



The Danish Pilot – Offshore wind and tourism

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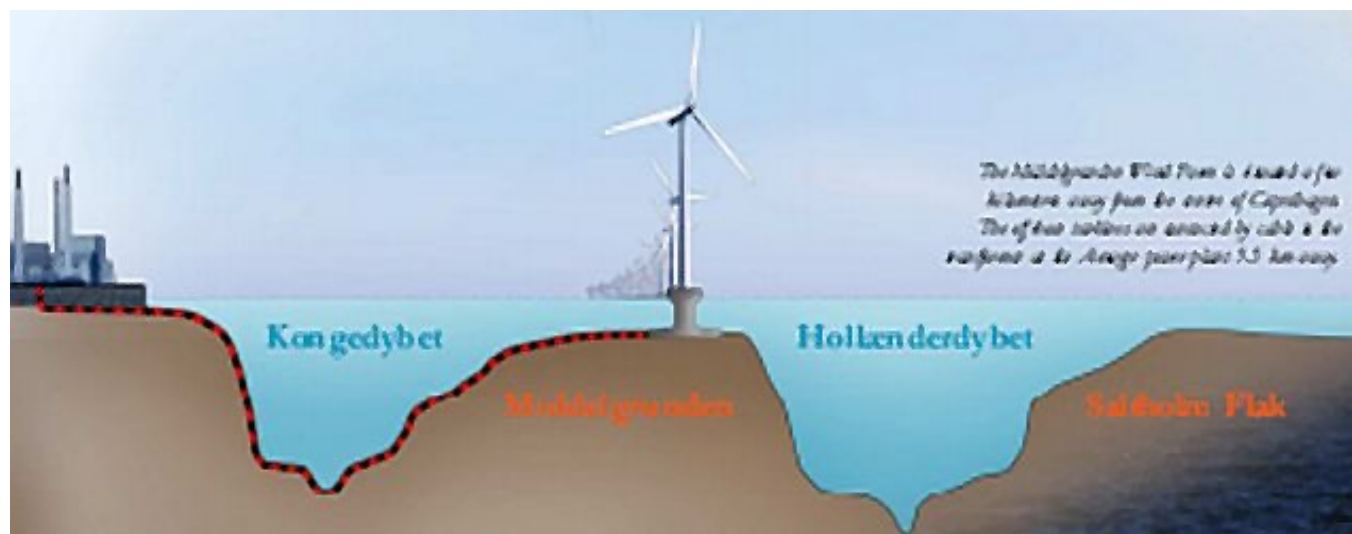
Middelgrunden Offshore Wind 40MW

Basic information

- Situated just 3.5 km off the harbor in Copenhagen, Denmark.
- Established 2000 as the largest offshore wind farm in the World.
- Delivering 3% of power to Copenhagen.
- Two owners each 50%:
 - ❖ HOFOR (Copenhagen Municipality) and
 - ❖ A Cooperative with 8,000 members
- Lease of the seabed ends 2025; repowering ongoing.

Danish Pilot:

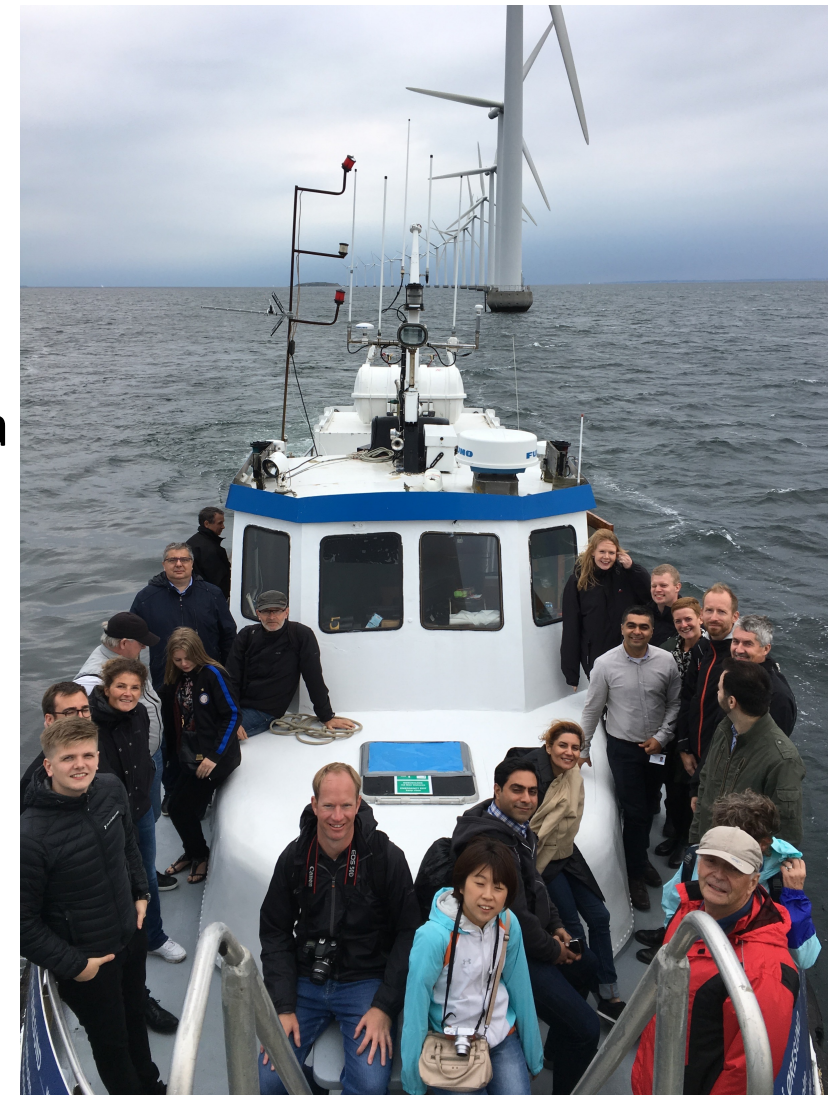
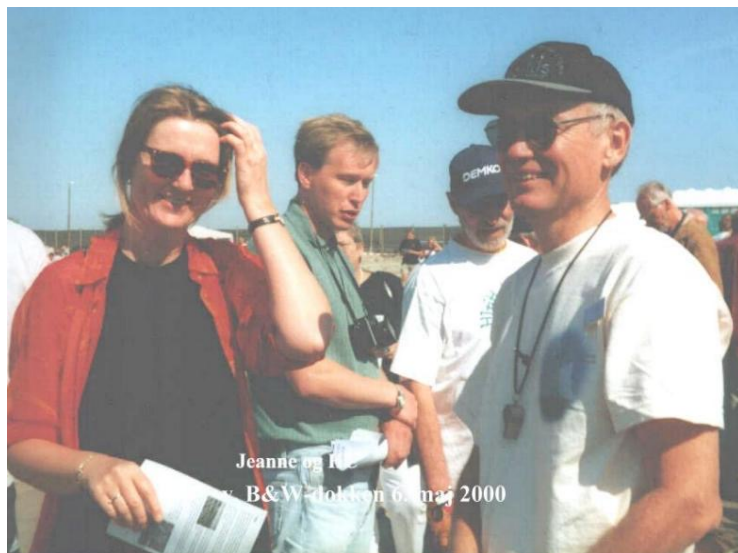
Combining offshore wind and tourism



Visiting the windfarm is an old tradition in Denmark

Since 2000 at Middelgrunden Wind

- We started already during the construction phase having 1600 people visiting the building site.
- Owners have been invited to visit their wind farm 3rd Sunday in June (windmill day).
- At the open day: we have 150-200 people every year on a sailing trip including climbing the turbine.



Why tourism in combination with offshore wind?

And whom could do it

- Promoting wind
 - The owner of the wind farm
 - An association related to wind or RE
- Boat operators and tourism agencies
 - Can add business to already existing boat ad guided tours

For the Danish pilot: there is no business in doing it other places in Europe.

Activities 2017-2023

Number of tours

Business	2017	2018	2019	2020	2021	2022	2023*
Trips	31	35	48	4	13	75	67
Guests	676	930	1117	130	246	1687	1569
1.000 €	38,9	44,3	55,6	4,4	19,5	102,1	111,7

* In 2023 only ½ year

In 2022-23 50% of the tours included climbing.

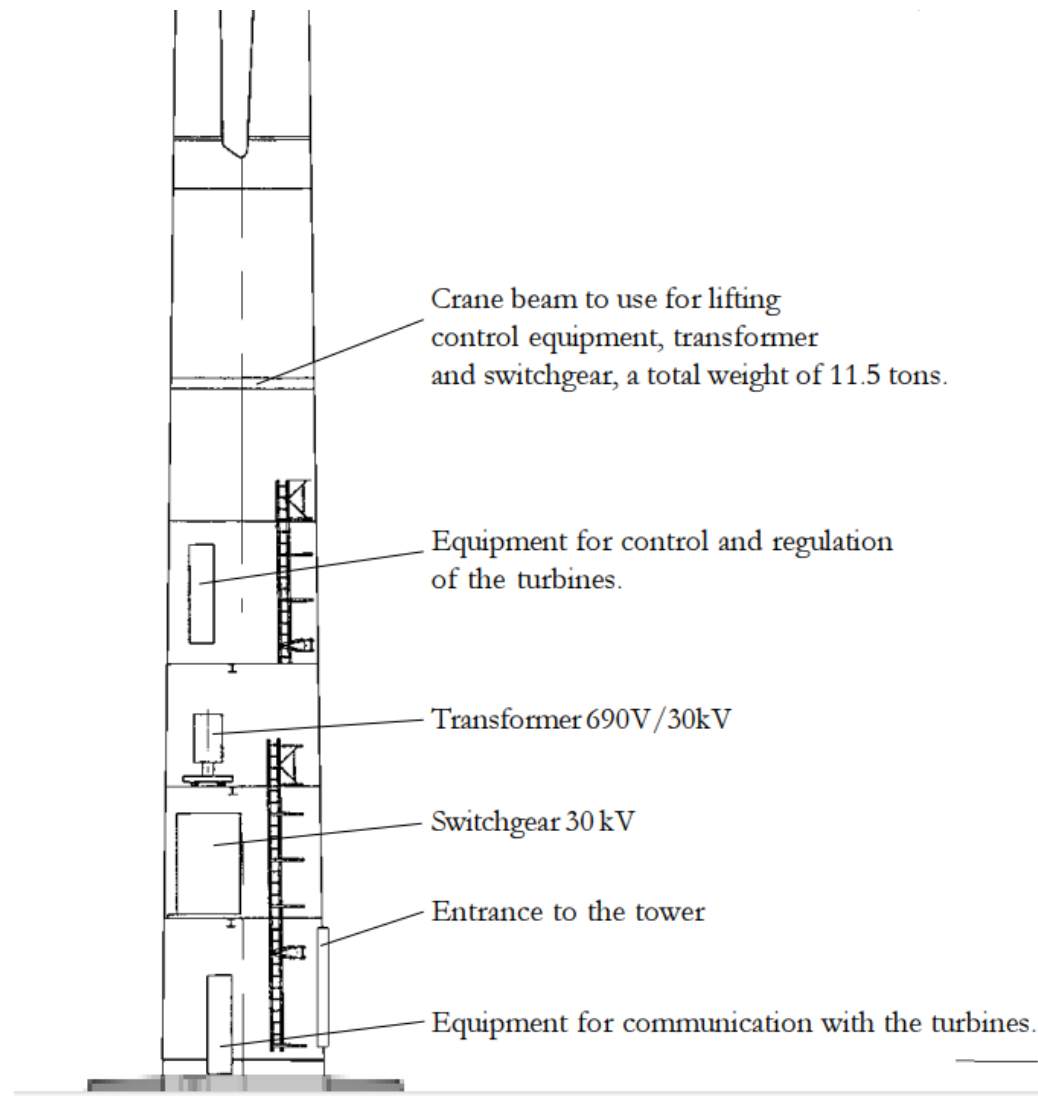
In 2017 - 2019 only 30% were climbing.



How to get started

What you need

- A positive wind turbine owner
 - At least so you have permission to sail around/close to the wind farm
 - If climb, a suitable wind turbine with floors



What do you need

Boat operators willing to invest a little and guides to tell the story



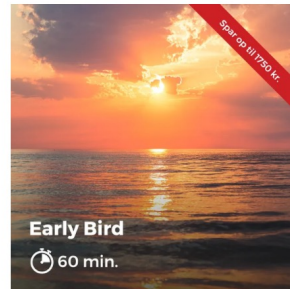
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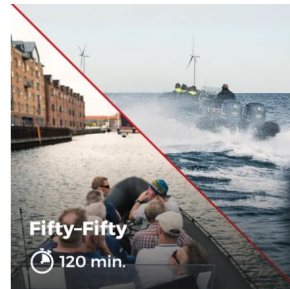
All Our Tours

Showing 1–12 of 25 results




Early Bird
⌚ 60 min.

Price Fighter
Early Bird
<https://ribalex.dk/webshop/product/early-bird-en?lang=en>



Fifty-Fifty
⌚ 120 min.

Special
Fifty-Fifty



Off-Shore Windmill Climbing
⌚ 90 min.

Special
Offshore Windmill Climbing

Demands for the boat operators

Safety rules

- You are allowed to sail to the turbines – this may not be the case all over the World!
- The safety rules:
 - On the boat: the captain
 - From the boat to the foundation: Like approaching a harbor – the captain
 - Entering the turbines is a question between the owner and you

With a large boat for 30 people a stair has been installed to give easy and safe access.



Demands for the boat operator

New boat: Zodiac – special safety rules



Signature Statement visits Middelgrundens wind turbines. 2021 -

The trip out to the mills and the climb up in them is both a physical challenge and an experience out of the ordinary, but it is also a practical and security challenge. Therefore, it is essential that all guests read this statement carefully and agree to these conditions and precautions. Persons under 18 may participate if accompanied by a parent who must stand as a signatory below.

This statement is part of the COOP's emergency plan.

When ascending the mill requires that:

- I am not under the influence of alcohol, medicine, or drugs,
- I do not suffer from claustrophobia or fear of heights,
- I do not suffer from circulatory disturbances, dizziness, epilepsy, etc. and that,
- I am in good physical shape and not have significantly reduced mobility.

I must pay attention to the markings that are set up in different parts of the mill and respect the instructions given by the guides and staff. At the ladder's in turbines applies that there may be only one person at each section, a maximum of three people on each floor (there are 11 floors) and a maximum of 18 people up in the nacelle – if not more accepted by the guide.

To ensure a steady flow of guests in the mill, it is important that the fastest guests climb up first, but waiting to study the interior of the tower until they are on their way back down. Generally, you must give way to the guests coming down, except if you get a different message from the guides.

Secure loose objects such as mobile phone, camera, video , etc. to be carried in a pocket or small bag with zipper . It is recommended to take rings or to take work gloves while climbing on ladders. Gloves are usually provided by the guide.

When passing from the vessel to the turbine foundation, both hands to be free, and the instructions of the guild and the ship's crew must be strictly followed. When needed safety vests are provided.

Because of risk of dirt and grease in the boat and wind turbines, it is recommended that you wear practical clothes and shoes with rigid non-slip soles. In addition, you should bring a rain jacket (if weather forecast gives risk of rain), a bottle of water and some fruit or chocolate.

In addition to these formal measures, we hope that all guests will positively contribute to the event by being patient in the event of delay and by showing respect for the other guests, so we all have a good experience with us home.

I certify by my signature that I agree with the above conditions and to the whole event takes place at your own risk and that there cannot be any liability claim against Middelgrundens Wind Coop or SPOK ApS in relation to the destruction or theft of clothing or personal items.

Date:

Name & signature:

Name & signature

[illegible]

Office: +45 3536 0219

CVR-#: 25 04 21 82

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SPOK ApS

Frederiksborggade 1 – 4tv

DK-1360 Copenhagen K

Zodiac with access from the sea level and a ladder outside the foundation – safety suit depending on water temperature; life jacket compulsory.

The Zodiac is more sensitive to the weather.

Increase of windspeed during the visit can result in difficulties to reentering the RIB.

Safety instruction to be signed for Insurance reason.



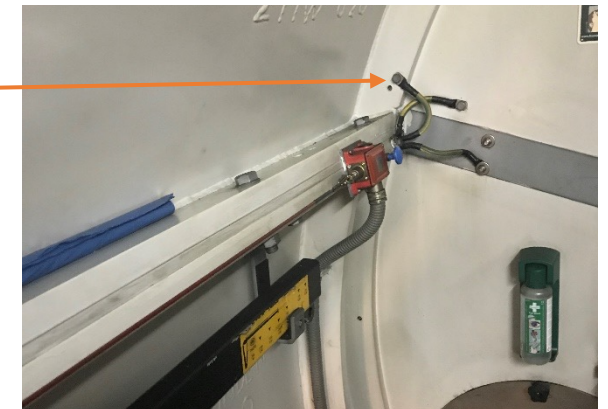
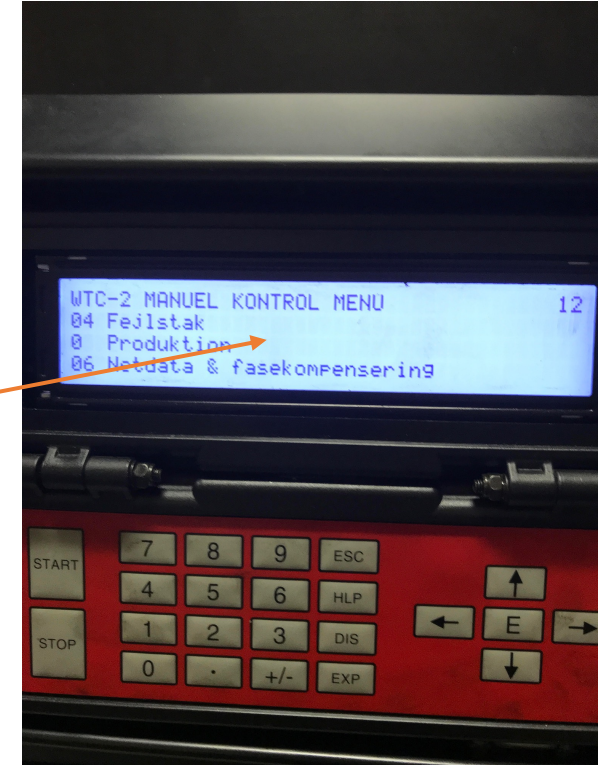
Demands for the guides

Establish a manual and do training course

New guides must follow a training course focusing on:

- How to stop/start the production
- Instruction about safety
- How to open the Nacelle
- How to reset after activating the emergency stop
- Etc.

Remember: The standard rules are covering service people entering the turbine during production and equipped with safety equipment and having followed a safety course. We are not service people!!



If visits are not possible

Virtual visits

Three videos in Danish and English about

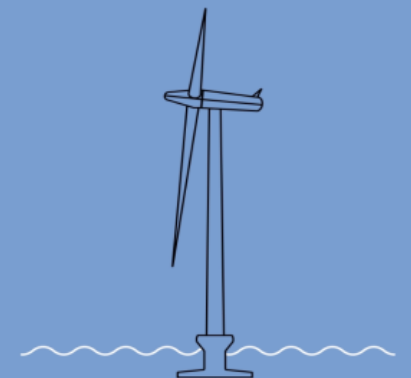
- The visit
- The construction



<https://www.h2020united.eu/pilots-denmark>



Therefore in the construction of an offshore wind farm, it is always the purpose to carry out as much onshore work as possible



Where could this be implemented?

Use the Middelgrunden wind farm multi-use model to maximise local socio-economic benefits & ensure acceptance of your project

- It is much more than a travel experience and a guided tour:
 - It is an eyes' opening for many:
 - Size of a turbine and possible visual impact
 - Possible noise impact
 - Distance to shore and populated areas
 - Something unique – even for people working in the sector for decades
 - Let's you feel the (challenging) offshore environment – unknown for the majority





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