

Wind Logistics Group

Continuation of PhD Reference Group

Web update meeting

Altered meeting schedule (COVID-19)

In advance of 3rd face-to-face meeting

Venue: Online

Wind Logistics Group, Meeting #4, August 19, 2020

Global Wind Energy Shipping and Logistics PhD project Reference Group meeting (#14)

Agenda

1. Role call and brief introduction
2. Changed schedule of Wind Logistics Group meetings (COVID-19)
3. Review of progress made during the last online meeting
4. Around the room
5. Wrap-up, actions, and next steps

Goals of today

- a) Resume work on two main speed boats
- b) Set our 2nd half 2020 work plan
- c) Understand impact of COVID-19 on our ability to meet face-to-face over coming months

1. Role call and introduction

Briefly around the room

1. Role call and brief introduction

| Name | Company |
|---|--------------------------|
| <u>Attending member organizations:</u> | |
| Mads Poulsen | BBC Chartering |
| Michael K. Snerling | DIS |
| Christian Munk Jensen | Energy Cluster Denmark |
| Jacob Michelsen | FORCE Technology |
| Peter Eriksen | Head Energy |
| Thomas Sender Mehl | KK Wind Solutions |
| Anne Rothe Haakansson | LM Wind Power |
| Jens E. Juul | Maersk |
| Johan Pløen Winther | MHI Vestas Offshore Wind |
| Ian La Pointe | NSG/Elevon |
| Knut Magne Joannessen | NSG/Elevon |
| Kjartan Ross | Port of Aalborg |
| Thomas Padfield | Procon |
| Søren S. Kellenberger | R&D |
| Joris Kofman | Vestas |
| Morten B. Nielsen | Vestas |
| <u>Attending facilitator:</u> | |
| Thomas Poulsen | TINV/Panticon |

1. Around the room - intro

- Company by company
 - Names
 - Background of company
 - Background of persons

2. Changed schedule

COVID-19

Health precautions

Online update meetings in lieu of face-to-face meetings

2. Changed schedule (COVID-19)

The next meeting at LM Wind Power:

- | | | |
|----------------------------------|--------------------|----------|
| • Original face-to-face meeting: | May 12, 2020 | Deferred |
| • Rescheduled: | June 18, 2020 | Altered |
| • Rescheduled: | September 22, 2020 | ??? |

Two interim web calls:

- June 18, 2020 and
- *Today*

Subsequent meeting after that:

- November 19, 2020

2. Health precautions vs. momentum

- Access to facilities
 - Policies
 - Social distancing / disinfectant
- Keep the momentum going...
- ✓ Web call before the holidays (June 18, 2020)
 - ✓ Web call after the holidays (today)

And... COVID-19 is back!

3. Speed boats

Progress made during last meeting

3. Purpose and scope defined in May 2019 - Why Wind Logistics Group?

- The "mother vessel" and the "speed boats"

Summary of key decisions (1/2)



1. Name:

- Wind Logistics Group

2. Scope:

- Wind Logistics Group will focus on onshore wind logistics as well as offshore wind logistics

3. Purpose:

- Primary purpose of the Wind Logistics Group should be to work on relevant and value creating joint projects within wind logistics
- Secondary purpose is networking (after work meetings 2 times/year about wind logistics)

Summary of key decisions (2/2)



4. Projects selected by Wind Logistics Group to focus on will be funded separately

- Joint learning and logistics synergies to add value
- Scalability/global projects

5. Next meeting:

Incubation of projects

Managed and funded by
Wind Logistics Group

- Secretariat, project managers

Or funded separately

- Publicly funded projects
- Other funding

3. Our charter discussions May, 2019

- Key considerations of "mother vessel members"

Summary of key discussions (1/2)

- 1. Geographical focus.** The wind industry (including offshore wind) is not just Denmark; the business is rapidly globalizing
 - Norway, Sweden (nearby, short term), Germany, Holland, Belgium, UK (nearby, medium term), and China, Taiwan, Japan, South Korea, India, Australia, USA (further away, long-term)
- 2. Members.** More members for the Wind Logistics Group could be considered
 - Denmark: Vattenfall, BMS, Energinet, LM Wind Power, Bladt, DEME Offshore, Swire Blue Ocean
 - Nordic: Equinor, AKER Solutions, Fred Olsen, Norwegian Energy Partners
 - Europe: Van Oord, Boskalis, Jan De Nul, Fugro, Seajacks, E.ON, EEW
- 3. Funding and project prioritization.** A "funnel" with selection criteria should be applied and lead to selections of projects to work on and achieve funding support for (private, public, or combination thereof)

Democratic forum

Voluntary

Cross-supply chain

Time invested

Value derived

Company and industry "return on investment"

Summary of key discussions (2/2)

- 4. Value creation.** It is critical to create value to the members and the industry from the projects worked on by the Wind Logistics Group
 - Better health/safety/security/quality, revenue increases to member companies, cost reductions, shorter time spent, better processes, greater logistics synergies, standardization, digitalization, automation, and organization
- 5. TINV platform** ([link](#)) to sponsor the involvement of Thomas Poulsen in the preparation, execution, and follow-up of 4 Wind Logistics Group and after work meetings during 2019 and 2020, every 6 months
 - Relevance to Danish firms
 - Support to TINV

3. Speed boat decision: Focus and finalize

- We decided to focus on the speed boats we already launched
 - Let us finalize what we started!!!
- 2 speed boats launched at November 4, 2019 meeting:
 - Transport concept for big wind turbines
 - Lack of USA infrastructure
- A third speed boat was considered and not launched:
 - Green fuels ***WILL NOT FORM PART OF TODAY'S CALL***

3. Call on June 18, 2020 - speed boat discussions

- It was hard for us to find the necessary speed boat information
- Scoping had not been completed
- Work had halted to quite some extent
- Both speed boats need new captains
- Insufficient members available to handle speed boat charter



3. Speed boat information now online

www.windlogisticsgroup.com

3a. Transport concept for big wind turbines


- Who are the member companies?
 - BBC (formerly captain)
 - DIS
 - MHI Vestas
 - LM Wind Power
 - NorSea Group
 - Head Energy
 - Siemens Gamesa Renewable Energy
 - Vestas
 - R&D
 - FORCE Technology

3a. Transport concept for big wind turbines - activity so far

- Group met on January 30, 2020 at LM Wind Power in Kolding
 - *BBC, DIS, MHI Vestas, LM Wind Power, NorSea Group, Head Energy, Siemens Gamesa, Vestas, R&D, FORCE Technology, TINV/Panticon*
- A subsequent survey was performed online and results shared on February 27, 2020
- Additional input sought

Speed boat opportunities:

- Captain has withdrawn candidacy, new captain sought
- More members needed
- Scope to be finally agreed



Wind Logistics Group
Transport concept for big wind turbines
November 2019 – May 2020

Original project idea title: New shipping concept needed for large new offshore turbines like GE 12 MW

Summary of November 4, 2019 group discussions:

| | |
|------------------------|---|
| Funnel criteria | Reduce cost, international focus, increase efficiency, reduce risk |
| Desired outcome | Streamlined process, standard concept, and agreed guideline |
| Scope | Onshore and offshore wind |
| Supply chain | Factory to site included (rest not included) |
| Wind components | Blades/nacelle/hub/towers included Foundation/cables/substation excluded (not believed to change significantly) |
| Equipment | Lifting equipment and transport equipment included |
| Assets | Trailers, SPMTs, shortsea vessels, deep sea vessels included |
| Constraints identified | SPMT and trailer asset shortages Ports and equipment Limited vessel availability shortsea as well as long haul |
| Methodology | Initial understanding of what a wind turbine will look like 3-5 years later |
| Skills | The Wind Logistics Group cannot resolve this project idea alone and additional skills and competencies need to be infused (logistics companies, vessel operators, and others) |
| Things to watch out | Traditional “catch 22” of whether OEMs should issue “requirements specifications” versus providers should innovate: Idea is to get together... |

Volunteers:

| | |
|------------------------|--|
| Speedboat captain | BBC Chartering (Mads Poulsen) |
| Speedboat crew members | Siemens Gamesa (TBD), NorSea Denmark (Hans Jepsen), LM Wind Power (Anne Håkansson), Head Energy (Anders Frederiksen), MHI Vestas (Lars Harrit), R&D (Soren Kellenberger), Energy Innovation Cluster (Christian Munk Jensen), DIS (TBD) |

Notes prepared by Thomas Poulsen, November 14, 2019
Notes reviewed by Anne Håkansson, Mads Poulsen, and Anders Frederiksen, November 18-19, 2019

www.tinv.dk www.windlogisticsgroup.com www.windscm.com

3b. Lack of USA infrastructure

- Who are the member companies?
 - DIS (formerly captain)
 - Vestas
 - NorSea
 - DHL Global Forwarding
 - KK Wind Solutions
 - Siemens Gamesa Renewable Energy

NEW (June 18 meeting)


NEW (June 18 meeting)

3b. Lack of USA infrastructure - activity so far

- Group met online on April 22, 2020
 - DIS, Vestas, NorSea, DHL Global Forwarding, DSV, TINV/Panticon
- A subsequent information request was issued on May 11, 2020
- Results to be collated and shared

Speed boat opportunities:

- New captain sought
- More members needed



Wind Logistics Group
USA infrastructure speedboat
November 2019 – May 2020

Original project idea title: Lack of USA infrastructure for offshore wind

Summary of November 4, 2019 group discussions:

Funnel criteria: Believed to meet criteria of ROI, Scalability (can be run for Asia-Pacific markets in parallel), Geographies (US East Coast and US West Coast), Time to complete, and Skills

Scoping: Onshore and offshore wind infrastructure (not just offshore)

Geography: Focus on US East Coast first (US West Coast 2nd priority)

Supply chain: Inbound, port, and outbound (outbound for onshore wind only)

Modes of transport: Road, rail, barges, port, cranes, space, land

Timing: Project can be completed by working group in 6 months' time using a 3-staged methodology

Methodology:

1. Mapping of issues/challenges (for example port capacity, storage/space needs, equipment, trailer shortage, quay side, etc.)
2. Feasibility study (with upsides for example HSSEQ, standardization, risk mitigation) which to be reviewed with Wind Logistics Group when completed
3. Business case (funding secured if business case is positive and activity can be realized in 2020-2021)

Skills/competencies: Wind Logistics Group is not able to realize this project internally. External skills will be needed especially legal support, US ports/infrastructure providers, and key US stake-holders (suppliers, OEMs, operators/developers)

Things to watch out for: Legislation, political context, and local contents requirements

Volunteers:

Speedboat captain DIS (Morten Basse)

Speedboat crew members Vestas (TBD), DHL (Dorte Frandsen), NorSea Group (Knut Magne Johannessen)

Notes prepared by Thomas Poulsen, November 14, 2019
Notes reviewed by Morten Basse and Dorte Frandsen, December 4, 2019

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3. Restarting the work with the speed boats

✓ **Get a meeting booked:**

- The speed boats need to reconvene online or face-to-face

✓ **Set an agenda:**

- We need to pick up from where we reached last time
 - Scoping
- An agenda needs to be agreed

✓ **Speed boat organization needs revisiting:**

- Leadership
- Member organizations and third party companies on speed boat

4. Around the room

Your thoughts and input

Company by company

4. Around the room

Company by company:

1. Impact of COVID-19 to transport, logistics, and shipping
2. Impact of COVID-19 to our meeting schedule
3. Comments to ongoing speed boat efforts

5. Wrap-up

Actions

Next steps

Date in calendar

5. Any other busines

- Wind Logistics Group promotion

- Our initial press release in October 2019 [[Link](#)]
- MDC TITBITS September, 2020
 - Half an hour over lunch
 - Tuesdays, Wednesdays, or Thursdays
 - Interesting talk for 15 minutes and Q&A



- BreakBulk Europe conference and exhibition -> May 2021
 - Wind logistics white paper
 - Online panel
 - Event itself



5. Wrap up, actions, and next steps

- We heard from you
- We discussed how to revitalize the speed boats
- The effects of COVID-19 were discussed

Thank you for joining up today!

Next face-to-face meeting:

Tuesday, September 22, 2020

NorSea Group Denmark, Esbjerg

1200 – 1600

...and after work (gå-hjem)

1600 – 1800

Second 2020 meeting proposed:

November 19, 2020

Maybe ***LM Wind Power*** by then?

***We must have a dial-in option for these meetings
to support the face-to-face element***

Thank you for today's meeting!

We meet again (online or face-to-face) on September 22, 2020
- details will be advised