

### Chairman's Welcome to Subsea Power Cables 2020

09:30 - 09:40

### Markets Overview: Global industry trends and analysing factors driving the market

09:40 - 10:00

Market & Regulatory Updates

- Regional analysis
- Current demand and future opportunities
- Market outlook

#### Participants

Senior Representative , 4C Offshore

### COVID-19 impact on the submarine cable industry in the short term

10:00 - 10:20

Market & Regulatory Updates

- Has Covid-19 affected the ability of contractors to fulfil contracts?
- Was marine warranty surveyor impacted in any way?

### Regulatory Environment: How can the regulators work with operators to identify optimal solutions to emerging problems?

10:20 - 10:40

Market & Regulatory Updates

In both electrical and marine environments, are regulators engaging enough with the industry and their operational problems?

- How is this being solved and overcoming regional differences

### Joint Q&A with speakers: Ask your questions

10:40 - 11:00

Market & Regulatory Updates

This is the time to ask your questions to the session speakers. Remember to post questions throughout the presentations and our moderator will ask them on your behalf.

#### Participants

Senior Representative , 4C Offshore

### Online Networking Break

11:00 - 11:20

Take 30 mins to stretch your legs, grab a coffee or hang around and network with fellow attendees through the platform.

### Keynote: Floating offshore wind: what are the opportunities?

11:20 - 11:40

Floating Offshore Wind

- Assessing the dynamic cables demand- can the market offer enough quantities?
- Deeper water, bigger turbines: what are the challenges?
- Emerging technologies and solutions regarding floating wind

#### Participants

Rory Shanahan - Manager - Offshore Wind, The Carbon Trust

### LIVE Q&A with offshore wind experts

11:40 - 12:00

Floating Offshore Wind

#### Participants

Rory Shanahan - Manager - Offshore Wind, The Carbon Trust

### Case study: Liability for the Gwynt Y Mor OWF Export Cable Failures

12:00 - 12:30

Subsea Cables Damage Claims: A legal perspective

This talk will give an experienced legal view on the very interesting UK Court Judgment on the long running Gwynt Y Mor Offshore Wind Farm export cable failures - relating to the interpretation of an indemnity in the Agreement governing the sale and transfer of the export cables from the OWF developer to the OFTO.

The developer was not held liable for the repair costs of the two failed export cables. The cables failed due to severe corrosion caused by damage to part of the polyethylene sheath during the cable manufacture permitting seawater to penetrate through the puncture to the aluminium armour wires, in combination with the AC voltage on the cables, caused the wires to corrode and swell, heating of the cable melted the armour wires, resulting in arcing and currents flowing between the FOC cables and the adjacent power core, melting the lead sheath of the power core, and ultimately failure of the export cables.

The OFTO sought to rely on an indemnity in the sale agreement, which was held to only apply to a 6 day period between the date of the Agreement and completion of the sale. The root cause of the corrosion, however, occurred during the cable manufacture and manifested itself over months and month. The talk will consider what else we know about who has contributed to the cable repair costs.

At the end of the presentation, you can ask questions, or you can also post questions throughout the presentation and our moderator will ask them on your behalf.

#### Participants

Richard Booth - Partner, HFW

### Online Networking Break

12:30 - 13:00

Take 30 mins to stretch your legs, grab a coffee or hang around and network with fellow attendees through the platform.

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### Cable-Seabed interaction and the role of morphology & DTS - thermal model of the seabed

13:00 - 13:20

- Predicting large-scale morphology and sea bed variations

Data driven approach including probabilistic approach

Added value of numerical predictions for sand wave evolution

- Cable landfalls:

sea bed dynamics using satellites

- DTS – thermal model for cable burial detection

#### Participants

**Arjen Luijendijk** - Coastal morphology specialist, Deltares

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### Cable design challenges & standards- what do they mean for the industry?

13:20 - 13:40

Advances in Cable Design & Installation

- Cable damage and prevention
  - Dynamic installation effects
  - Power capabilities of cables: assessing different types, capacities and technology types
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### Common Risks to Cables During Installation – Lessons Learned and Continued Issues

13:40 - 14:00

Advances in Cable Design & Installation

- Improving efficiency in the cable-lay process
- Avoiding errors during installation- saving costs
- A look at the key lessons learnt from past installation projects
- What issues remain and what is industry doing to address them

#### Participants

**Andrew Small** - Offshore Export Cable Package Manager, Moray East Offshore Wind Farm

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### Spatial and Temporal Ocean Bottom Temperature variation – implications (and solutions) for design and operation of marine HV cables

14:00 - 14:20

Advances in Cable Design & Installation

#### Participants

**Justin Dix** - Head of Geology & Geophysics Research Group, University of Southampton

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### Joint Q&A with speakers: Ask your questions

14:20 - 14:40

Advances in Cable Design & Installation

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### WindFloat Atlantic Project: Focus on Dynamic Cables

14:40 - 15:10

Advances in Cable Design & Installation

Our pre-commercial project is a showcase of the technologies required for floating wind farms. We employed the first 66kV dynamic cable in Europe, connecting the our three floating wind turbines. We will present our journey and the lessons learned along the way.

#### Participants

**Tiago Duarte** - Installation Manager, EDP Renewables

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### Informal networking opportunities

15:10 - 15:40

Bring your beers and join our informal chat rooms. Use this time to organise meetings and follow up with your peers.

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### Close of Day 1

15:40 - 15:45

# SCHEDULE

DAY 1 | SUBSEA POWER CABLES 2020 - 01/09/2020

Subsea Power Cables

1 - 2 September 2020

Virtual Conference

Delivered Live Online (GMT time) & On-Demand Afterwards

TIME	ADVANCES IN CABLE DESIGN & INSTALLATION	FLOATING OFFSHORE WIND	MARKET & REGULATORY UPDATES	SUBSEA CABLES DAMAGE CLAIMS: A LEGAL PERSPECTIVE
09:00	09:30 - Chairman's Welcome to Subsea Power Cables 2020	09:30 - Chairman's Welcome to Subsea Power Cables 2020	09:30 - Chairman's Welcome to Subsea Power Cables 2020 09:40 - Markets Overview: Global industry trends and analysing factors driving the market	09:30 - Chairman's Welcome to Subsea Power Cables 2020
10:00			10:00 - COVID-19 impact on the submarine cable industry in the short term 10:20 - Regulatory Environment: How can the regulators work with operators to identify optimal solutions to emerging problems? 10:40 - Joint Q&A with speakers: Ask your questions	
11:00	11:00 - Online Networking Break	11:00 - Online Networking Break 11:20 - Keynote: Floating offshore wind: what are the opportunities? 11:40 - LIVE Q&A with offshore wind experts	11:00 - Online Networking Break	11:00 - Online Networking Break
12:00	12:30 - Online Networking Break	12:30 - Online Networking Break	12:30 - Online Networking Break	12:00 - Case study: Liability for the Gwynt Y Mor OWF Export Cable Failures 12:30 - Online Networking Break
13:00	13:00 - Cable-Seabed interaction and the role of morphology & DTS - thermal model of the seabed 13:20 - Cable design challenges & standards-what do they mean for the industry? 13:40 - Common Risks to Cables During Installation – Lessons Learned and Continued Issues	13:00 - Cable-Seabed interaction and the role of morphology & DTS - thermal model of the seabed	13:00 - Cable-Seabed interaction and the role of morphology & DTS - thermal model of the seabed	13:00 - Cable-Seabed interaction and the role of morphology & DTS - thermal model of the seabed

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14:00	<p>14:00 - Spatial and Temporal Ocean Bottom Temperature variation – implications (and solutions) for design and operation of marine HV cables</p> <p>14:20 - Joint Q&amp;A with speakers: Ask your questions</p> <p>14:40 - WindFloat Atlantic Project: Focus on Dynamic Cables</p>			
15:00	<p>15:10 - Informal networking opportunities</p> <p>15:40 - Close of Day 1</p>	<p>15:10 - Informal networking opportunities</p> <p>15:40 - Close of Day 1</p>	<p>15:10 - Informal networking opportunities</p> <p>15:40 - Close of Day 1</p>	<p>15:10 - Informal networking opportunities</p> <p>15:40 - Close of Day 1</p>

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### Summary of day 1 of Subsea Power Cables 2020 Virtual

09:45 - 09:55

Chairman's recap of day 1 and introduction to the day 2 of the programme.

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### Maintenance & repairing: Improving reliability of the systems and avoiding downtime of the farm

09:55 - 10:15

Cable Maintenance & Repairing

- How can lead times be reduced?
  - Analysing predictive maintenance measures
  - Addressing proximity issues
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### Condition Monitoring of Subsea Cables: Innovations and better understanding predictive maintenance

10:15 - 10:35

Cable Maintenance & Repairing

- Importance of monitoring carefully and accurate
  - The power capabilities of cables- different cables, capacities and keeping with the technology
  - How is the frequency of streaming data impacting the process?
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### Innovations in cables

10:35 - 10:55

Cable Maintenance & Repairing

#### Participants

**Alex Gauntt** - Commercial Director, Irish Sea Contractors

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### Joint Q&A with speakers: Ask your questions

10:55 - 11:15

Cable Maintenance & Repairing

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### Online Networking Break

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Cable Maintenance & Repairing

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### Panel Discussion: Cables Failure Analysis & How are termination failures viewed?

11:45 - 12:15

Cables Failure Analysis

- Building enough data to predict failures
  - How are termination failures viewed?
  - What can be done during operation, to avoid failures?
  - Minimising risk throughout the cable's lifetime: do's and don'ts
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### Panel Discussion: Insuring and Managing Risks of Cable Projects

12:15 - 12:45

With the insurance market becoming increasingly nervous about underwriting subsea assets, what can be done to create a more certain environment?

- What are the risks?
  - Sharing risk across stakeholders
  - Impact of cable failures and the appetite for insurers to remain in the market
  - How does insurance relate to cable design?
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#### Participants

**Matthew Yau** - Director, Lloyd Warwick International

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### The role of Interconnectors in Europe's electricity supply & climate change mitigation

12:45 - 13:05

- Identify the challenges and complexities of interconnectors
  - Role of interconnectors in Europe's electricity supply
  - What is the role of interconnectors in climate change mitigation and where can power sharing occur?
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### How do offshore transmission owners work in UK?

13:05 - 13:25

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### Joint Q&A with speakers: Ask your questions

13:25 - 13:45

This is the time to ask your questions to the session speakers. Remember to post questions throughout the presentations and our moderator will ask them on your behalf.

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### Online Networking Break

13:45 - 14:15

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### Close of Day & Opportunity to ask more questions

14:15 - 14:25

# SCHEDULE

DAY 2 | SUBSEA POWER CABLES 2020 - 02/09/2020

Subsea Power Cables

1 - 2 September 2020

Virtual Conference

Delivered Live Online (GMT time) & On-Demand Afterwards

TIME	CABLE MAINTENANCE & REPAIRING	CABLES FAILURE ANALYSIS
09:00	09:45 - Summary of day 1 of Subsea Power Cables 2020 Virtual 09:55 - Maintenance & repairing: Improving reliability of the systems and avoiding downtime of the farm	09:45 - Summary of day 1 of Subsea Power Cables 2020 Virtual
10:00	10:15 - Condition Monitoring of Subsea Cables: Innovations and better understanding predictive maintenance 10:35 - Innovations in cables 10:55 - Joint Q&A with speakers: Ask your questions	
11:00	11:15 - Online Networking Break	11:45 - Panel Discussion: Cables Failure Analysis & How are termination failures viewed?
12:00	12:15 - Panel Discussion: Insuring and Managing Risks of Cable Projects 12:45 - The role of Interconnectors in Europe's electricity supply & climate change mitigation	12:15 - Panel Discussion: Insuring and Managing Risks of Cable Projects 12:45 - The role of Interconnectors in Europe's electricity supply & climate change mitigation
13:00	13:05 - How do offshore transmission owners work in UK? 13:25 - Joint Q&A with speakers: Ask your questions 13:45 - Online Networking Break	13:05 - How do offshore transmission owners work in UK? 13:25 - Joint Q&A with speakers: Ask your questions 13:45 - Online Networking Break
14:00	14:15 - Close of Day & Opportunity to ask more questions	14:15 - Close of Day & Opportunity to ask more questions