

# DANISH BACKBONE WEST

User Commitment Concept

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# DESIGN PARAMETERS

1. The political agreement from 22.05.2023 states that ministerial approval of a hydrogen infrastructure construction project depends on Energinet's ability to demonstrate concrete, long-term demand and willingness-to-pay from future users of the hydrogen infrastructure. Another political agreement about financing, which may specify this requirement further, is currently underway.
2. Energinet itself also needs input from the market, to support our business case and investment decision for Danish Backbone West.
3. We need a user commitment process that will provide certainty about hydrogen infrastructure before the offshore wind tenders, but also allow Energinet to complete key workstreams, so that our investment decision is not contingent on too many outstanding issues.

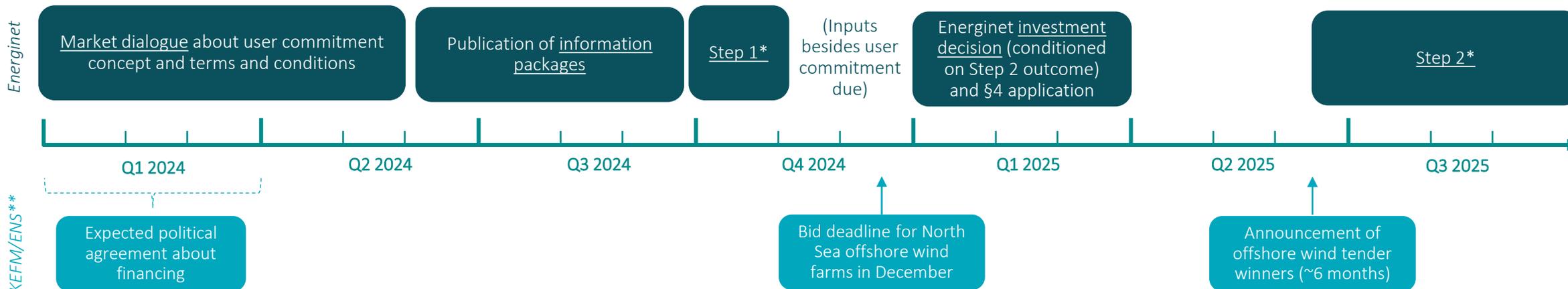
# USER COMMITMENT CONCEPT FOR DBW

**MARKET RECOMMENDATION:** ENERGINET TAKES INVESTMENT DECISION BEFORE OFFSHORE WIND TENDERS; USER COMMITMENT COMES LATER



**ENERGINET CONCEPT:** INVESTMENT DECISION REQUIRES VARIOUS INPUTS DUE Q1 2025; STEP 1 HELPS ACCOMMODATE OFFSHORE WIND TENDERS

- Energinet is willing to take an investment decision conditioned on a later capacity sale.
- However, Energinet needs several other inputs in order to take this investment decision, which are expected Q1 2025.
- These inputs include FEED and compression studies to construct a business case, approvals from the DUR, and a legally binding agreement with Gasunie.
- Energinet proposes a two-step process user commitment process, which facilitates a demonstration of the market’s “concrete, long-term demand and willingness-to-pay” in accordance with the political agreement from 22.05.2023, and accommodates the Danish Energy Agency’s offshore wind bid deadline in December 2024:



\* Step 1: Capacity commitments with a non-compliance penalty due at Step 2 subject to various conditions; Step 2: Binding capacity sale

\*\* DUR = Danish Utility Regulator, KEFM = Ministry of Climate, Energy and Utilities, ENS = Danish Energy Agency

# KEY FEATURES OF STEP 1 & 2

## STEP 1: OFFER OF CAPACITY COMMITMENTS

OCTOBER 2024

- Energinet will provide price levels (transportation costs in EUR/MWh for the full contract duration), allowing market participants to express how much capacity they want to commit to at each price level, for a given point (entry/exit) and given time-period.
- This will inform the investment decision that Energinet plans to take in Q1 2025 (conditioned on Step 2's outcome) and allow Energinet to support the offshore wind tenders in December 2024.
- An additional incentive to participate in Step 1 could be the opportunity to influence the planning of connection points.
- Energinet proposes a penalty structure to ensure credible commitments:
  - Penalties will be based on a cost base communicated upfront.
  - Each participant's potential penalty will be proportional to the size of their commitment but capped at a reasonable level.
  - The penalty will apply if a participant partially/fully fails to live up to their Step 1 commitment in Step 2 (partial shortfall = partial penalty).
  - Conditions: Gasunie Deutschland and/or Energinet end up taking a negative investment decision, the DUR does not approve Energinet's tariff methods, a participant does not win offshore wind, or market conditions change significantly.



## STEP 2: SALE OF BINDING, LONG-TERM CONTRACTS

SECOND HALF OF 2025

- At this stage, Energinet will have:
  - Completed FEED and compression studies
  - Constructed an updated business case based on the above
  - Submitted an intertemporal cost allocation method to the Danish Utility Regulatory and received approval
  - Signed a legally binding agreement with Gasunie Deutschland ensuring that hydrogen can flow cross-border
  - Evaluated the input from Step 1
- All of the above enables an investment decision, which is only conditioned on Step 2 – a binding, long-term capacity sale as known from natural gas.
- A final investment decision will be achieved if Step 2's outcome lives up to the requirements set by the financing agreement (currently underway).
- As stated on the left-hand side, if a participant partially/fully fails live up to their Step 1 commitment in Step 2, then they will be obligated to pay a penalty (unless conditions apply).

# INFORMATION PACKAGE CONTENT

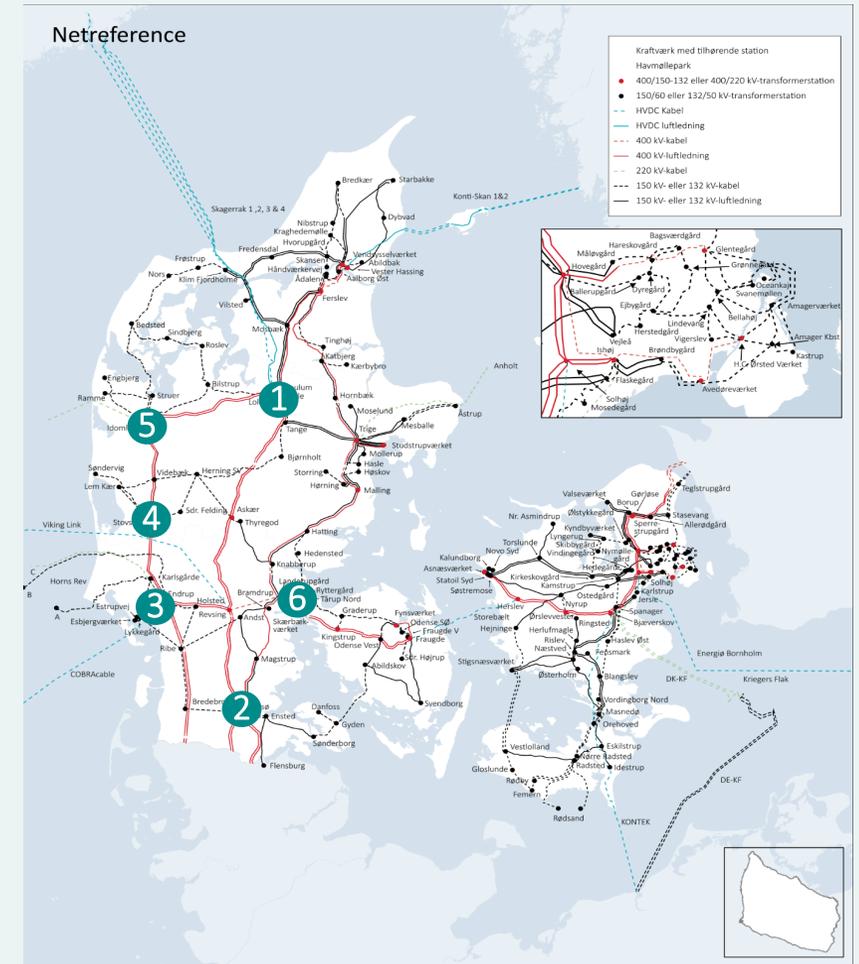
**Before Step 1 opens, Energinet will inform on the following subjects (during Summer 2024):**

1. Overview of the physical project, overall expected geography, pipeline sizes, etc.
2. Expected capacities, points, etc.
3. Information on German project and process.
4. Tariff methodology application (for approval by the Danish Utility Regulator) including inter-temporal cost allocation mechanism.
5. Transportation cost estimations.
6. User commitment application (for approval by the Danish Utility Regulator) based on final Terms & Conditions for user commitments.
7. Balancing model concept (for later application and approval by the Danish Utility Regulator).
8. Expected framework for network connections.
9. Expected framework for gas quality.
10. Paper on general market conditions, including:
  - a. Entry exit model, third party access, expected points, etc.
  - b. Expectations for future capacity allocation, capacity products.
11. Information on first filling of the pipeline (cushion hydrogen, to ensure pressurization of the pipeline).
12. Overall overview and timeline of necessary method applications and approvals, towards commissioning.

# INCENTIVE FOR MARKET ACTORS TO PARTICIPATE IN STEP 1

## INFLUENCE ON CONNECTION POINTS:

- Energinet's base case for Danish Backbone West is structured as follows:
  - A northern point close to the Lille Torup gas storage facility.
  - A southern point close to the German border an existing natural gas infrastructure in Ellund.
  - Three points on the West coast (Idomlund, Stovstrup, and Esbjerg) close to major substations and large-scale renewable energy production (since it is expected that PtX facilities will be placed here).
  - A point close to Fredericia where PtX production is also expected.
- Step 1 could represent an opportunity for market participants to influence the exact placement of these connection points (subject to constraints like environmental approvals), and potentially save CAPEX.



# FEEDBACK FROM MARKET PARTICIPANTS

## What are your thoughts on:

1. The overall logic of Step 1 and 2?
2. The planned content of the information packages?
3. The statement that we propose on behalf of Energinet after Step 1? (“The offer of capacity commitments (Step 1) in the user commitment process for Danish Backbone West has demonstrated concrete, long-term market demand and willingness-to-pay from future system users. Therefore, Energinet will proceed towards making an investment decision by Q1 2025, which will be conditional on a final capacity sale (Step 2) in the second half of 2025”).
4. Influence on the placement of connection points as an incentive to participate in Step 1?
5. The penalty structure (proportional part of a cost base defined by Energinet, capped, and no payment until Step 2)?
6. The conditions that the penalty is subject to?