

Market dialogue

Energy Island Bornholm - Offshore wind farm
And other future upcoming procurements of offshore wind farms

Energy Island Bornholm

Accelerating energy transition with the
first energy island in the Baltic Sea

Energy Island Bornholm

Will enable a leading position in the energy transition in the Baltic Sea



Capacity of 3 GW and connection to Zealand and Germany.



Location of the offshore wind farm is up to 15 km from the shore.

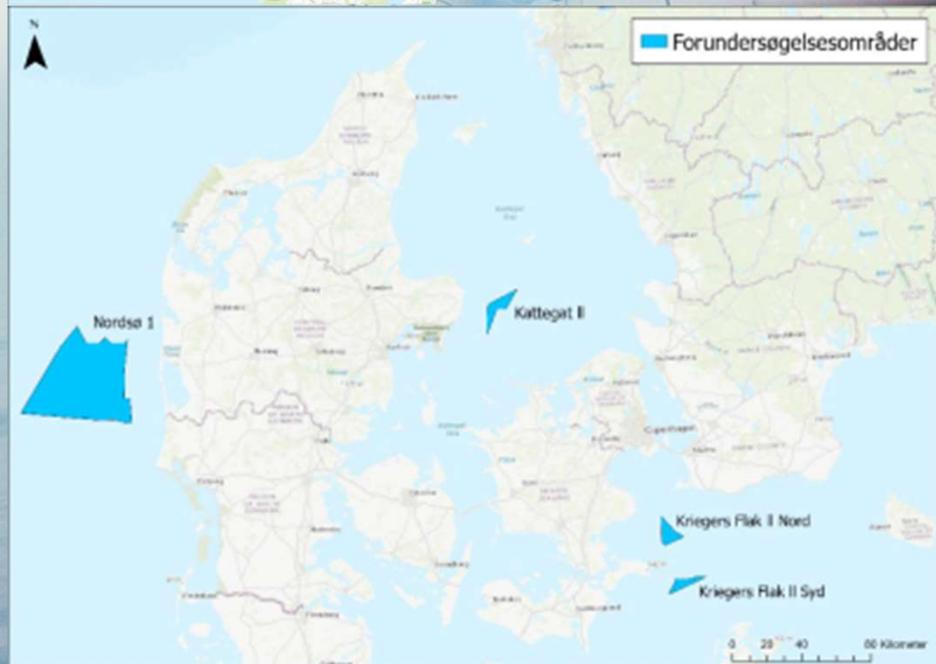
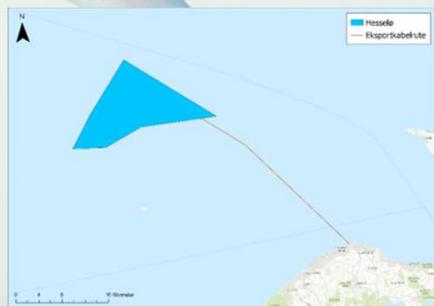


The capacity can rise up to 3,8 GW, if overplanting is allowed.



The capacity can, on private initiative, be used by the concessionaire for Power-to-X.

Offshore windparks towards 2030 and beyond



Today 2.3 GW capacity

2023 +0,35GW

2027 +1 GW

2030 +9,2 GW

2033 +3 GW

2040 +7 GW

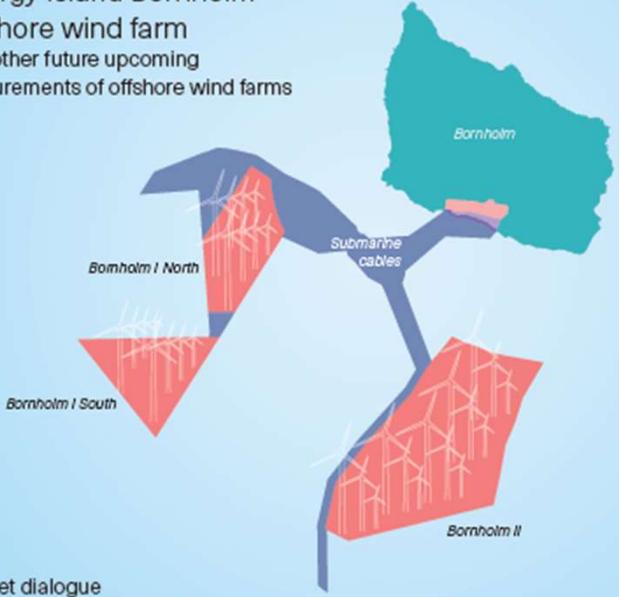




Danish Energy Agency

Invitation to dialogue

Energy Island Bornholm offshore wind farm and other future upcoming procurements of offshore wind farms



Market dialogue
July 2022



Danish Energy Agency

- The market dialogue gives you the possibility to affect the framework of the upcoming offshore wind farm by Energy Island Bornholm.
- The goal is to achieve a good dialogue, in order to make sure that the upcoming procurements are as good as possible.

The Agenda

-Henrik Gaardhøj Pedersen

Agenda

1. Presentation of Energinet and Copenhagen capacity.
2. The program for today

Knowledge present today

Participates physically:	Online:
Aker Offshore Wind	ACTEON
Andel	BASF
BASF	Bouygues Construction
British Embassy Copenhagen	COWI
Building Network	Energinet
Business Center Bornholm	European Energy
CIP - Copenhagen infrastructure partners	Equinor
Copenhagen Capacity	Gate 21
Dansk Erhverv	Gorrissen Federspiel
Decisions Risk Analytics	Hegelund Advice
DHI Group	Horten
Embassy of Spain in Denmark	Meridiam
Energinet	Ministry of foreign affairs of Denmark
Bornholms Kommune Energiø Bornholm sekretariatet	Omexom
Equinor	Rasmussen Global
Green Power Denmark	ScottishPower
JandenuL	Shell
Klimarådet	SSE
Lhyfe	Stiesdal
Ministry of foreign affairs of Denmark	Sund og Bælt
Omexom	TotalEnergies
Ørsted	WindEurope
Parkwind	
Pattern Energy	
Rambøll	
RWE	
Shell	
Sweco	
Tænketanken hav	
Vattenfall	
WorldPower Consulting ApS	

- More than 30 companies and organizations present and online today
- Danish Energy Agency
- Energinet – the Danish TSO
- Copenhagen Capacity

Market dialogue agenda

Time	Topics	Keynote Speaker
12:45	Arrival and registration	
13:00	Welcome	Henrik Gaardhøj Pedersen
13:05	Introduction of Energy Island Bornholm and other future offshore wind farm procurements <ul style="list-style-type: none"> • Energy Island Bornholm • Other offshore wind farm procurements towards 2030, and the overall plan for the DEA's activities relating to offshore wind 	Mogens Hagelskær Jonas Axelgaard
13:25	The program for the afternoon <ul style="list-style-type: none"> • Framework for the market dialogue and summary of the program for the afternoon • Introduction of the keynote speakers, the DEA, Energinet and Copenhagen Capacity 	Henrik Gaardhøj Pedersen
13:30	Energy Island Bornholm <ul style="list-style-type: none"> • Description of the project – geographical area, size, and which parts of the project still needs to be decided upon • Timetable for Energy Island Bornholm 	Michal Andrzej Orzelek
13:45	Coffee break	

Market dialogue agenda

Time	Topics	Keynote Speaker
14:00	Preliminary site investigations around Energy Island Bornholm <ul style="list-style-type: none"> • Site investigations • Purpose of site investigations • Environmental permits completed by DEA & ENDK prior to final bids 	Maj Holst
14:15	Support mechanisms <ul style="list-style-type: none"> • Possibilities for support mechanisms for Energy Island Bornholm and other offshore wind farms • Transfer of costs related to transmission infrastructure 	Rasmus Zink Sørensen
14:30	Electricity market arrangements <ul style="list-style-type: none"> • Bidding zone configuration • Direct lines connecting PtX or other load 	Jonas Katz
14:45	Coffee break	
15:00	Energy Island Bornholm – substation and grid connection <ul style="list-style-type: none"> • Land areas / footprint • HVDC converters and technical interface • Grid connection 	Energinet: Bent Sømod Erman Temur Flemming Brinch Nielsen
15:45- 16:00	Conclusion and next steps in the process	Henrik Gaardhøj Pedersen

Energy Island Bornholm

Michal Orzelek

Agenda

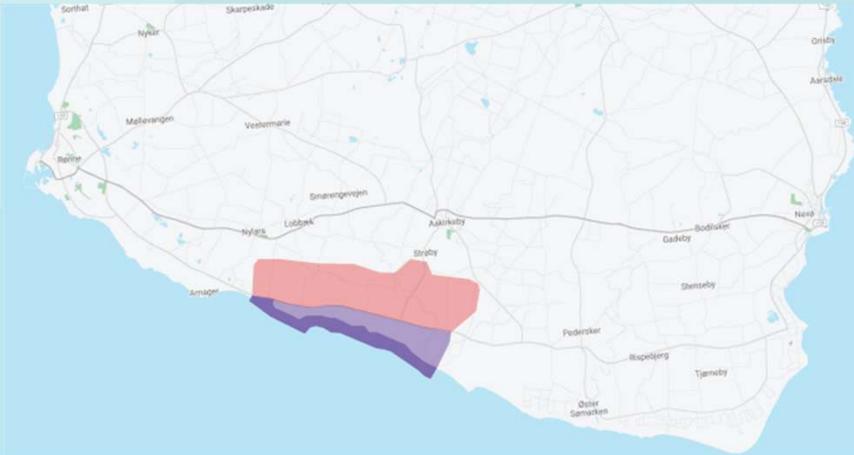
1. Description of the project – geographical area, size, and which parts of the project still needs to be decided upon
2. Summary of the timetable for Energy Island Bornholm

Description of Energy Island Bornholm



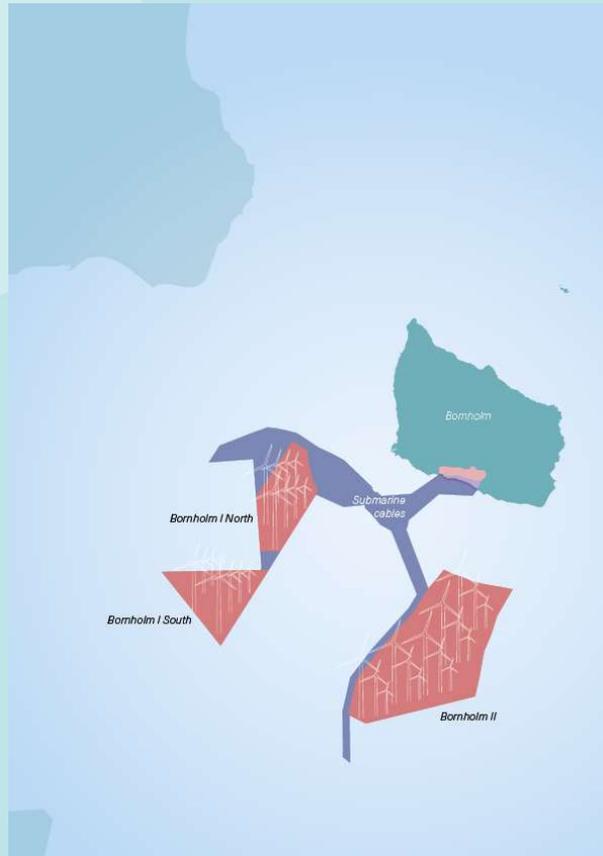
- Capacity 3 GW
- Connection to Zealand and Germany
- 15 kilometres southwest of Bornholm

Description of Energy Island Bornholm



- No artificial island needs to be constructed
- Onshore substation on Bornholm
- Technical questions related to the grid connection and the substation will be covered by Energinet in their presentation later today

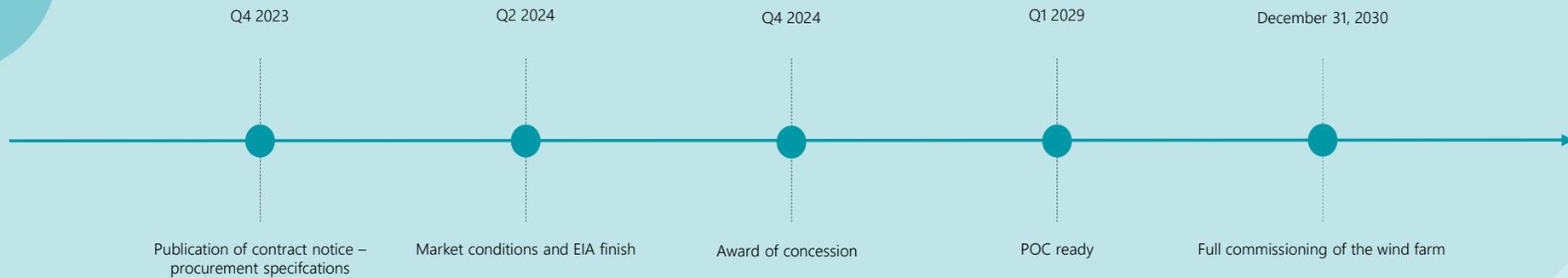
Description of Energy Island Bornholm



- Three different sub-sites Bornholm I North, Bornholm I South and Bornholm II
- Division made due to considerations for environmental protection zones, sailing routes etc.
- Seen as one project and one procurement. The final decision not made yet – do you have any inputs or comments?

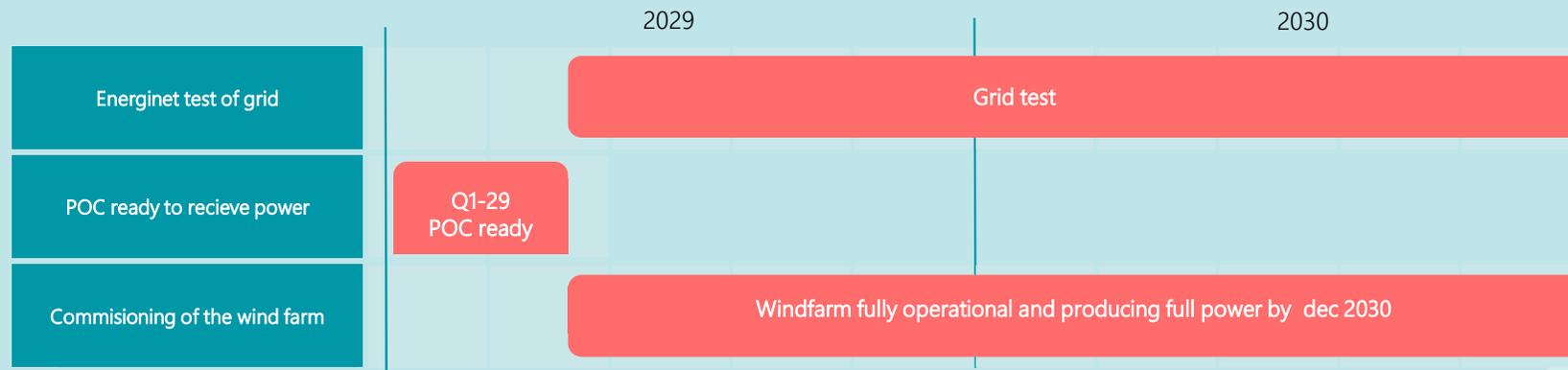
Timetable of Energy Island Bornholm

- The milestone in the timetable for Energy Island Bornholm
- 6 years from contract to full commissioning



Timetable of Energy Island Bornholm

- Energinet's test of the grid will be made simultaneously with the commissioning of the wind farm
- Two summer seasons – is it enough time? Can it be made even quicker?



Questions

Break
The event will continue at 2 pm

Preliminary site investigations & permits

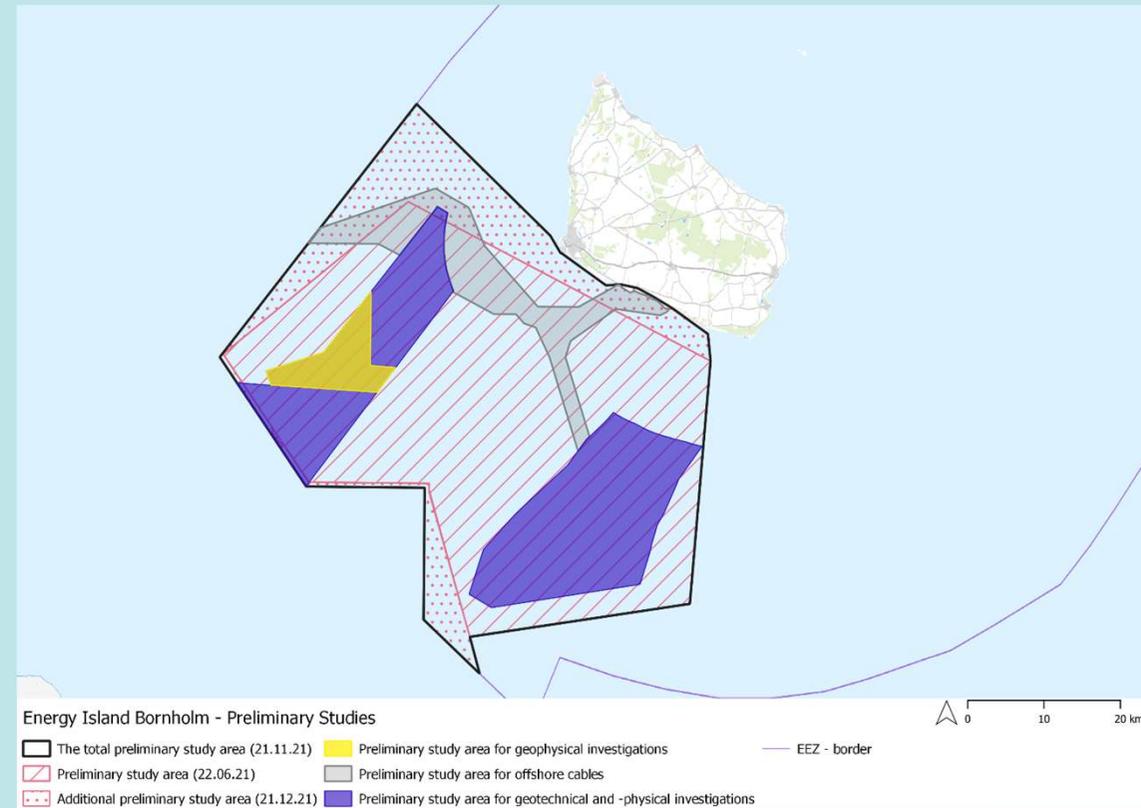
Maj Holst

Agenda

1. Site investigations
2. Purpose of site investigations
3. Environmental permits completed by DEA & ENDK
prior to final bids
4. Questions

Site investigations

1. Geophysical and geotechnical surveys
2. Metocean measurements
3. Environmental surveys
Benthic flora and fauna, Fish and fish populations, Birds, Marine mammals and Bats
4. Desktop studies and analyses -
Fisheries, Underwater noise and vibrations, Radio, radio interference and Air traffic and Maritime traffic and safety of navigation



Purpose of site investigations

- To map the site
- To save time for the concession owner
- To give the concession owner a solid foundation for the project planning and EIA process

Environmental permits completed by the DEA and ENDK *prior* to final bid

1. Overall plan (and SEA)

- Sets the frame for coming project
- SEA: Identifies sensitive species and habitats
- SEA: Indicate potential mitigation measures

2. Completion of environmental surveys & studies

3. EIA permit for the connection to the onshore facilities at Bornholm (provided by ENDK to concession owner)

Questions

Support mechanisms

Rasmus Zink Sørensen

Agenda

1. Transfer of cost
2. Support mechanism

Transfer of costs related to transmission infrastructure

- Energinet will establish, own and operate the Danish part of the transmission infrastructure, which is necessary for OWF-concessionaires to get access to the existing transmission network.
- Congestion income cannot cover the full cost of the transmission infrastructure.
- Political aim: **Avoid increasing consumer tariffs.**

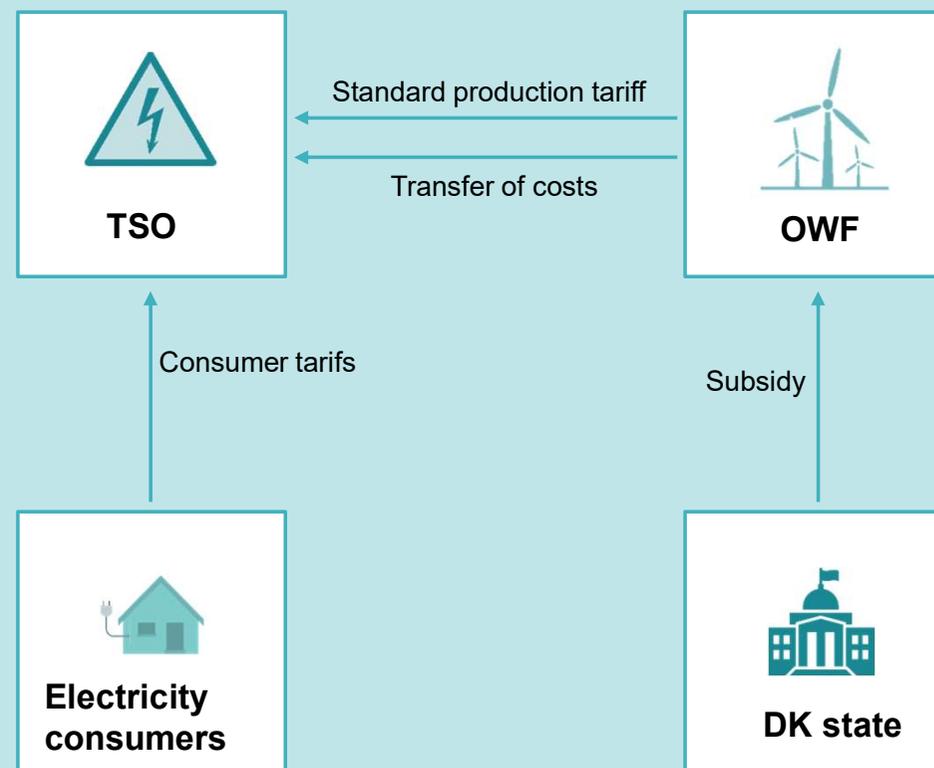
Transfer of costs related to transmission infrastructure

Political agreement of 1 September 2021:
Energinet's net cost related to transmission infrastructure for the Energy Islands shall be transferred to the OWF-concessionaires to as great an extent as possible.

The method of payment has not been finally decided but will be described in the final procurement specifications.

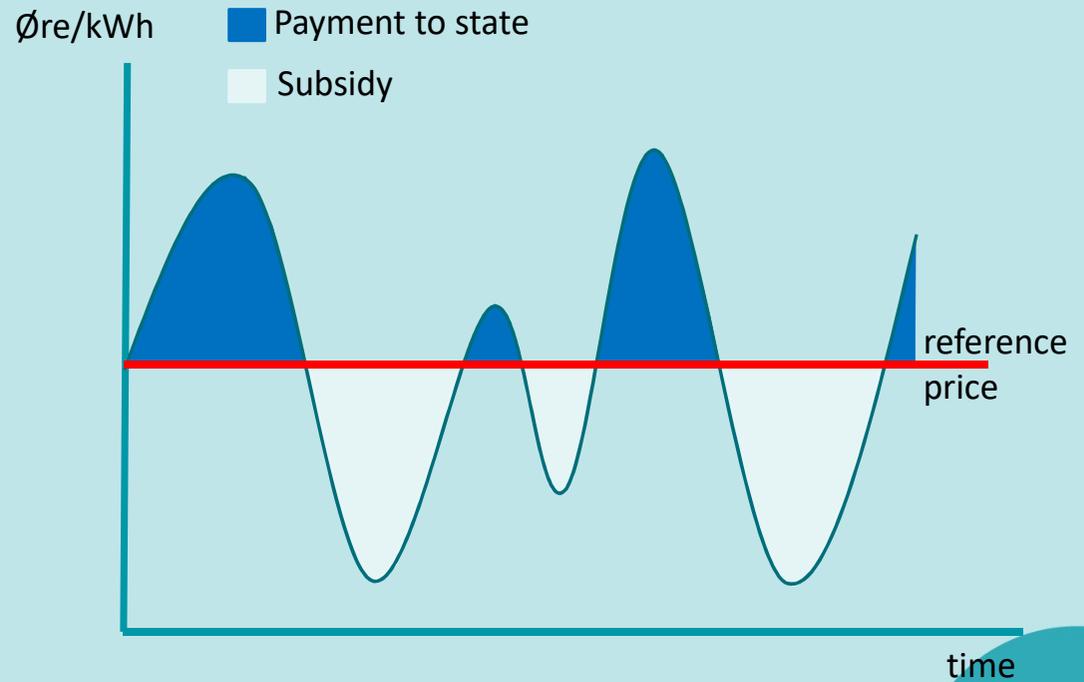
Working assumption:

Annual fixed tariff of approx. 1 bill. DKK



Subsidy

- Historically: two-sided CfD
 - Modification: payment to state withheld from future subsidy payments
 - Kriegers Flak, Anholt



Subsidy

Thor

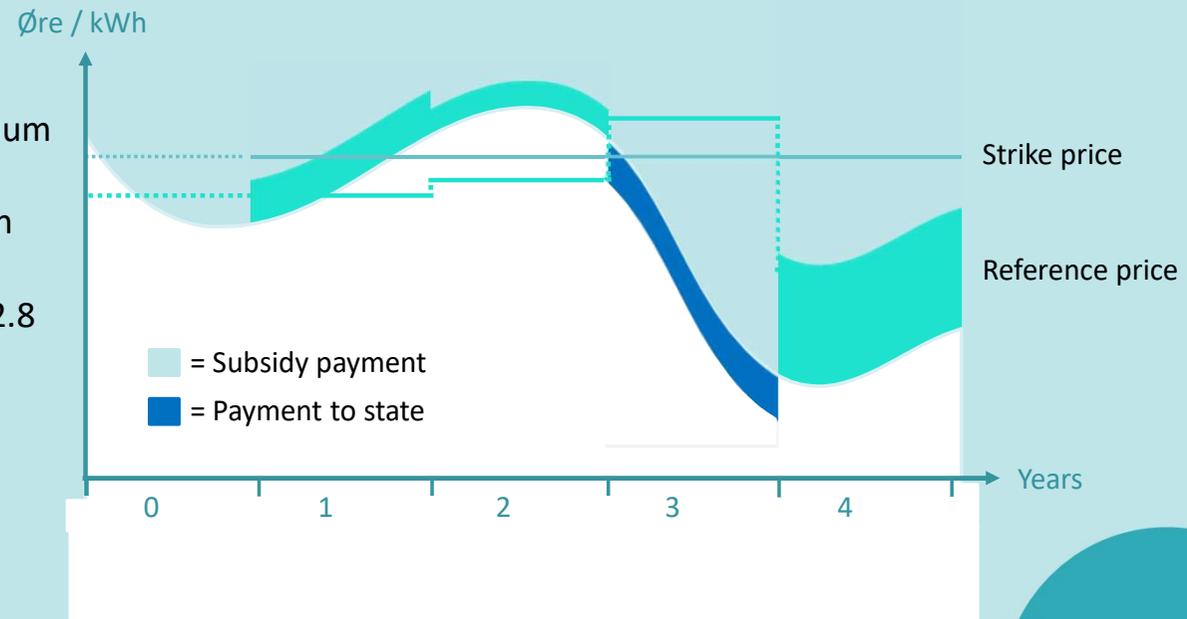
• Modified two-sided CfD

- Two-sided CfD in the long run, fixed price premium within each calendar year
- Caps on payments for both state and concession holder
- Minimum bid price 0.01 øre/kWh: payment of 2.8 mil. DKK to state

• Result

- 5 bids on minimum price
- Draw to decide winner
- RWE declared winner
- Payment of 2.8 mil. DKK to state

• Need for revision in case of new subsidy scheme



Subsidy

Thor and results from tenders around the world indicate new era without subsidy

- Some sites may still need subsidy to be developed

Subsidy in coming tenders

- Some offshore wind parks can be tendered with the possibility of a subsidy
 - Hesselø, Bornholm
- Other parks cannot receive subsidy
 - 1 to 4 parks included in the 'Danmark kan mere II' agreement
- To be clarified: 2 parks park from the 'Finanslov 2022' agreement

Process

- Ministry of Climate, Energy and Utilities is working on a proposal for a new subsidy scheme
- Political negotiations in connection with decision on all parks to be established before the end of 2030.

Questions

Electricity market

Jonas Katz

Agenda

1. Electricity market and bidding zone configuration
2. Overplanting and connection of Ptx and other Load

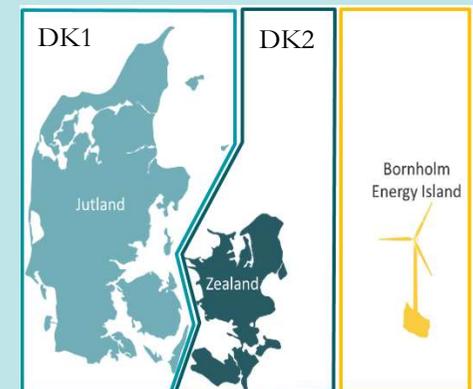
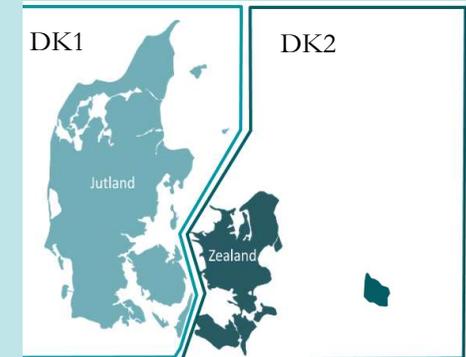
Electricity market

The European Commission offshore strategy recommends offshore bidding zones for hybrid projects

- more cost-effective decarbonisation
- provide a level playing field for all forms of energy generation and demand response
- ensuring compliance with cross-border trading rules

Establishing new bidding zone will follow European legislation

- Electricity Regulation (EU) 943/2019
- Guideline on Capacity Allocation and Congestion Management 1222/2015 (CACM)
- Includes stakeholder consultation



Overplanting and connection of PtX and other load

- The DEA is considering allowing the possibility for overplanting in the upcoming procurement specifications.
- The DEA considers allowing the concessionaire to add storage or PtX installations to the electricity production plant
- Please note that, for Energy Island Bornholm, even if allowed, PtX will not be a part of the initial EIAs.

Background

- New strategy to promote and navigate the future development of Power-to-X (PtX) projects in Denmark (15 march 2022)
- Direct lines, between electricity consumers and producers behind the meter, is part of the strategy.
- A bill containing new provisions for direct lines is expected to be introduced into the Danish parliament in the autumn of this year.
- The bill proposes an application-based permission process to construct a direct line provided such connection is sufficiently socio-economically beneficial.
- If the Danish parliament passes the bill, market participants will be able to apply for a direct line from the beginning of next year.

Questions

Break
The event will continue at 3 pm

Next steps after today

1. Next market dialogue planned in 2023 with expected topics:
political decision prior the dialog in 2023 on e.g tender conditions, Location of new offshore wind farms.
2. Deadline for answering our questions to this market dialogue is set to
12 September
Write to Energyislands-EOB-OWF@ens.dk
3. There are still a few vacant 1:1 timeslots for potential tenderers – last chance today
4. Latest materials can be found at
www.ens.dk/energy-island-Bornholm-procurement

Thank you

