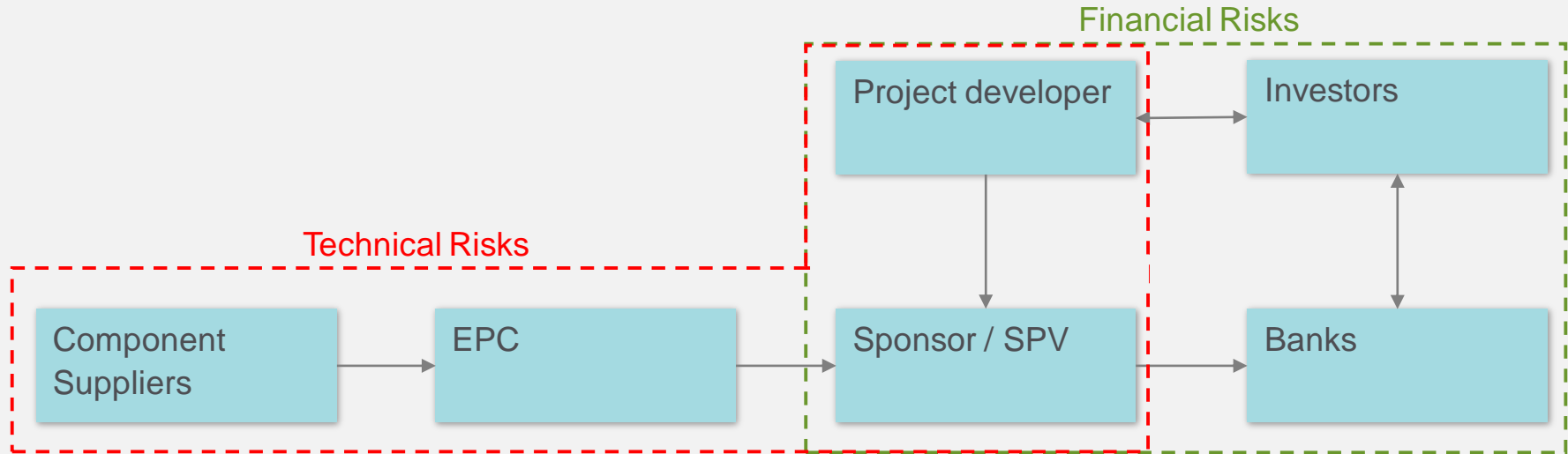
# Risk Radar

## ...the Munich RE view



# Wind Farm Project Setup

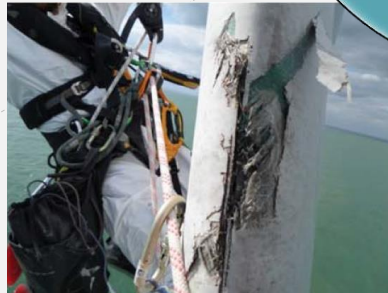
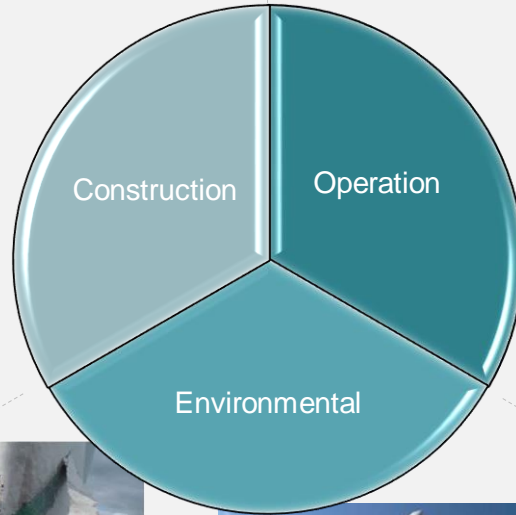
## Stake holders and risk distribution



Project risks involve all stakeholders throughout the value chain

# Loss Examples

...due to internal and external influences



## AMOUNT OF LOSS CAUSES IN %

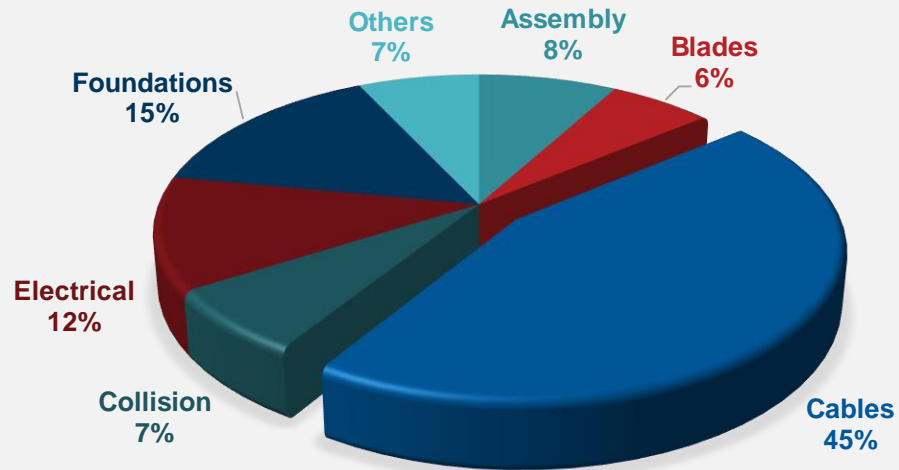
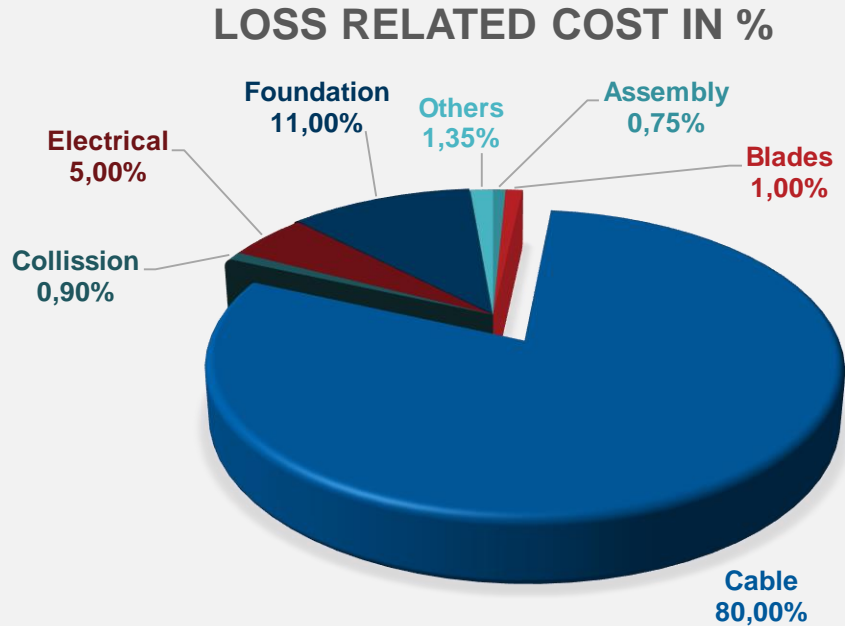
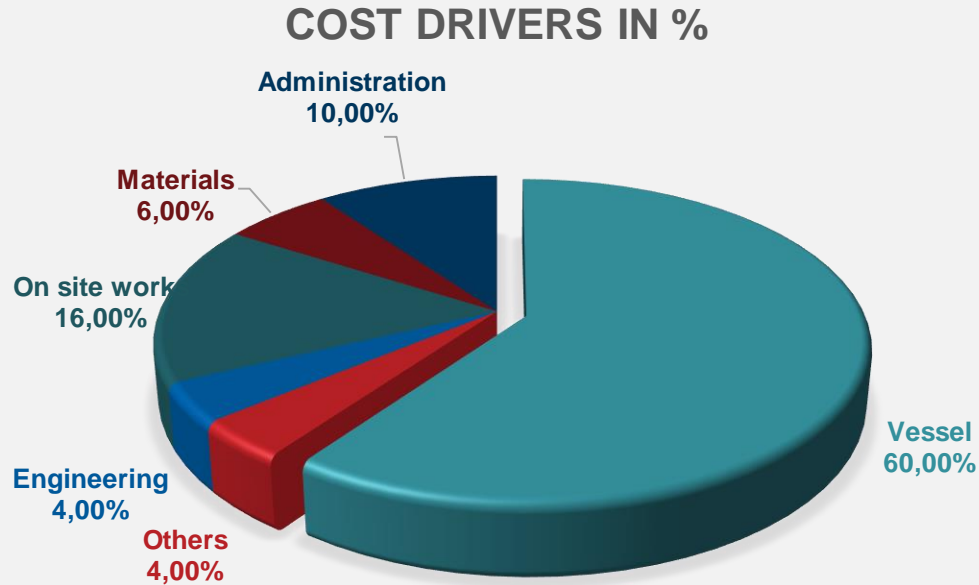


Image: SHL



Cable related losses account for 80% of costs

Image: SHL



Vessel costs and long lead time items are main cost drivers Image: SHL

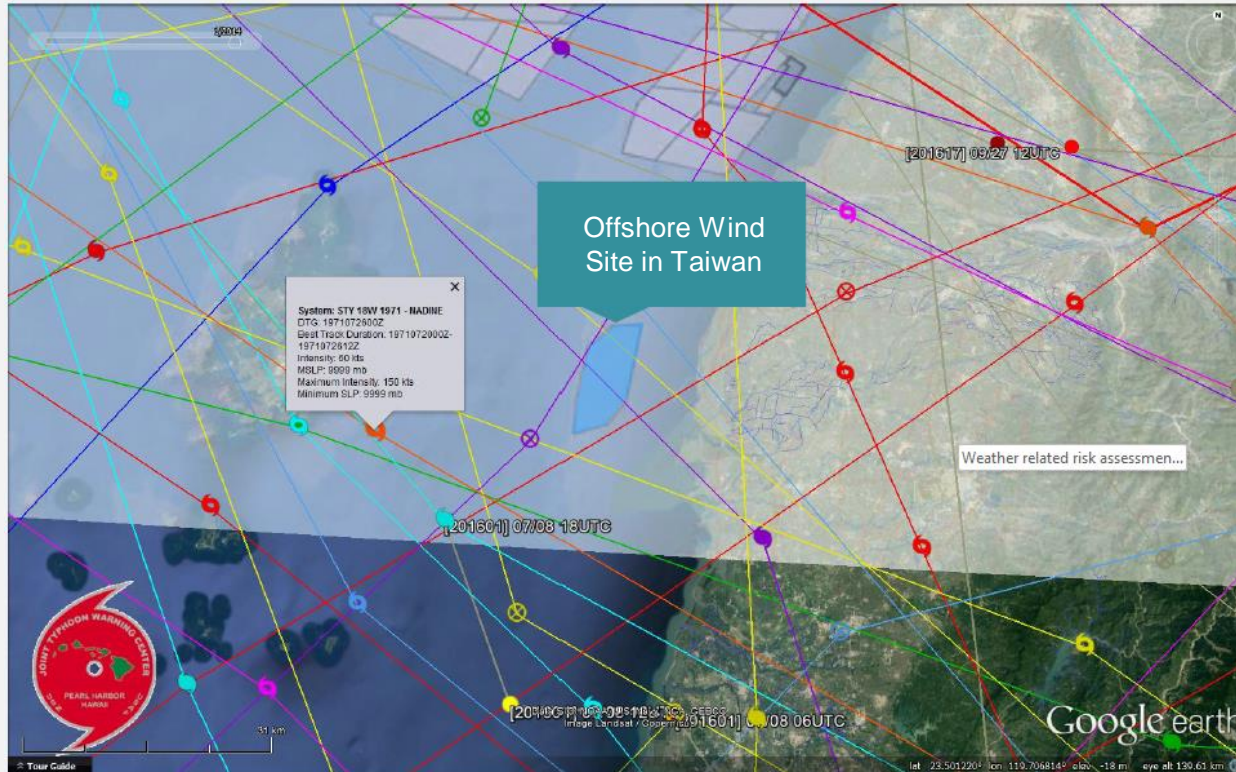






# Weather Related Risk Assessment

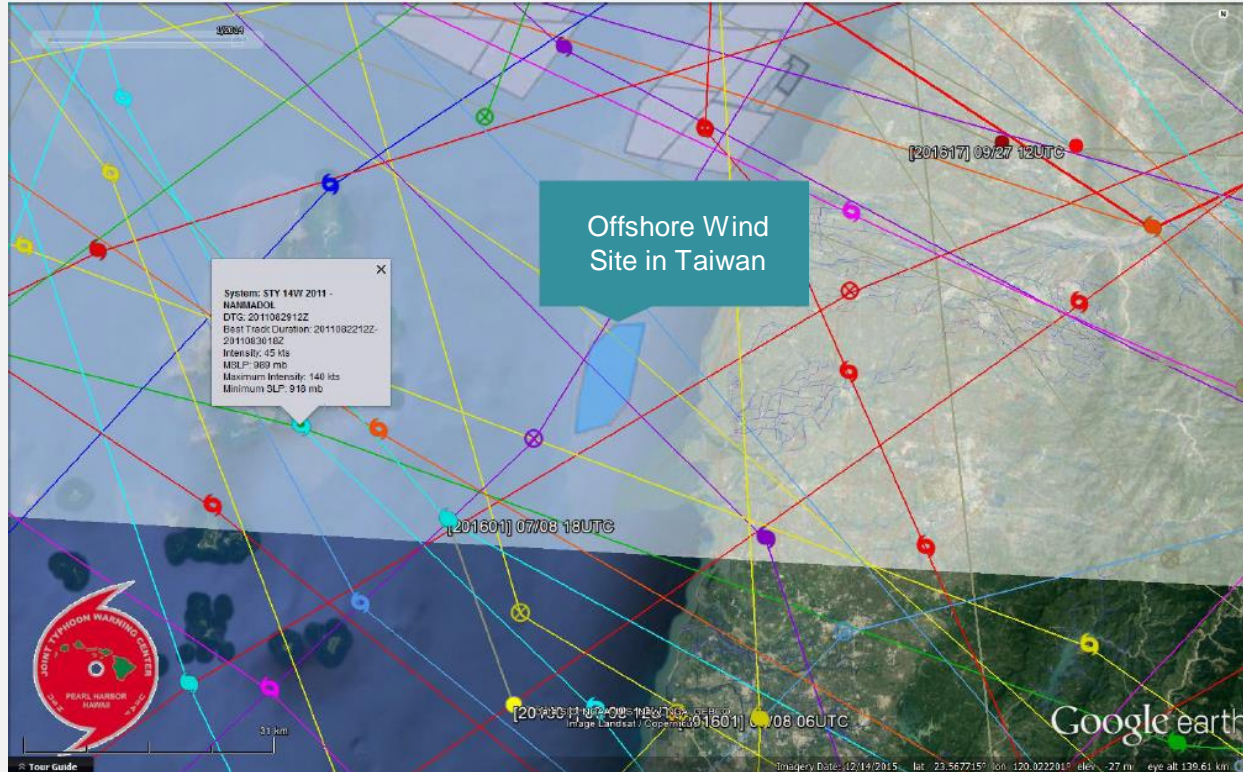
## Typhoon track analysis



- Deep dive into the typhoon path within a radius of 50 km of the site
- There are two typhoons with maximum intensity -> 70 m/s (252 km/h)
- Maximum density 77 m/s (277 km/h) by Nadine in 1971

# Weather Related Risk Assessment

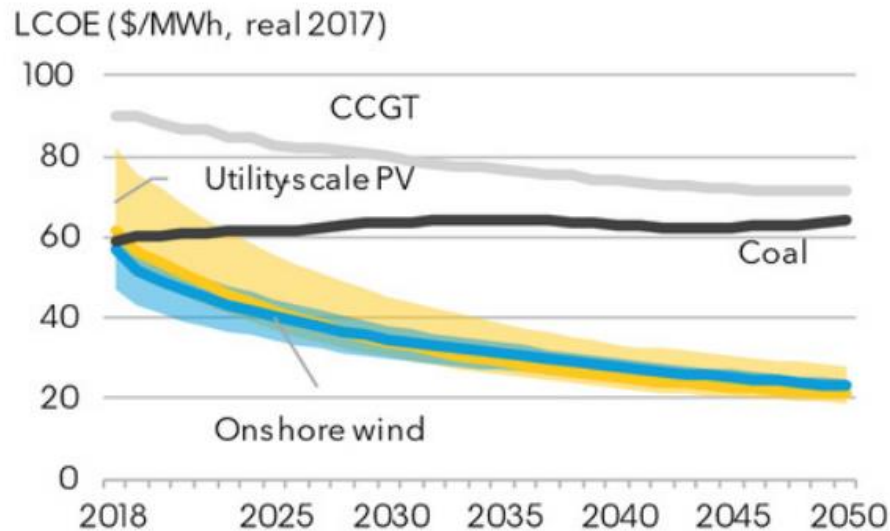
## Typhoon track analysis



- Deep dive into the typhoon path within a radius of 50 km of the site
- There are two typhoons with maximum intensity -> 70 m/s (252 km/h)
- Maximum density 72 m/s (259.2 km/h) by NAMDOL in 2011 being 2<sup>nd</sup> highest

# Price Competitiveness and Emerging Risk Landscape

## LCOE



Note: LCOE = Levelized cost of electricity  
Source: Bloomberg New Energy Finance 2017

### Emerging Risks

- “0-Bids” Offshore
- Merchant environment
- Floating Offshore structures
- PPAs

Renewables move away from a regulation-driven subsidy-play to merchant markets

# Loss Adjusting

## Comparison of claims handling approaches

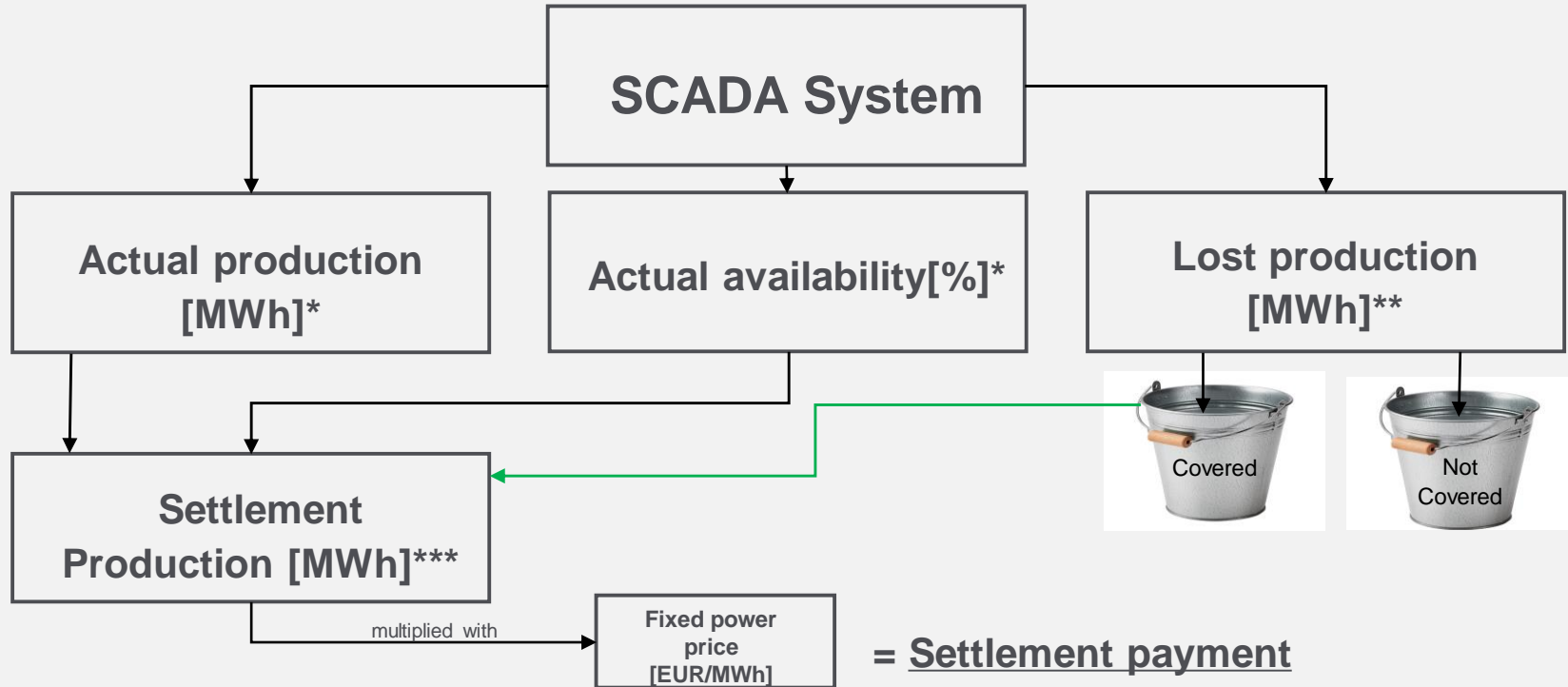
	Traditional Insurance	Parametric Cover	SCADA
Accuracy	++	+	+++
Cost	--	+	○
Speed	--	○	+++

+ Positive - Negative ○ Neutral

Significant advantage of real time claims settlement based on SCADA Data

# Loss Adjusting

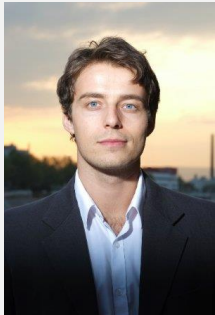
## Using SCADA data for automatized claims handling



\*measured by SCADA    \*\*calculated by SCADA    \*\*\*measured by Munich RE Back-end



- Stakeholders of wind power projects are exposed to various risks
- Risk transfer solutions can help to actively manage emerging and risks
- Mutual benefit for all involved parties by using real-time settlement of claims based on SCADA data



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