



# Market survey about demand for Danish Backbone West

## Introduction:

On April 5, the Danish Government and seven other parties agreed to make financing available for Danish Backbone West on five conditions. One condition is that the market must book 1.4 GW in a 3 GW system (approx. 44%) for 10-15 years. Energinet has completed a market dialogue with 30 different respondents about how to collect these user commitments. We have decided that Step 1 will not be financially or legally binding, but rather a market survey with an emphasis on maturity. Step 2 will be a binding capacity sale.

This is the market survey for Step 1, and it is very important that anyone who wishes to use Danish Backbone West in the future makes their demand clearly known now. The results of this survey will be used for political discussions about potential re-scoping in Q3 2024 and for the business case that Energinet is preparing for our conditional investment decision in Q1 2025.

## Instructions:

Please make sure to do the following:

- Respond by EOD 5 May 2024.
- Fill out one survey per project that you are developing.
- If you have a project consisting of phases with varying maturity, fill out one survey per phase.
- Send the Excel document for questions 16 and 17 and documentation of your project's maturity to [cru@energinet.dk](mailto:cru@energinet.dk) and [kkn@energinet.dk](mailto:kkn@energinet.dk).
- Clearly state your project and company name in email subject lines and document titles; if possible given file sizes, send one email per project.
- Align responses with relevant company management.
- Note that it is possible to flip between pages when you are filling the survey out, but you cannot save the survey and return to it later.

Your responses will be treated confidentially and reported on an aggregated basis.

## Current status on information package subjects (which will be released in June and September 2024):

- For the overview of the physical project, we have just shared our latest map, and will add e.g., pipeline sizes.
- Market conditions will be clarified in a description of the expected entry-exit model, roles, third party access, etc.
- Energinet has just published a discussion paper about balancing on our Hydrogen Market Dialogue website, and the information package will incorporate the market's comments.
- Energinet will provide a preliminary framework for hydrogen quality specifications.
- Germany has agreed on a financing model and the TSOs have until 21 May 2024 to submit their Kernnetz applications; we will address any additional updates in the information package.
- Energinet will provide an update on the expected tariff methodology (to be approved by the Danish Utility Regulator) and the inter-temporal cost allocation mechanism (to be implemented by the Danish Energy Agency).
- Energinet will update the transportation cost calculation from our Feasibility study.
- The Danish Energy Agency will disclose draft legislation about hydrogen grid connections in the coming months, which the information packages will address.
- Energinet will provide information on first filling of the pipeline to reach the required operational pressure.

\* Påkrævet

## Background about you, the respondent:

1

What is your name? \*

2

What company are you employed in? \*

3

What is your position in the company? \*

4

What is your company's CVR number? (International numbers also acceptable). \*

5

What is your company address? \*

6

What is your phone number? \*

Show country code in numbers (e.g. 004510203040 for Denmark).

Værdien skal være et tal

7

What is your email address? \*

Please double check your response, so we can send you a receipt for this survey.

8

Please share the company names of any partners/co-developers that you have in this project:

9

May Energinet contact you regarding your response to this survey? \*

Yes

No

## Information about your project and demand for Danish Backbone West

10

What is the name of the project or project phase that you are answering this survey about? \*

11

What is the purpose of your project? \*

- Hydrogen production
- Hydrogen offtake
- Both hydrogen production and offtake
- Andet

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Where is your project located? Please share coordinates (ETRS89/UTM Zone 32 N), municipality or postal code or write "N/A" if you do not have a specific location. More granular answers (coordinates) can better inform our technical work. Full-size map is on the Hydrogen Market Dialogue webpage. \*



13

In what year do you expect to take final investment decision? \*

14

In what year do you expect that your project will enter into operation? \*

15

If possible, Energinet would like you to describe other important milestones for you between now and your final investment decision and operation.

16

Show your demand for Danish Backbone West via the Excel template on Energinet's website. \*

- Yes, I will send the populated Excel template to [cru@energinet.dk](mailto:cru@energinet.dk) and [kkn@energinet.dk](mailto:kkn@energinet.dk) along with the documentation requested in the maturity assessment later in this market survey.

## Need for hydrogen storage

This section will explore the market's need for flexibility within Danish Backbone West, focusing on the utilization of storage. Flexibility is defined as the residual between hydrogen production and consumption for a system user. When considering your need for flexibility and expected usage of hydrogen storage, it is important to take into account that the hydrogen transmission system will be established to deliver transport capacity, and will only contain a limited level of short-term linepack flexibility, based on unutilized transport capacity. Please also see Energinet's discussion paper on hydrogen balancing, which was recently released for consultation.

17

Show your need for storage via the Excel sheet on Energinet's website. \*

- Yes, I will send the populated Excel template to [cru@energinet.dk](mailto:cru@energinet.dk) and [kkn@energinet.dk](mailto:kkn@energinet.dk) along with the documentation requested in the maturity assessment later in this market survey.

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How often do you expect to utilize your storage flexibility? Please prioritize the options below from most to least important and pull "I do not need storage flexibility" to the top if relevant. \*

Hourly
Daily
Weekly
Monthly
Seasonally
I do not need storage flexibility

19

As of which year do you expect to need access to hydrogen storage?

According to the build-out plan proposed in Energinet's feasibility study, Lille Torup will not be connected until 2030 at the earliest.

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## Maturity assessment

As stated in this market survey's introduction, the following maturity assessment plays a highly important role with respect to unlocking state financing and informing Energinet's investment decision. Energinet intends to sort the capacities requested in question 16 by geography and high, medium, or low maturity.

To categorize a project as having high maturity, Energinet will particularly pay attention to your responses regarding land, permitting status, electricity supply, and agreements with key component suppliers. The other milestones can only add to your maturity. Given the market's immaturity and the diversity between projects, Energinet has not set a rigid grading system, but will qualitatively evaluate each response. This means that if you are "in progress" with a certain milestone, Energinet will evaluate whether it counts towards high, medium, or low maturity depending on the documentation that you provide.

In terms of verifying your answers, Energinet is looking to see documents signed by yourselves and third parties (e.g. with key component suppliers) or with a third party letterhead (e.g., from a municipality), but you can redact commercially sensitive information such as prices.

## Land and permits

20

Land ownership: \*

Please remember to send documentation.

- We have secured land ownership
- We are in the process of securing land ownership
- We have not secured land ownership

21

Land option: \*

Please remember to send documentation.

- We have secured a land option
- We are in the process of securing a land option
- We have not secured a land option
- Not relevant because of land ownership

22

Does your land status have implications for your project if Danish Backbone West is re-scoped?  
Please explain. \*

23

Zoning permit ("lokalplan"): \*

Please remember to send documentation.

- We have secured a zoning permit
- We are in the process of securing a zoning permit
- We have not secured zoning permit



Environmental assessment ("miljøvurdering"): \*

Please remember to send documentation.

- We have completed an environmental assessment
- We are in the process of completing an environmental assessment
- We have not completed an environmental assessment

## Feedstock

25

How will you source your electricity? \*

Indicate your plans even if you have not secured electricity yet.

- We will be using power from the grid
- We will use our own electricity production facility/direct line
- We will use a combination of both

26

Have you secured a grid connection agreement with Energinet/DSO or an approval from the Danish Energy Agency or a direct line? \*

Please remember to send documentation.

- Yes
- In progress
- No

27

Which renewable resource will you be using (select all that apply)? \*

Indicate your plans even if you have not secured electricity yet.

- Solar
- Onshore wind
- Offshore wind
- Andet

28

If you are using a combination of renewables (e.g., onshore and offshore), please describe your approach (e.g., a percentage split) and whether it is all secured at this point or whether some still remains to be secured.

29

Is your demand for Danish Backbone West linked to the Danish North Sea offshore wind tenders? \*

- Yes
- No

30

Which site(s) are you considering bidding on?



- North Sea 1 A3 (northern site)
- North Sea 1 A2 (middle site)
- North Sea 1 A1 (southern site)

31

Comment on the importance of Danish Backbone West and/or offshore wind to your project. \*

Please comment on the importance of Danish Backbone West on your decision to participate in the North Sea offshore wind tenders, if relevant. If you are not bidding, you can also comment here if the outcome of the offshore wind tender could have implications for the market's ability to fill the booking requirement, and therefore for your project.

32

Water supply: \*

According to the Danish Energy Agency, a PtX project can be connected to a public water supply (if there is enough drinking water in the area), extract its own groundwater or surface water, use treated wastewater or use desalinated/purified seawater. Any of these methods are ok when answering this question. Please remember to send documentation.

- We have secured our water supply
- We are in the process of securing our water supply
- We have not secured our water supply
- Not relevant

CO2 supply: \*

Please remember to send documentation.

- We have secured our CO2 supply
- We are in the process of securing our CO2 supply
- We have not secured our CO2 supply
- Not relevant

## Technical

34

Have you completed a feasibility study? \*

Please remember to send documentation.

- Yes
- In progress
- No

35

Have you completed a concept study (minimizing the likelihood of error, estimating costs, and assessing risks)? \*

Please remember to send documentation.

- Yes
- In progress
- No

36

Have you completed a Front-End Engineering Design study (bridging the gap between the design concept and detailed design, focusing on technical requirements and costs)? \*

Please remember to send documentation.

- Yes
- In progress
- No

37

Have you completed a detailed design (clearly defining design, scheduling, materials, etc. necessary prior to construction start)? \*

Please remember to send documentation.

- Yes
- In progress
- No

38

Do you have any agreements (e.g., Letter of Intent or supply agreement) with key component suppliers (e.g., electrolyzer)? \*

Please remember to send documentation.

- Yes
- In progress
- No

39

Do you have an agreement with a construction contractor? \*

Please remember to send documentation.

- Yes
- In progress
- No

## Financial

40

Offtake: \*

Please remember to send documentation.

- We have hydrogen offtake agreement(s) in place
- We have have an Letter of Intent (LoI) or Memorandum of Understanding (MoU) with one or more offtakers
- We are in the process of securing an LoI or MoU with one or more offtakers
- We do not have an LoI or MoU with one or more offtakers
- Not relevant (we are an offtaker ourselves)

41

Financial advisor (if your project is not equity-financed): \*

Please remember to send documentation.

- We have selected a financial advisor
- We are in the process of selecting a financial advisor
- We have not selected a financial advisor
- Not relevant

42

Subsidies or private financing \*

Please remember to send documentation.

- We have secured subsidies and/or private financing for the project
- We are in the process of securing subsidies and/or private financing for the project
- We have not secured subsidies and/or private financing for the project
- Not relevant

**Overall spend:**

If you wish, you can explain how much money (DKK) you have spent on the activities mentioned above or on an overall basis.

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