



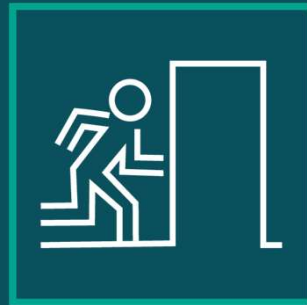
User commitments

Workshop 12 October 2023





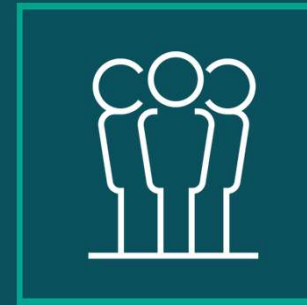
Safety Guide



Emergency Exits



Defibrillator



Gathering Point



YOUR MICROPHONE IS MUTED



USE THE CHAT FOR QUESTIONS
AND COMMENTS



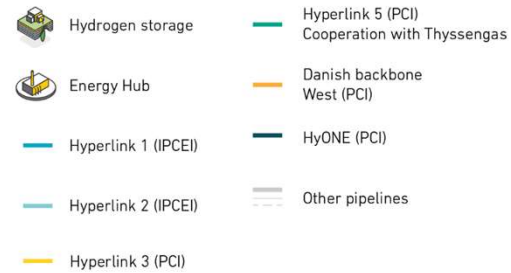
THE WEBINAR IS NOT BEING
RECORDED



THE PRESENTATION WILL BE
SENT OUT AFTERWARDS

TODAY'S PROGRAMME

- 10:00 - 10:10 Welcome
- 10:10 - 10:45 Subject introduction
- Project, timeline & assumptions
 - Purpose
 - Scope
- 10:45 - 11:30 Group session 1 (incl. break)
- 11:30 - 12:00 Presentation in plenum
- 12:00 - 12.45 Lunch*
- 12:45 - 13:30 Group session 2 (incl. break)
- 13:30 - 14:00 Presentation in plenum
- 14:00 - 14:30 Wrap-up and next steps



H₂ Network Germany & Denmark











SUBJECT INTRODUCTION

Project timeline, purpose and scope

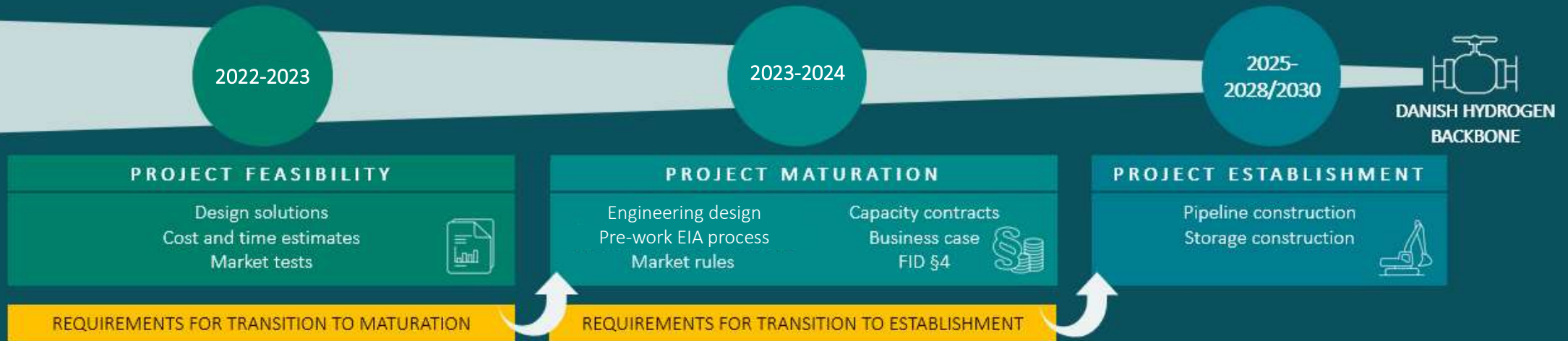
H₂ Network Germany & Denmark

Hyperlink 3 (PCI) + Danish backbone West (PCI)

	Electrolysis		Hyperlink 3 (PCI)
	Hydrogen storage		Danish backbone West (PCI)
	Energy Hub		Other pipelines

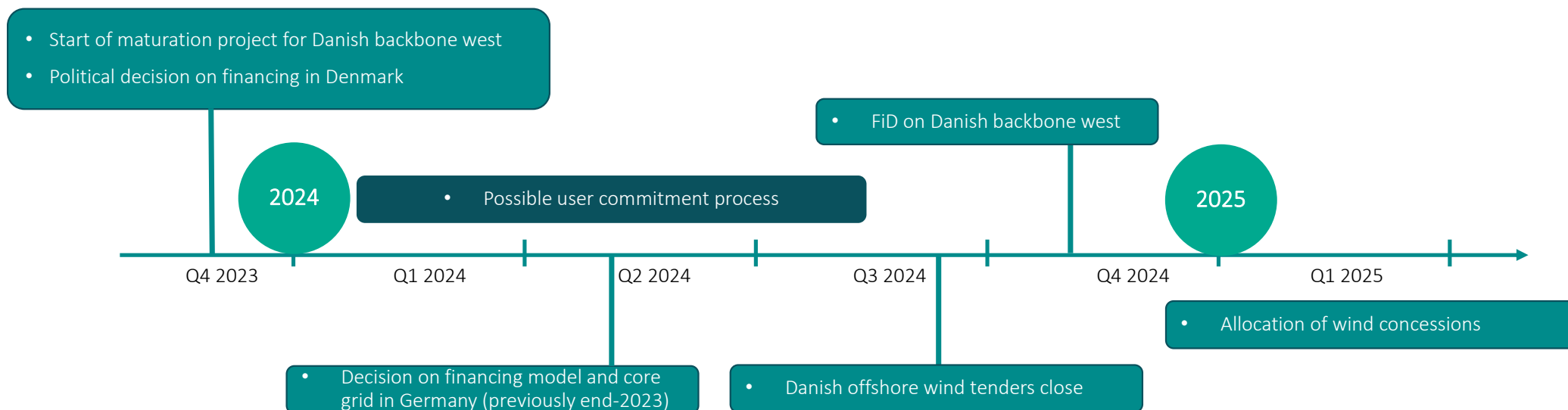


PROJECT TIMELINE



TIMELINE AND ACTIVITIES

Which key deliveries are expected during the coming year in terms of hydrogen



GENERAL MARKET DESIGN ASSUMPTIONS

Based on expectations to EU and Danish legislation on hydrogen

Much of the overall legislation on hydrogen is closely related to natural gas



We expect that there will be **3rd party access** to the hydrogen grid, where **network users** buy access to the grid, in order to **transport hydrogen** from A to B (e.g., from production to consumption).



We expect that network users gain access to the grid through **capacity bookings**, expressed in **energy units per hour** (e.g., MWh/h), that gives the system user the right (but not the obligation) to **transport a certain amount of hydrogen per hour through the duration of the contract**.



We expect that the commercial model will be a so-called **entry/exit model**, where network users book capacity **for entering the grid** (e.g., from the electrolysis units) and **for exiting the grid** (e.g., towards consumption in DK and/or for export to Germany).

Energinet have started the dialogue with the Danish Utility regulator, to ensure a smooth proces in having the right methods and signals to the market in time

HYDROGEN INFRASTRUCTURE - USER COMMITMENTS

Energinet must demonstrate a long-term demand for hydrogen infrastructure

The demand must be based on concrete market signals from future users

Political agreement on hydrogen sets the scene (freely translated)

- Hydrogen infrastructure must be constructed on market terms, on the basis of a **plausible and concrete demand**, together with the long-term development plans for the relevant company, which can be based on the Energy Agency's analysis assumptions (Analyseforudsætninger).
- The approval of hydrogen infrastructure will partly be based on if the infrastructure company can prove a **concrete demand from future users of the system**, who must demonstrate a **long-term need and willingness to pay**.
- **Energinet also needs market signals**, both as input for the business case, but also as input for planning the future hydrogen infrastructure

HYDROGEN INFRASTRUCTURE - USER COMMITMENTS

Energinet considers user commitments as a broad term, covering different types and levels of commitments

Here is listed examples of what user commitments could be, grouped based on how binding they are

Types of non-binding commitments

- **Scenario analysis** supporting the Analysis Assumptions by DEA.
- **Significant market signals**, such as known electrolysis projects, demand signals, etc.
- **Letter of Intent** with relevant market players, to agree on common goals in a non-binding way.
- **Non-binding bids** collecting intentions and expectations from market players.

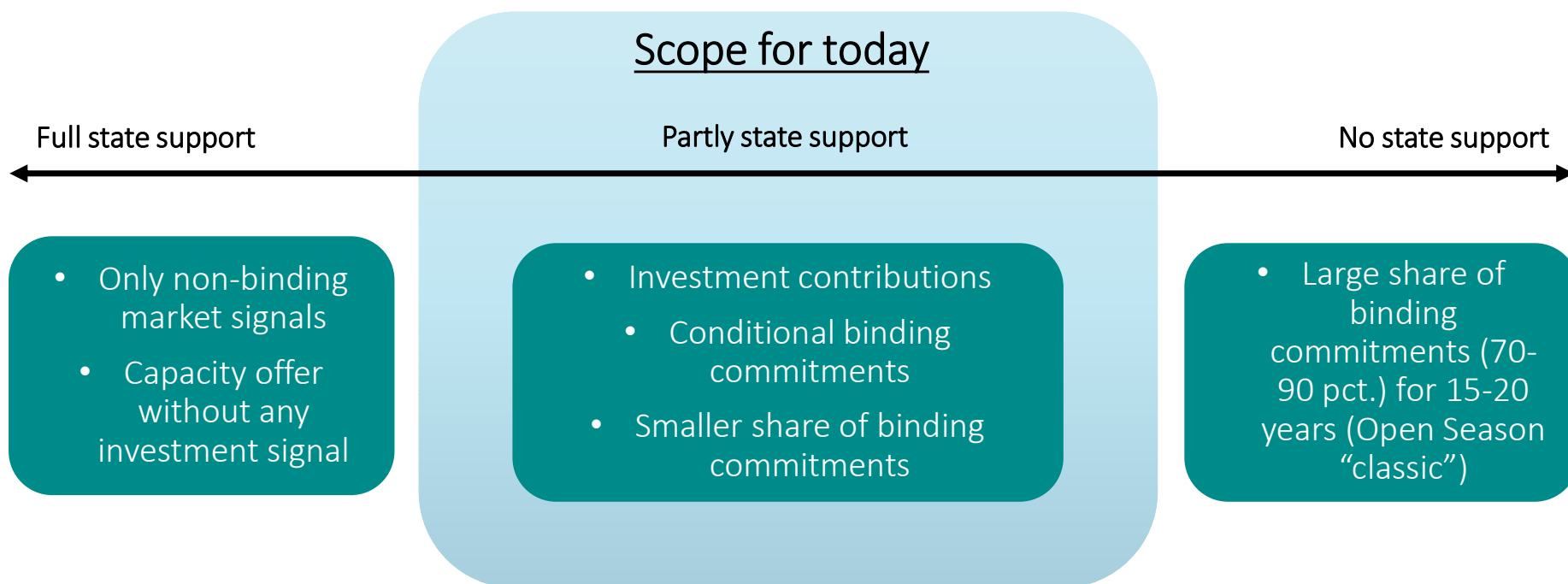
Types of binding commitments

- **Investment contribution** e.g., covering parts of the initial costs of the project.
- **Financial options** which gives the market player the option to buy capacity at a later stage and gives an early market signal.
- **Open Season “light”** covering a smaller part of the total capacity and/or with conditions.
- **Open Season “classic”** where a large part of the total capacity is booked for many years.

SCOPE FOR TODAY'S DISCUSSION

Energinet does not have the mandate to take large non-supported risks on investments

According to the political agreement the future users of the H2 infrastructure must cover (part of) the market risk



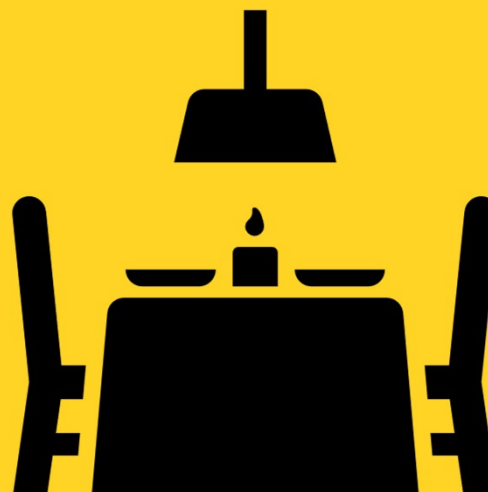


GROUP SESSION 1

INTRODUCTION TO GROUP SESSION 1

- Each group now have 45 min. to discuss the following: Given that a user commitment process is needed in first half of 2024, which should include some level of financial commitment/willingness to pay signal from the market:
 - How could this be designed/organized, to demonstrate a concrete market demand?
 - Which are the main conditions/assumptions to make it work?
- The 45 minutes includes bio break/getting coffee.
- There is a representative from Energinet at each group, who will participate and listen in on the discussion.
- After 45 minutes we will meet in plenum, and a representative for each group then have 5 minutes to present the results from your discussion.

Lunch





GROUP SESSION 2

INTRODUCTION TO GROUP SESSION 2

- Each group now have 45 min. to discuss the idea/suggestion from group session 1, namely:
 - What are the pros/cons with your group's suggestion from session 1?
 - Are there further elements needed to make it work?
- The 45 minutes includes bio break/getting coffee.
- There is a representative from Energinet at each group, who will participate and listen in on the discussion.
- After 45 minutes we will meet in plenum, and a representative for each group then have 5 minutes to present the results from your discussion.

WRAP UP SESSION 1

- TERMS GROUP)
- TIMING OF COMMITMENT (WIND TENDERS)^{EG.}
 - PRICE COMPATIBILITY
 - COMMITMENTS IN STATES RELATED TO THE BUILD-OUT
- GROUP 1)
- TIMING ISSUE WITH OFFSHORE TENDERS
 - COMMITMENT FROM ENERGINET; "IF WE GET X AMOUNT OF BIDDINGS, WE WILL BUILD THE PIPELINE"
 - LINKAGE WITH THE DSO
- GROUP 2)
- CONDITIONS FOR BINDING COMMITMENTS, EG. STEP-OUT BECAUSE OF DIFFERENT PARAMETERS NOT TURNING OUT AS AGREED (EG. TOO HIGH TAKEFE)
 - CONSIDERATION TO SMALL PROJECTS
 - INVESTMENT CONTRIBUTION - HOW DID IT WORK WITH GREEN GAS LOLLAND-PALING?
- GROUP 3)
- INSIGHT ON TAKEFE LEVEL AND BALANCING COSTS AND POSSIBILITIES
 - PAY PREMIUM UP-FRONT TO COVER PART OF CAPEX PREMIUM TO BE CONVERTED TO EG. CAPACITY REFUNDSED IF PIPELINE IS NOT BUILT
 - COMMITMENT VIA ALREADY INVESTED MONEY IN PREPARATION OF PROJECTS AND BUILDING PIPES
- GROUP 4)
- REMEMBER TO TAKE INTO ACCOUNT PROJECTS NOT DEPENDENT ON WIND TENDERS

INTRODUCTION TO GROUP SESSION 2

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WRAP-UP AND NEXT STEPS

WRAP-UP FROM WORKSHOP

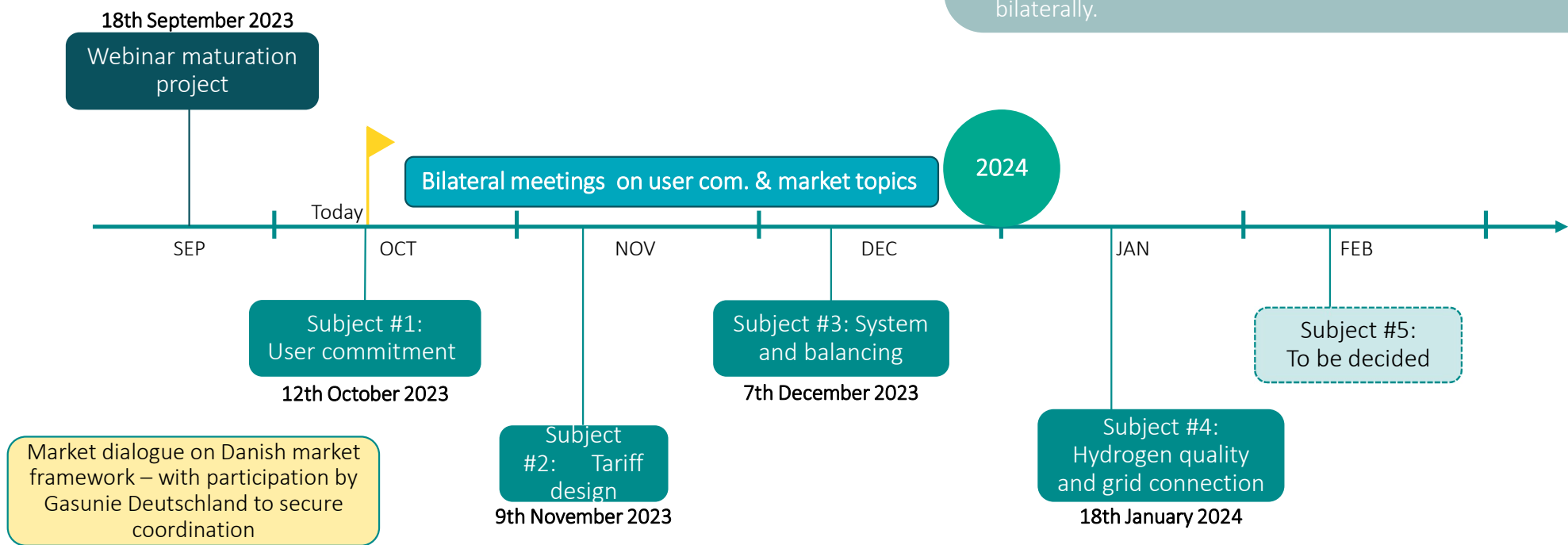
Main takeaways

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COMING EVENTS

Workshops & bilateral meetings

- The coming events will be published via our homepage: Frontpage\More\About us\Events\name of event. At the page for events, you can sign up to receive events directly by mail.
- Energinet will also invite for bilateral discussions during the fall, to discuss user commitments and relevant market topics.
- Please write to cru@energinet.dk if you want to meet with us bilaterally.





THANK YOU!

Contact: cru@energinet.dk