SHIPPERS' FORUM

9 June 2022

Safety Guide

Emergency Exits

Defibrillator

Gathering Point

PROGRAMME

13.00 **Welcome –** *Clement Johan Ulrichsen, Energinet*

13.10 **Supply situation –** *Christian Meiniche Andersen, Energinet*

13.25 **Security of supply towards next winter - EU regulation on storage filling –** Jane Glindvad, *Danish Energy Agency*

13.40 **Gas Storage Denmark –** *lliana Nygaard & Valdemar Kentved, Gas Storage Denmark*

13.55 **Gas Market Report 2021 –** *Peter Lyk-Jensen & Frederik Nilausen Dam, Danish Utility Regulator*

14:25 BREAK

14:55 **Baltic Pipe –** *Christian Rutherford, Energinet* **–** *Stanisław Brzęczkowski & Hubert Kabulski, GAZ-SYSTEM*

15.20 **Tariffs** *– Nina Synnest Sinvani, Energinet*

15.40 **Hydrogen infrastructure in light of the political PtX-agreement** *– Nicolai Sørensen, Energinet*

15:55 **Final remarks –** *Clement Johan Ulrichsen, Energinet*

WELCOME

Clement Johan Ulrichsen, Energinet

THE FIRST HALF OF 2022 HAS BEEN DEFINING

GREEN AMBITIONS AND THE GEOPOLITICAL SITUATION DRIVE IMMENSE CHANGES

Power-to-X moving fast

Massive ambitions for wind and solar power in Denmark and Europe

High and volatile gas prices

Baltic Pipe even more important to supply Denmark and Poland

Accelerated increase in biogas production

Accelerated decrease in Danish gas consumption

REPowerEU: Filling of gas storages

QUESTIONS

Contact: cju@energinet.dk

SUPPLY SITUATION

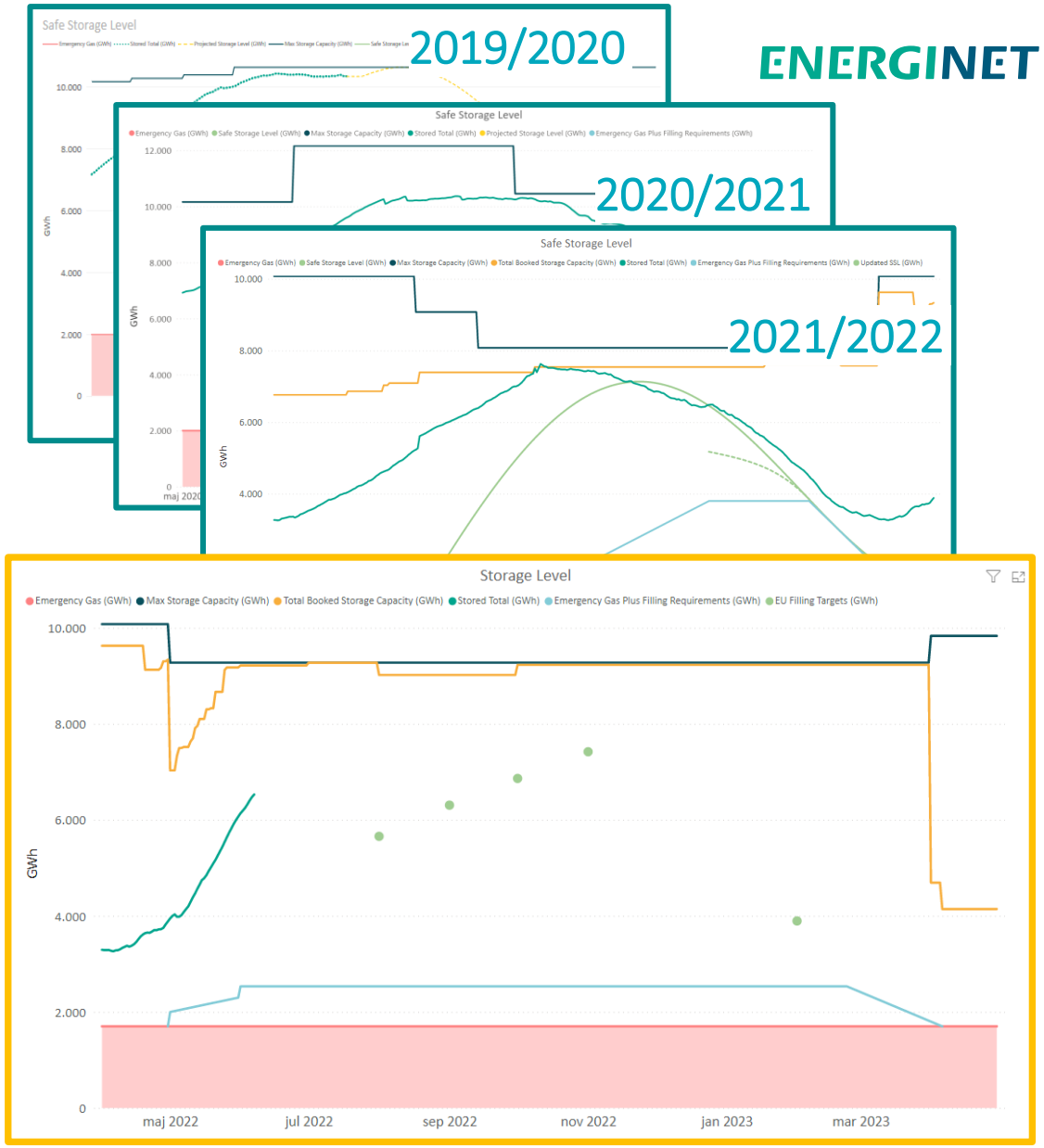
Christian Meiniche Andersen, Energinet

SUPPLY SITUATION

- Safe Storage Level and EU storage filling
- Summer outlook
- Nord-Stream maintenance
- Filling requirement – Energinet SOS purchase

SAFE STORAGE LEVEL - AN EU MATTER

- Connections to Norway (October 2022) and Tyra (June 2023) will remove the bottleneck to Danish/Swedish gas system
- Possible interruption of Russian gas introduces a new bottleneck in European gas supply
- Danish security of supply depends on European storage level
- Storage level and EU filling-demand for 2022/2023 replaces the safe storage level graph



[STATUS IN THE DANISH GAS STORAGE FACILITIES | Energinet]

SECURITY OF SUPPLY WINTER 22/23

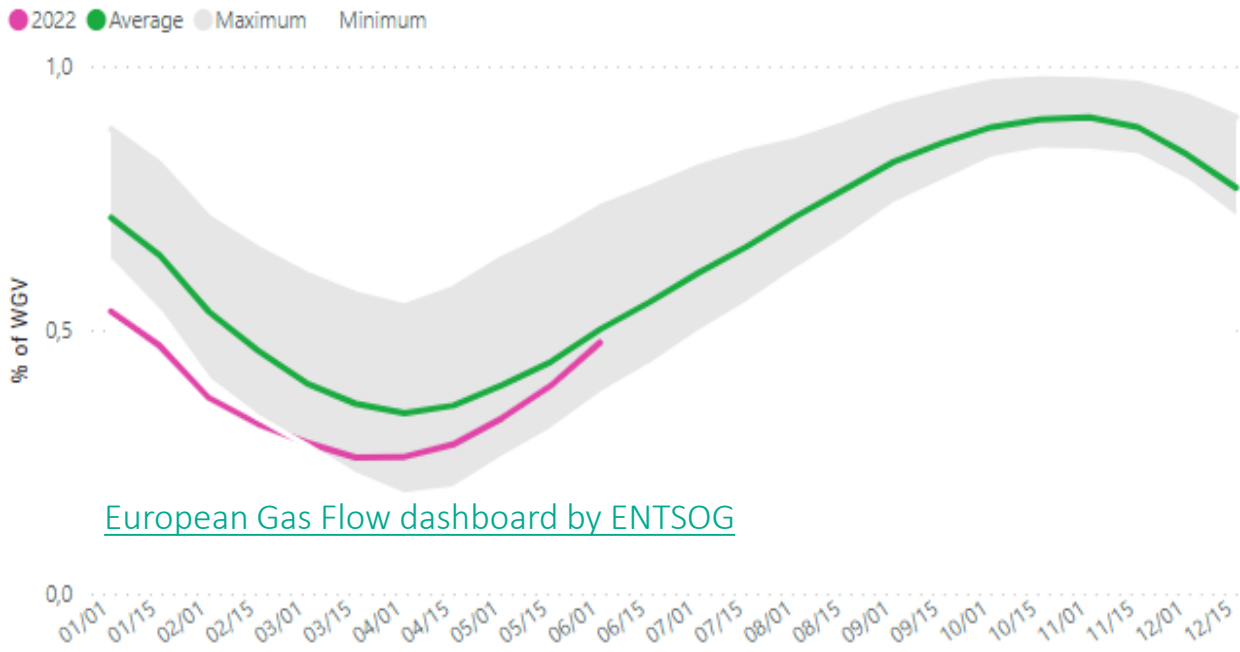
Focus on EU gas storage level to achieve resistance to interruption of Russian gas supply

Connection to Norway October 2022 and Tyra June 2023 **strengthens security of supply** in the north-west supply corridor

Security of supply still **relies** on the market to **act prior** to a potential escalation of the European supply situation

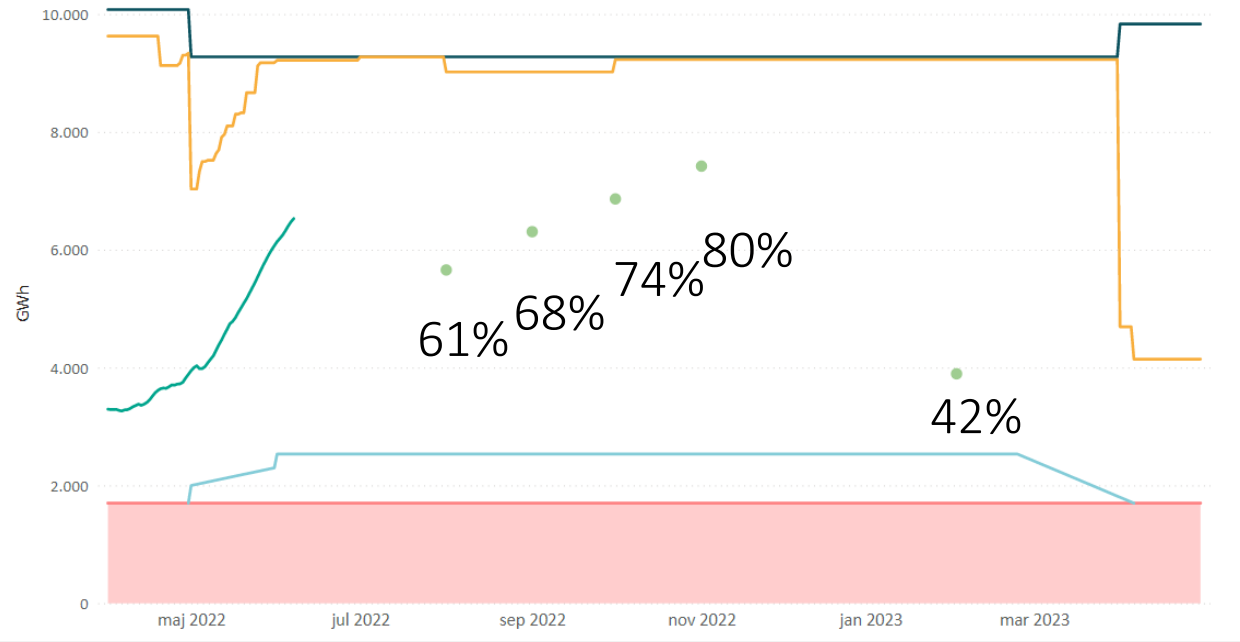
Annex to Regulation (3).pdf

European Gas Filling



European Gas Flow dashboard by ENTSOG

Danish Gas Filling



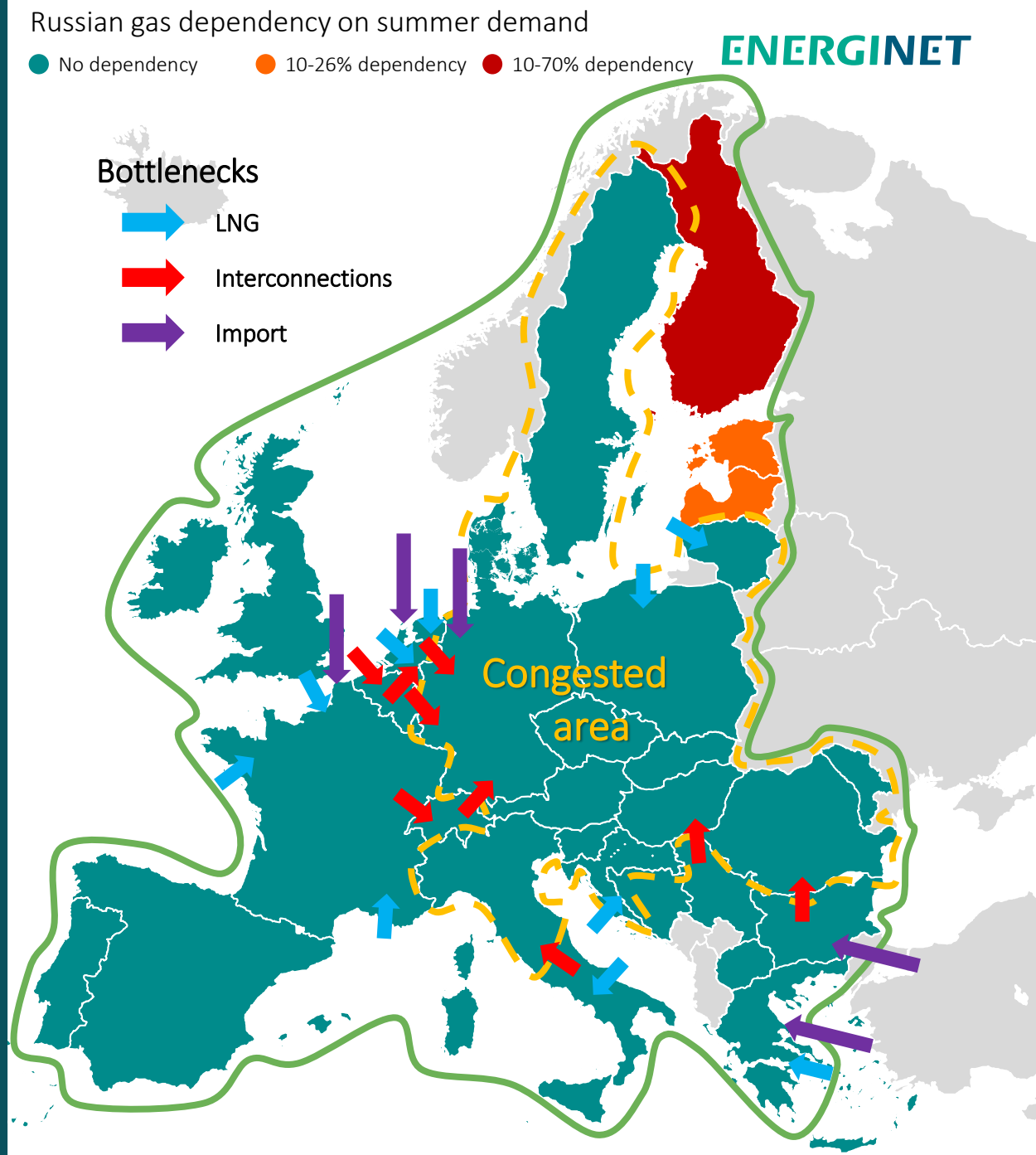
SUMMER SUPPLY OUTLOOK 2022 - RESUMÉ

Positive progress up to 1 June 2022

Based on the development from 1 April to 1 June, the Summer Outlook implies that the possible average EU filling-level could be 75% in October in case of interruption of gas supply from Russia by **1 June.**

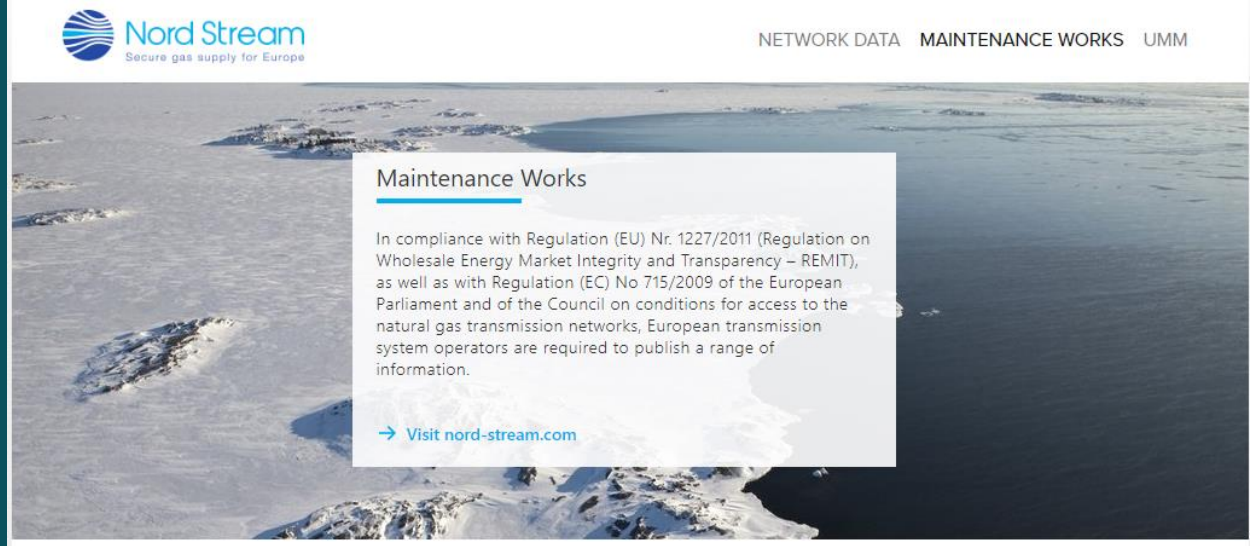
The calculations **do not** include the extra capacity from Baltic Pipe by October 2022.

Summer Outlook 2022



NORTH STREAM I MAINTENANCE

- 11 July – 21 July 2022
- No flow for 10 days through North Stream I
- North Stream I makes up approx. 63% of German supply



Information	Details
Market Participant EIC	21X000000001398N
Time Period From	2022-07-11 06:00 CET
Time Period To	2022-07-21 06:00 CET
Affected Point	Greifswald Exit
Flow capacity influenced	1'756'800'000 kWh/d
Available capacity during outage or unplanned event	0 kWh/d
Company	Nord Stream AG
Causes	Planned maintenance measures
Additional Information	From 11 July to 21 July 2022, Nord Stream AG will temporarily shut down both lines of its gas pipeline system for annual routine maintenance works
Last Update	2021-11-17 10:05 CET

Maintenance Works - Nord Stream AG (nord-stream.info)

FILLING REQUIREMENT

- 3 Tenders have been concluded
- Total amount purchased: 1.502.323 MWh
- Total price: 251.834.148 DKK (33.858.341 €)

Tender results available at:

Market Based Activities | Energinet

QUESTIONS

Contact: can@energinet.dk

Energistyrelsen

Security of Supply Towards Next Winter

EU regulation on storage filling

Jane Glindvad Kristensen,

Shippers Forum, June 9, 2022

What if Denmark and the EU do not get gas from Russia?

Scenario A: Only a few gas dealers' contracts with gazprom are canceled

- There will continue to be Russian gas on the European market - also for the Danish consumption
- Shippers who experience gas supply disruption from Russia will have to buy gas for their gas customers on the gas exchange (spot market) and by bilateral agreements
- There might be an increase in price
- A share of the gas delivered to Denmark will continue to be of Russian origin

Scenario B: Joint European stop on Russian gas

- Gas volumes in the European market are reduced by approx. 25 pct.
- Major consequences for security of supply in Europe and also in Denmark
- Major risk that the flow of gas to Denmark from Germany will be significantly reduced or completely disrupted
- Supply in Denmark - worst case:
  Limited gas supplies from only biogas production, a small share of gas from the Danish natural gas field Syd-Arne and the rest from the two Danish gas storage.

The EU gas market works:

Gas suppliers can buy gas on the market to uphold the agreements with their end-customers

EU gas market 'freezes':

Gas suppliers are not able to buy gas on the market. 'Emergency' is declared - access to gas for the non-protected consumers is restricted

Gas consumers - categories and consumption

Category	Gas consumers
Solidarity protected customers (30%)	• Households • Essential social services (e.g. police and hospitals)
Protected customers (45%)	• Households • Essential social services (e.g. police and hospitals) • Small and medium sized enterprises • District heating plants
Non-protected customers (25%)	In 2022 there are 47 companies in 63 different locations, including 2 power plants which are catagorized as non-protected costumers. The companies include several different types of companies such as food production, refineries etc.

Socially critical consumption Vs non-critical consumption

The amendments made to the Danish emergency plan is based on the Emergency Preparedness Act

Criteria for socially critical companies	
Criteria	Description
Life and health	Consequences that may lead to death and / or affect public health
Food supply	Consequences that can reduce food production, distribution, etc.
Animal welfare	Consequences that will negatively affect animal welfare
Environment	Consequences that will negatively affect the environment, e.g pollution
Property	Consequences which will lead to the destruction of property
Personal finances and socio-economics	Consequences that will have significant affect on socio-economics and / or personal finances
Other societal consequences	For example, negative impact on energy production

Category 1: Socially critical non-protected customers

- Socially critical non-protected gas customers are prioritized over other non-protected customers
- Additional gas volumes are offered to the socially non-critical consumption based on pro rata basis

Category 2: Other non-protected customers

- Other non-protected gas customers will not be considered socially critical in the short term
- If possible, non-protected gas customers might be offered any additional excess gas pro rata

The European proposal on mandatory gas storage filling

The European Commission published its proposal for mandatory European gas storage filling on 23 March 2022. The proposal modifies two existing regulations on security of gas supply and access to natural gas transmission networks.

The Council presidency and the European Parliament have reached political agreement on a compromise text. The two institutions will now formally adopt the regulation.

Highlights:

- Member states must fill their storage sites to 80% of capacity by Nov. 1, 2022
- The target will be raised to 90% as of Nov. 1 from 2023 onwards (until end 2025)
- The filling obligation will be limited to a volume of 35% of the average annual gas consumption of member states over the past five years

The tools of the European proposal on the mandatory gas storage

- Burden-sharing mechanism: Member states without underground storage capacities will have to ensure that at least 15% of their average consumption in the last five years is stored in another member state – or make burden sharing arrangements.

- Additional tools to assist in the gas storage requirement, e.g.
  - Incentives
  - State aid
  - Ability to impose obligation on different market players

- Storage operators will have to undergo new mandatory certification

- Possibility to exempt gas storage users from transmission tariffs at entry and exit points to/from storages.

The coming winter:
What are we doing to ensure that there is gas for consumers?

- The EU gas market needs to work - must not 'freeze': Solidarity is a prerequisite for the market to work

- Storage must be filled
- Baltic Pipe: capacity can be utilized from 1 October 2022
- Gas consumption is reduced
- Increase of biogas production

<u>If necessary:</u>
Emergency plan that ensures supply to protected customers can be activated

STORAGE OF GAS - WHAT ARE WE DOING IN DENMARK?

- Applying the mechanisms already in place: emergency storage and filling requirements

- More information on consumers' specific consumption and gas needs

- We will follow the storage filling closely and react quickly if the situation get worse

- For next season, several new tools are being considered, including use-it-or-loose-it

Security of supply
Liabillity?

- What if there is not enough gas available to supply costumers?
- Each party is responsible within their competence, i.e. market players will have to consider in advance where the gas will flow from

Article 3: **Responsibility for the security of gas supply**

1. The security of gas supply shall be the shared responsibility of natural gas undertakings, Member States, in particular the Commission, within their respective areas of activity and competence.

GAS STORAGE DENMARK

SHIPPER'S FORUM

9 JUNE 2022

AGENDA

GSD GAS STORAGE DENMARK

1. CAPACITY OVERVIEW

2. CURRENT MARKET SITUATION BY GSD

    i. NEGATIVE SPREADS SIGNAL THE NEED FOR NEW STORAGE APPROACH
    ii. OUR RESPONCE
    iii. MAY SOLD-OUT IN MANY SMALL STORAGE DEALS

3. LEASONS LEARNED

4. E-WORLD 2022 AGAIN

CAPACITY OVERVIEW

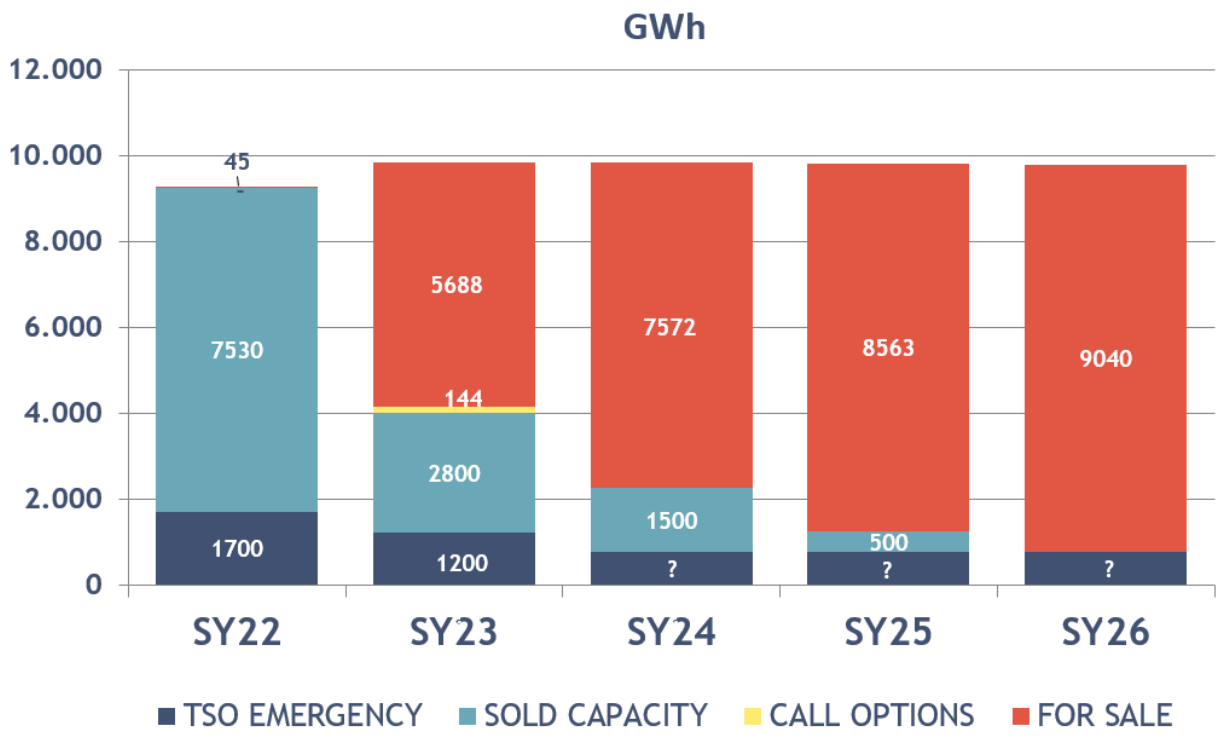
- ❑ 2022 - SOLD OUT
- ❑ 2023 - 5,688 GWh available for sale
- ❑ 2024-2026 available for sale

Pricing:

- ➢ 120/60: **4.0** €/MWh/year
- ➢ 170/85: **3.5** €/MWh/year
- ➢ 170/170: **3.0** €/MWh/year

Additional flex:

- ➢ Injection: **750** €/MW/year
- ➢ Withdrawal: **2,100** €/MW/year



CURRENT MARKET SITUATION

STORAGE VALUE, EUR/MWh				Last traded:	01-06-2022
	W22-Q3 22	SY23	SY24	SY25	SY26
TTF	7,56	-1,20	-3,26	-2,20	-2,30
THE	12,21	0,30	-1,99	-10,40	-3,06
	DA-JUL	DA-AUG	Q4 22 - Q3 23	Q1 23-Q3 23	Q4 22 - Q1 23
TTF	-6,24	-8,04	19,30	19,00	0,30
THE	-7,22	-8,75	14,60	14,29	0,31

THE PERSISTING NEGATIVE SPREADS SIGNALS THAT

- Storage should not be treated as a seasonal tool only
- Shift to a more short-term valuation approach is requirable
- Steady monitoring and timely actions pay off

GSD adapts to the changing market conditions and offers a flexible way of booking the storage capacity

Small portions of ROY-capacity reserved on 3-7 days' option, FCFS, allow to

- ✓ exploit short-term spread openings
- ✓ work around the low market liquidity

After ended round, the customer informs how much volume has been successfully traded. The agreed capacity is immediately made available for nomination. We agree on a new round as many times as appropriate. The contract is concluded once we stop the rounds. A lot of work … but it sells out successfully …

LESSONS LEARNED

- IT IS POSSIBLE TO MAKE GOOD INVESTMENT IN STORAGE DESPITE THE NEGATIVE SPREADS
- DO NOT WAIT TOO LONG, BUT MONITOR THE MARKET DEVELOPMENT AND EXPLOIT SHORT-TERM VALUATION APPROACH
- THE USUAL PRICING IS MAINTAINED, AND WE ARE FLEXIBLE IN OUR PRODUCT & SALE APPROACH WHICH MAY HELP CLOSING ANY PRICE GAP
- THE GOOD IDEAS ARE BORN IN DIALOG

GSD GAS STORAGE DENMARK

E-World

21-23 June
Essen

YOU ARE INVITED
TO VISIT US AT
STAND 523
HALL 2

GSD GAS STORAGE DENMARK

QUESTIONS?

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Danish Utility Regulator

Current cases

Energinet, Shippers' Forum
June 9, 2022

Peter Lyk-Jensen

Current Cases and Pipeline

Current Cases:

1. **Offshore tariff** complaints 2011-2020
   - Expect decisions **first half of 2023**
   - Comparison to market practice ongoing

   - **Four** new complaints received 2020-21
     - **Decision** on third new complaint published April 1st, 2022
     - Fourth new complaint in process

2. **Tariff methodology**
   - New tariff methodology from October 2022
   - Decision published May 12th, 2022

   - <u>Approved:</u>
     - Duration five years
     - Uniform tariff
     - 100 pct. capacity tariff
     - Upstream costs as uniform non-transmission tariff
     - From gas to calendar year
   - <u>Not approved:</u>
     - Discount on long bookings
     - Emergency tariff for non-protected customers

Monitoring the Danish Wholesale Gas Market

Market Report 2021

Energinet, Shippers' Forum
June 9, 2022

Frederik Nilausen Dam

Danish Utility Regulator

The Danish Wholesale Gas Market 2021

Market Monitoring Report 2021 will be published 15 June 2022

The Danish Utility Regulator has obligations to:

- Monitor the Danish wholesale gas market
- Enforce REMIT

<u>Focus on:</u>

- Price developments
- Import and export
- Storage utilisation
- Ellund utilisation
- Market behavior

Danish Utility Regulator

Production and Consumption

Offshore production

- Decreased by 5 pct. compared to 2020

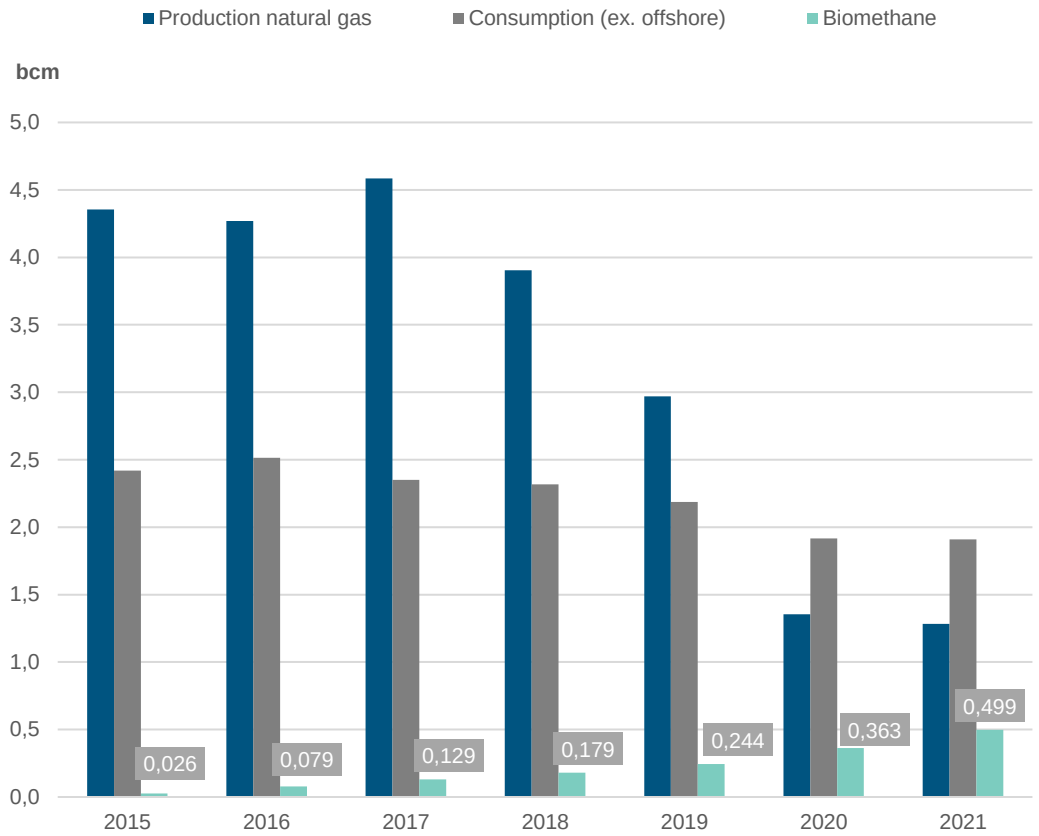
Biomethane production

- Production increase to 0.5bcm in 2021
- Increased by 37 pct. compared to 2020
- 26 pct. of consumption

Consumption

- DK consumption at 2020-level
- 1.9bcm in 2021

Annual production and consumption for 2015-2021



Source: The Danish Utility Regulator based on data from the Danish Energy Agency

Danish Utility Regulator

Import and Export

Import

- Denmark was a net importer in 2021
- Decrease in imports compared to 2020
  - January/February, increase in storage use
- 100 pct. of import from Germany via Ellund

Export

- Due to Tyra-shutdown, only export to Netherlands and Sweden
  - 53 pct. export to Netherlands
  - 47 pct. export to Sweden

Import and export per country for 2021

Source: The Danish Utility Regulator based on data from the Danish Energy Agency

Storage

Storage capacity 2021: 9.4 TWh

- Total capacity decreased 10 pct. compared to 2020
- Average price in 2021: 6.16 EUR/MWh (20 pct. increase)

Cold weather in Q1 2021

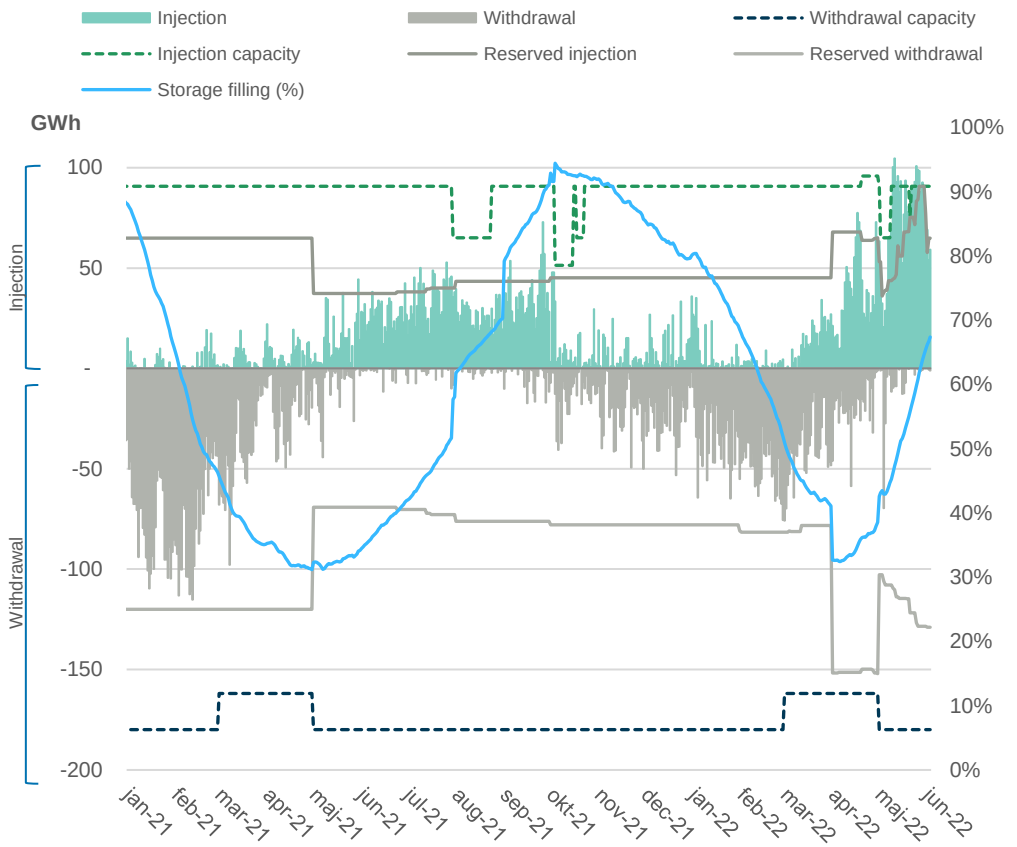
- Filling level close to 30 pct. in May

Seasonal spread either zero or negative in 2021

Status as of June 2022

- Storage sold out, high filling level
- Seasonal spread has turned positive

Storage Utilisation, Injection, Withdrawal for 2021-2022



Source: The Danish Utility Regulator based on data from Energi Data Service

Danish Utility Regulator

Trading and Market

Total traded volume

- Exchange (ETF): 17 TWh
- Bilateral (GTF): 15 TWh

ETF is primary delivery point

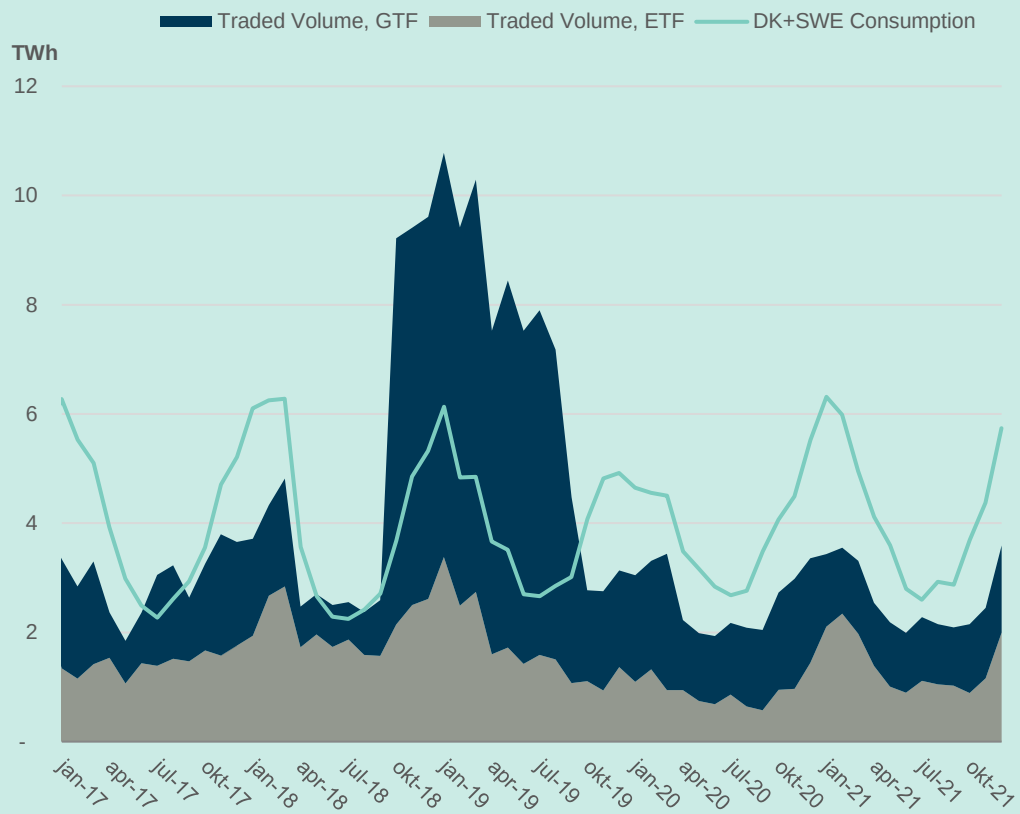
- Share of traded volume
  - ETF: 54 pct.
  - GTF: 46 pct.

Day-ahead and weekend products → 96 pct. of traded volume

Market concentration is increasing

- DUR is monitoring development to avoid disturbance in price setting.

Traded Volume at ETF and GTF for 2017-2021



Source: The Danish Utility Regulator based on data from Energinet

Trading and Market

Spot prices at ETF record high

- 24 December 2021: 180,18 EUR/MWh
- Avg. price 2021: 46,78 EUR/MWh

Volatility very high in December 2021

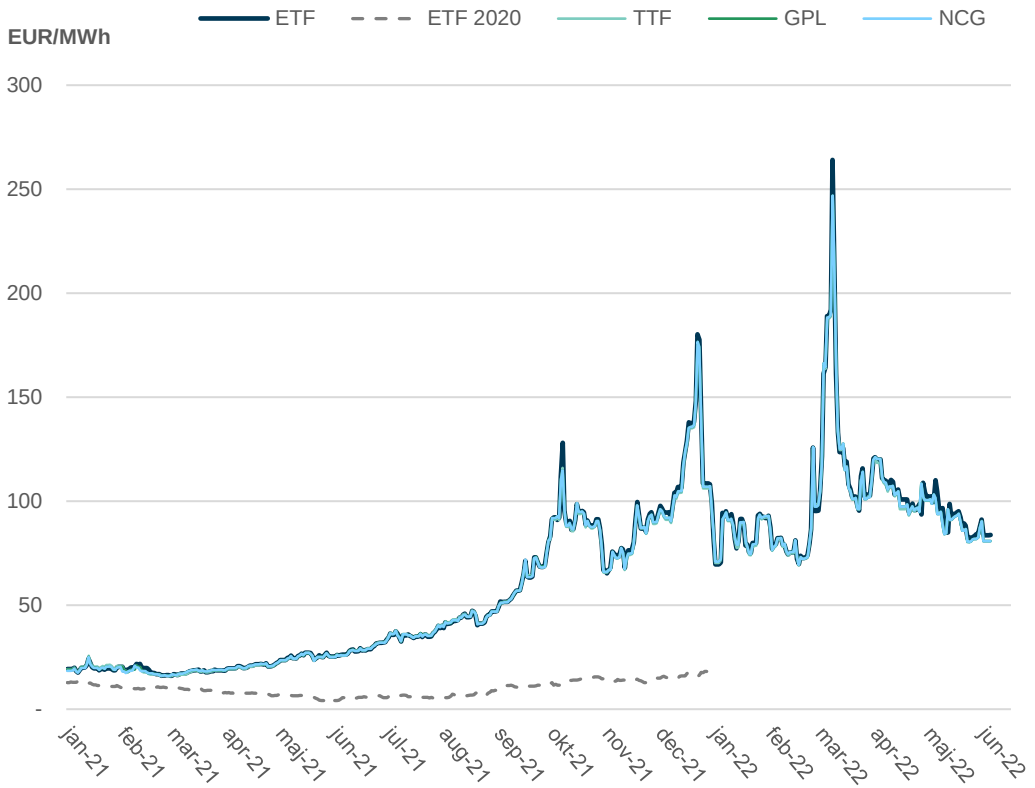
- Daily price fluctuation -36 to 32 EUR/MWh

Avg. price Q4 2021 was 550 pct. higher than Q4 2020

Status as of June 2021

- Prices at a high level. Volatility is lower.

Price Development for D-A in DK, NL, and GER for 2021-2022



Source: The Danish Utility Regulator based on data from EEX

Danish Utility Regulator

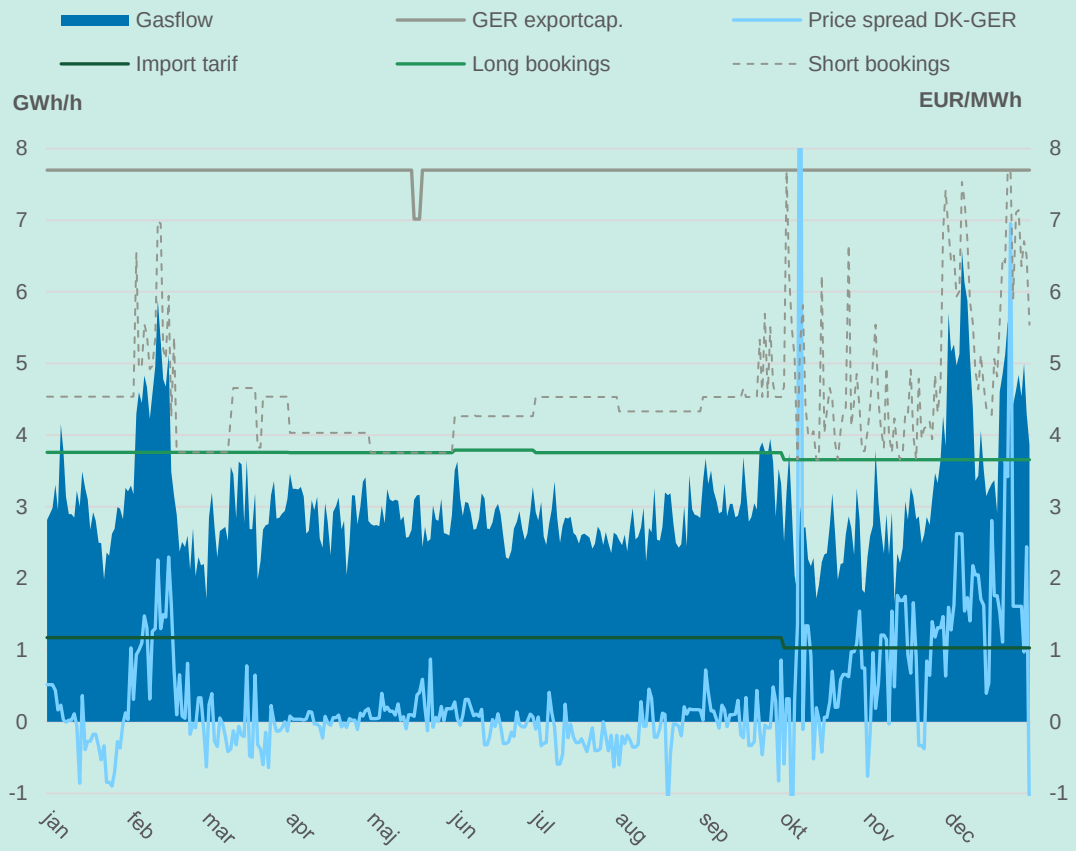
Ellund

100 pct. of import from Germany via Ellund

Price differences between DK and Germany not fully utilized

- Unused booked transmission capacity

Gas Flow and Import Bookings at Ellund for 2021



Source: The Danish Utility Regulator based on data from Energinet

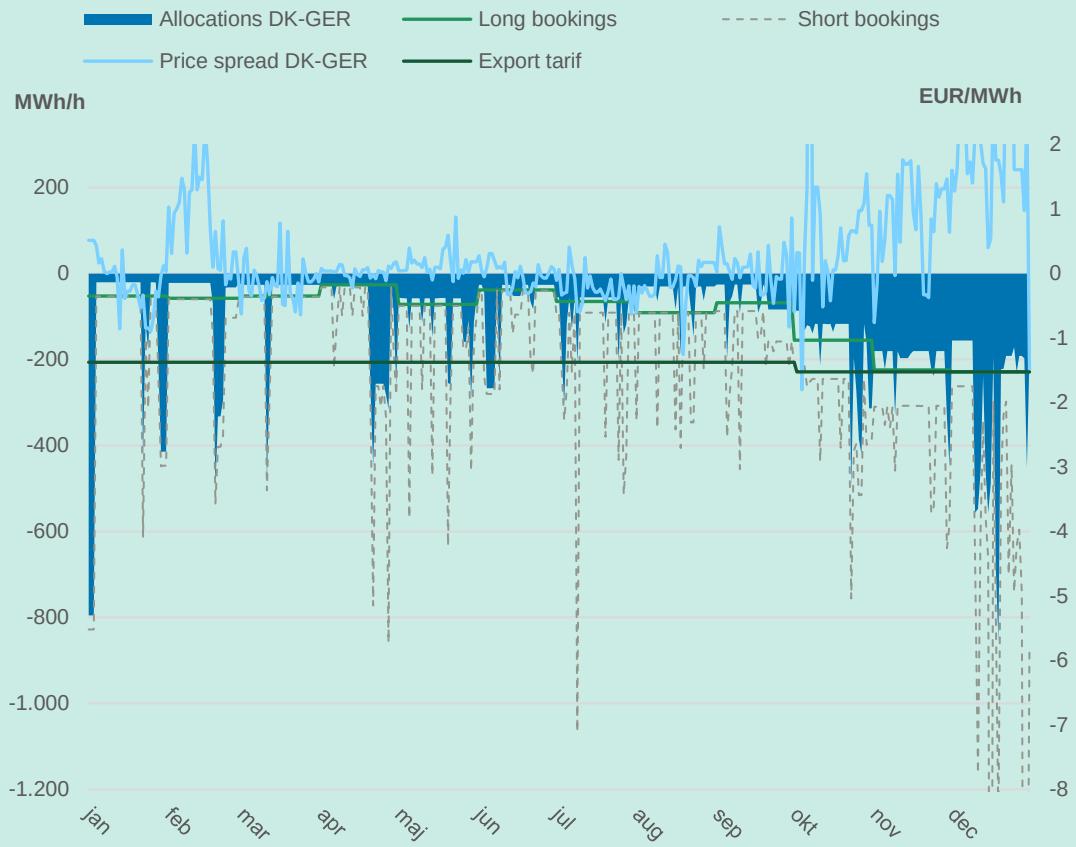
Ellund

Systematic flows against price signals

- Flows at higher level than in 2020

Gas flows against price signals is irregular market behavior against the intentions of the internal gas market

Gas Flow and Export Bookings at Ellund for 2021



Source: The Danish Utility Regulator based on data from Energinet

Focus areas 2022

1. Tyra-shutdown from September 2019 to June 2023
2. Opening of Baltic Pipe in Q4 2022
3. Price developments and supply of gas, especially due to the war in Ukraine
4. Ellund: Capacity utilisation, gas flows vs. price signals
5. Utilisation of the Danish gas storages

Danish Utility Regulator

Thank you.

If you have any questions, please raise a hand

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Danish
Utility Regulator

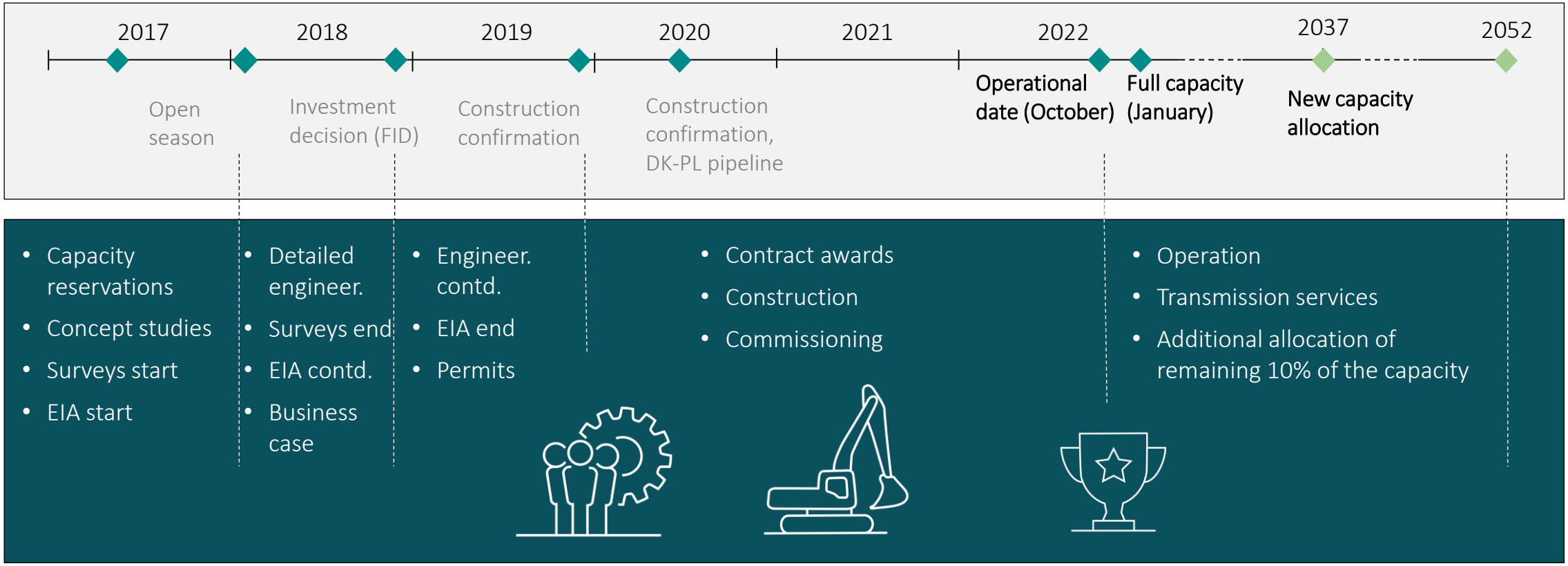
BREAK

BALTIC PIPE IS MOVING ON

Christian Rutherford, Energinet
Stanisław Brzęczkowski & Hubert Kabulski, GAZ-SYSTEM

BALTIC PIPE PROJECT – ALMOST THERE

Despite challenges with revoked environmental permit (mice concerns)



FINALIZING REMAINING PIPE LAYING TOWARDS JANUARY FIRST (WHERE EXISTING SYSTEM IS OPERATIONAL)

Yellow parts currently being finalized

Assembled

Covered

CURRENT FOCUS (TOWARDS OCTOBER FIRST)

Offshore project completed
Getting the Nybro terminal operational

Getting the compressor station operational

AND THE MICE WILL GET THEIR OWN BRIDGE

BALTIC PIPE - REMIT

Update of REMIT message June 2022

- Update of the REMIT message from September 2021, on capacities towards Poland in Q4 2022 (as a result of EIA revoke)
- Energinet will allocate a higher capacity in October and November 2022, based on specific flow calculations for these 2 months
- All firm capacity will be allocated to current capacity holders
- Interruptible capacity will be offered

UMM published 8 June 2022:

UPDATE: BP capacity levels in Q4 22

For the IP Faxe exit point towards Poland, it is possible to allocate a higher capacity level for Oct and Nov 22 than previously announced, based on calculated flow scenarios for the specific months:

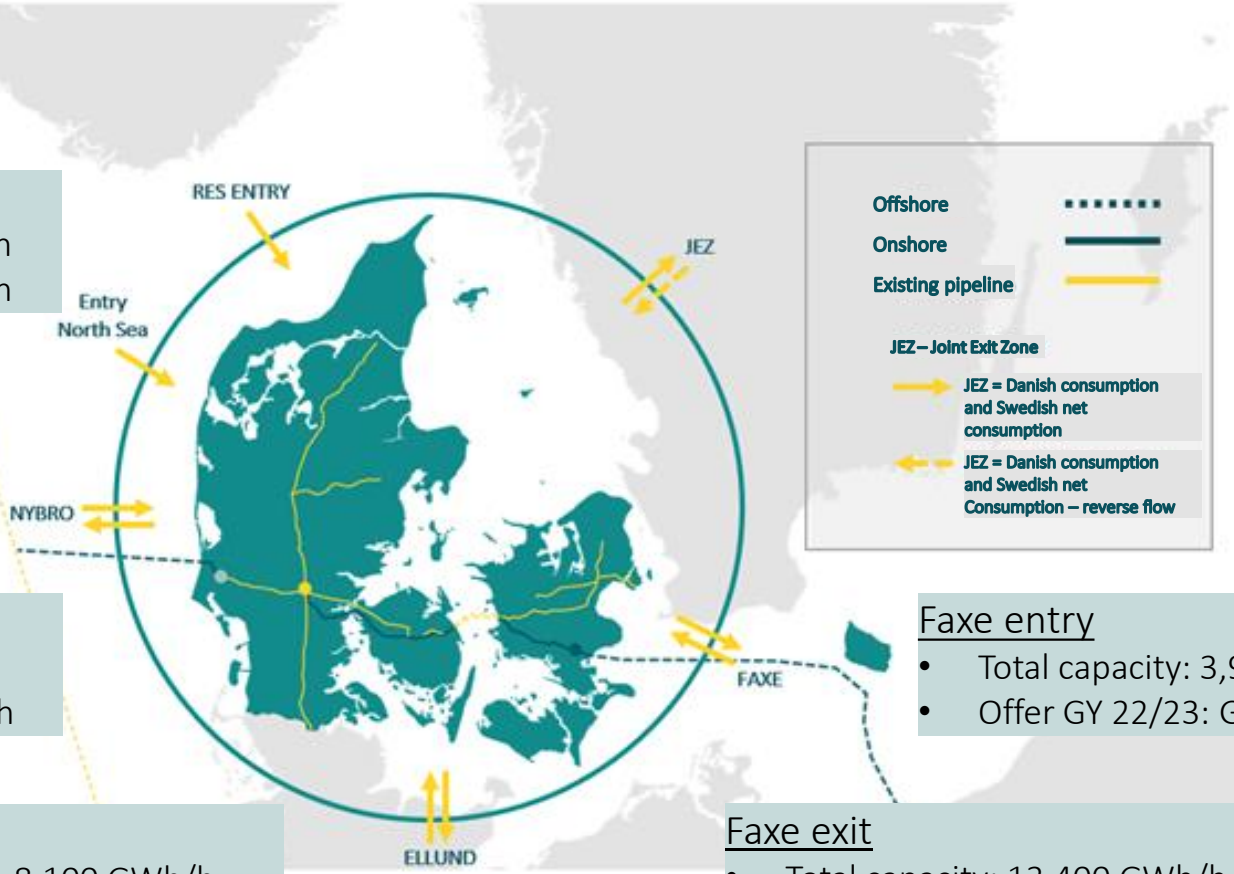
- Oct 22: firm: 5,164 MWh/h; interruptible: 1,300 MWh/h
- Nov 22: firm: 4,905 MWh/h; interruptible: 1,550 MWh/h
- Dec 22: firm: 3,550 MWh/h; interruptible: 2,900 MWh/

All firm cap. is allocated to current contract holders at IP Faxe exit, changing the previous announcement regarding reserve of capacity for the short-term market. It is normal practice, and in line with NC CAM, that quotas for short-term capacity do not overrule already concluded capacity contracts.

Interruptible cap. will be offered day-ahead to the market with a low probability of interruption (approx. 5 pct).

Because firm capacity at IP Faxe exit is not available for a full annual contract for Gas year 22/23, firm capacity from 01.01.23 will be offered via short-term auctions.

ANNUAL CAPACITY OFFER FOR COMING GAS YEAR BALTIC PIPE AND ENTRY/EXIT POINTS



North Sea entry
- Total capacity: 13,400 GWh/h
- Offer GY 22/23: 1,500 GWh/h

Nybro entry
- Total capacity: 8,600 GWh/h
- Offer GY 22/23: 8,600 GWh/h

Ellund entry
- Total capacity: 7,400 GWh/h
- Offer GY 22/23: 3,700 GWh/h

Faxe entry
- Total capacity: 3,900 GWh/h
- Offer GY 22/23: GWh/h 3,500 GWh/h

Ellund exit
- Total capacity: 8,100 GWh/h
- Offer GY 22/23: 7.290 GWh/h

Faxe exit
- Total capacity: 13,400 GWh/h
- Offer GY 22/23: 0 GWh/h
  (however, offer from GY 23/24-GY 36/37)

For more information, please go to: Calculated capacities in the Danish gas transmission system | Energinet

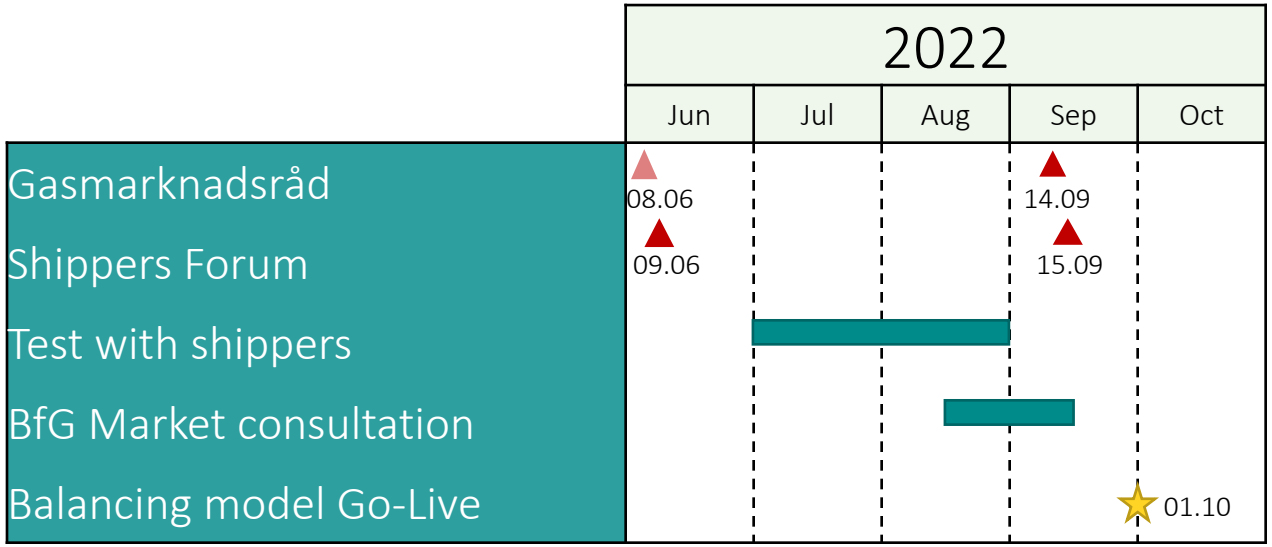
BALANCE MODEL ON TRACK

Sopra Steria test with shippers ongoing over July-August

Message format has been announced March 2022:

- Secure Communication | Energinet

Always open for bilateral meetings for more detailed information should need be



FURTHER DIALOGUE & INFORMATION

Q&A ON BALANCING DETAILS

- End June
- Available on website
- Updated continuously

Send questions to:

CRU@energinet.dk / JLO@energinet.dk

USER GROUP*

- Mid August
- User group on balancing
- General & test-related questions

*Arranged based on interest from shippers

SMOOTHING

Value based on historical data

→ Initial conservative value

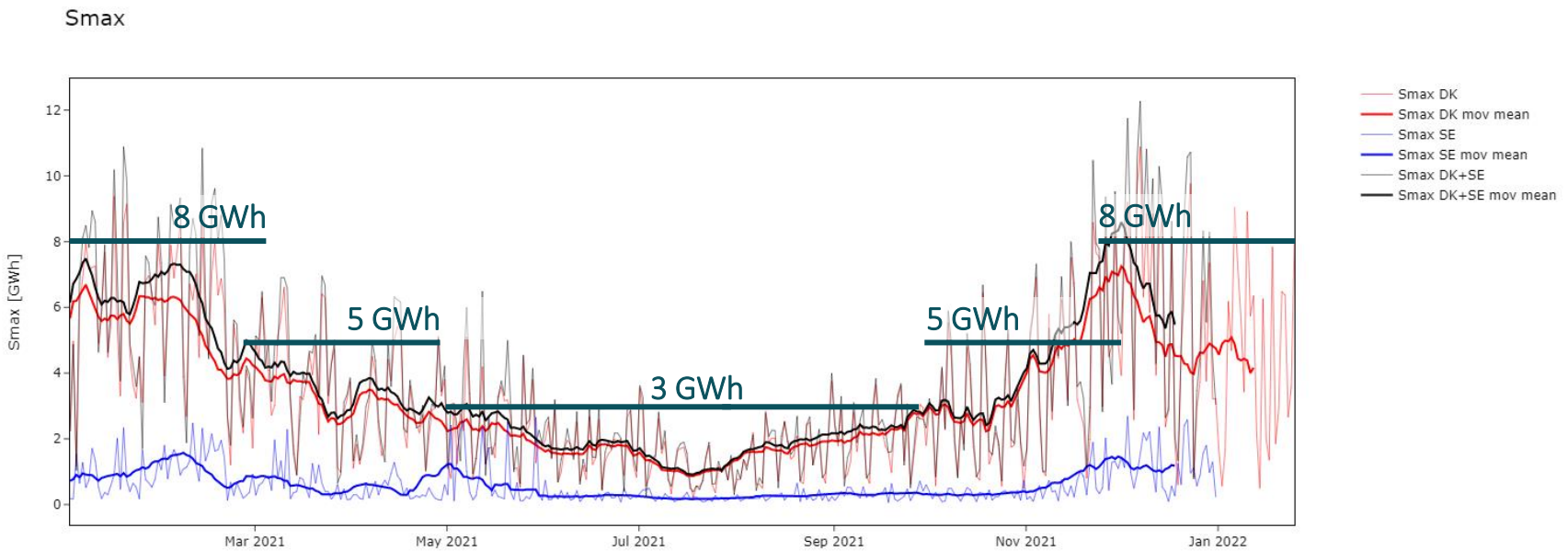
→ Value may change in the future, based on experience with the new system and flows

5 GWh

Smax

100%

Daily coverage – majority of the year



CHANGES FROM 1 OCTOBER 2022

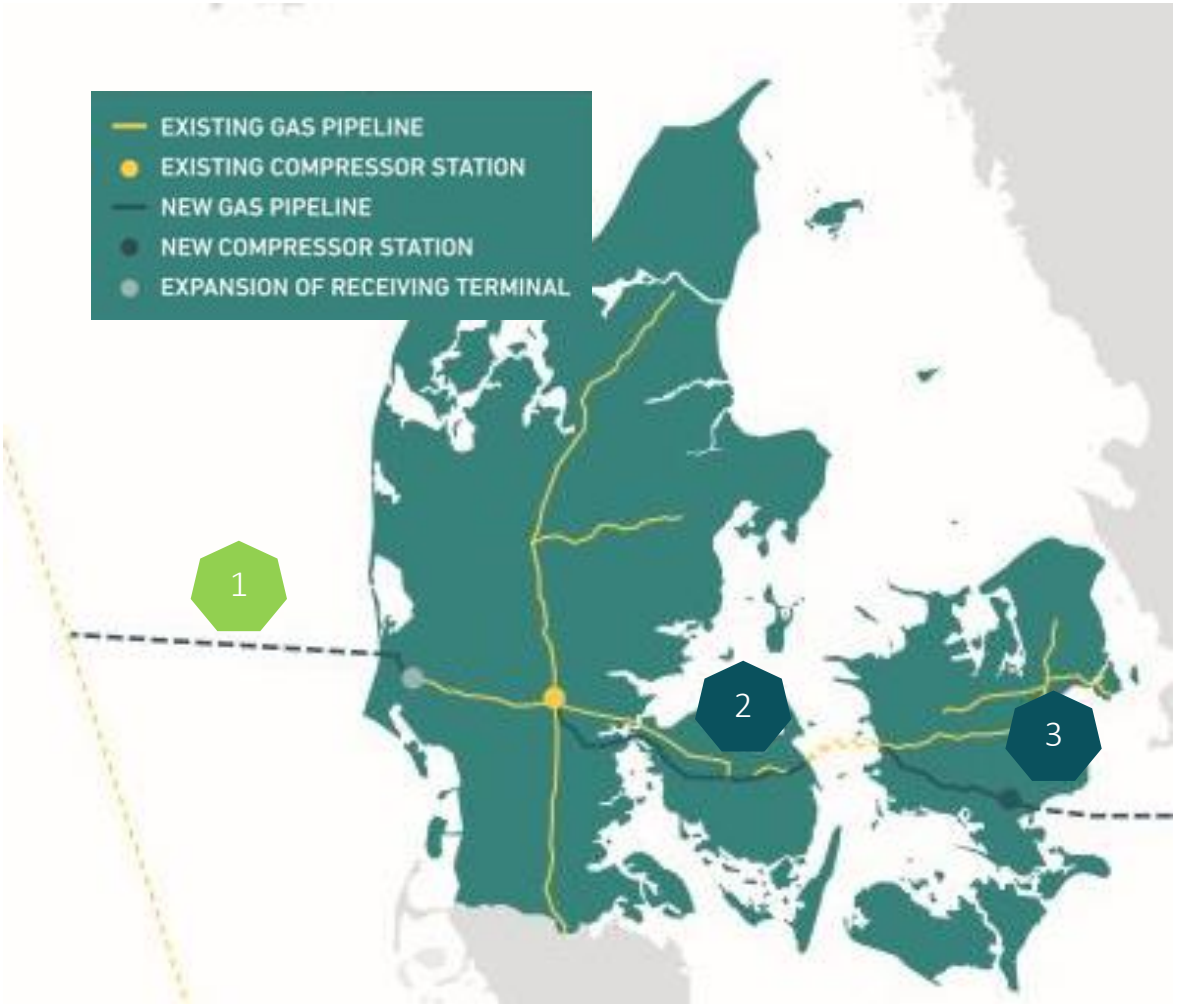
Driven by replacement of Energinet market system (IT)

- Capacity booking
  - Majority of products offered at PRISMA. Faxe offered at GSA platform
  - Long term products (FCFS) can be booked from 1 july
- Virtimo communication (AS4 & XML)
  - AS4 communication supported by Virtimo from 1 October
  - Shippers will be contacted by Virtimo to set up communication
- New portal will replace Energinet Online
  - Shipper administrators are to create all existing users and new users on the new portal in September
- Register of relations
  - Change process – more details will follow

UPDATE ON GAS FILLING

Gas filling of pipelines

1. Danish offshore - COMPLETED
2. Onshore – ON TRACK
   - First part to be filled in July. Gas will be bought on Danish Gas Exchange
   - Second part to be filled in December
3. Interconnector – ON TRACK
   - To be filled from Poland by Gaz-System



CHANGE IN OFF-SPEC FEE - UPDATE

CURRENT FEE

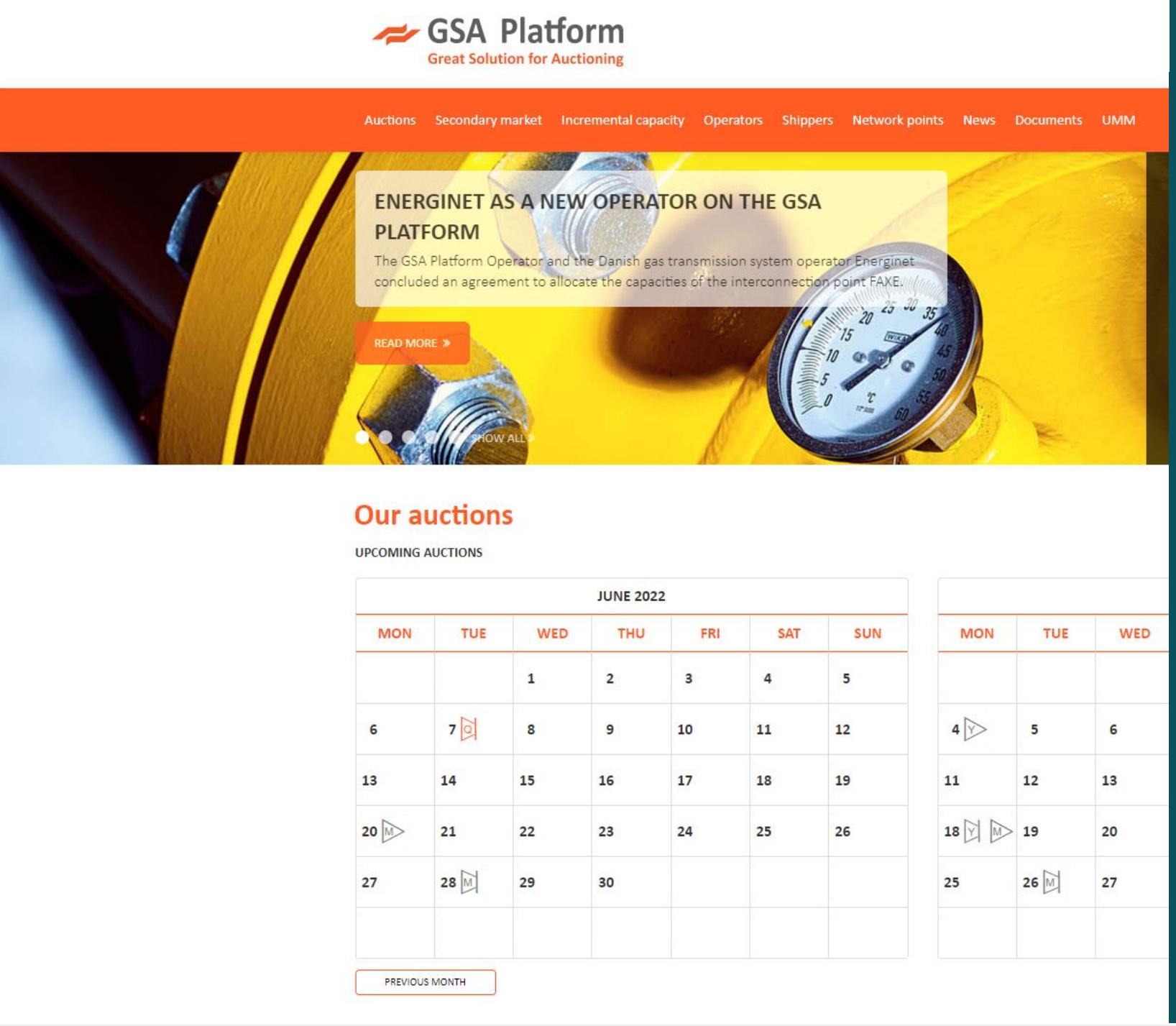
- Standard fee set in 2004
- Changing hands from shippers delivering off-spec to shippers delivering to end-consumers

REASON FOR CHANGE OF FEE

- Present structure does not fit well with future transit system
- Does not give a strong incentive for shippers to avoid off-spec gas

EXPECTED FUTURE FEE

- Reflect actual costs for Energinet for handling off-spec gas - in line with NC TAR on non-transmission services
- **Expected from 1 October 2023**



CAPACITY PLATFORM AT FAXE

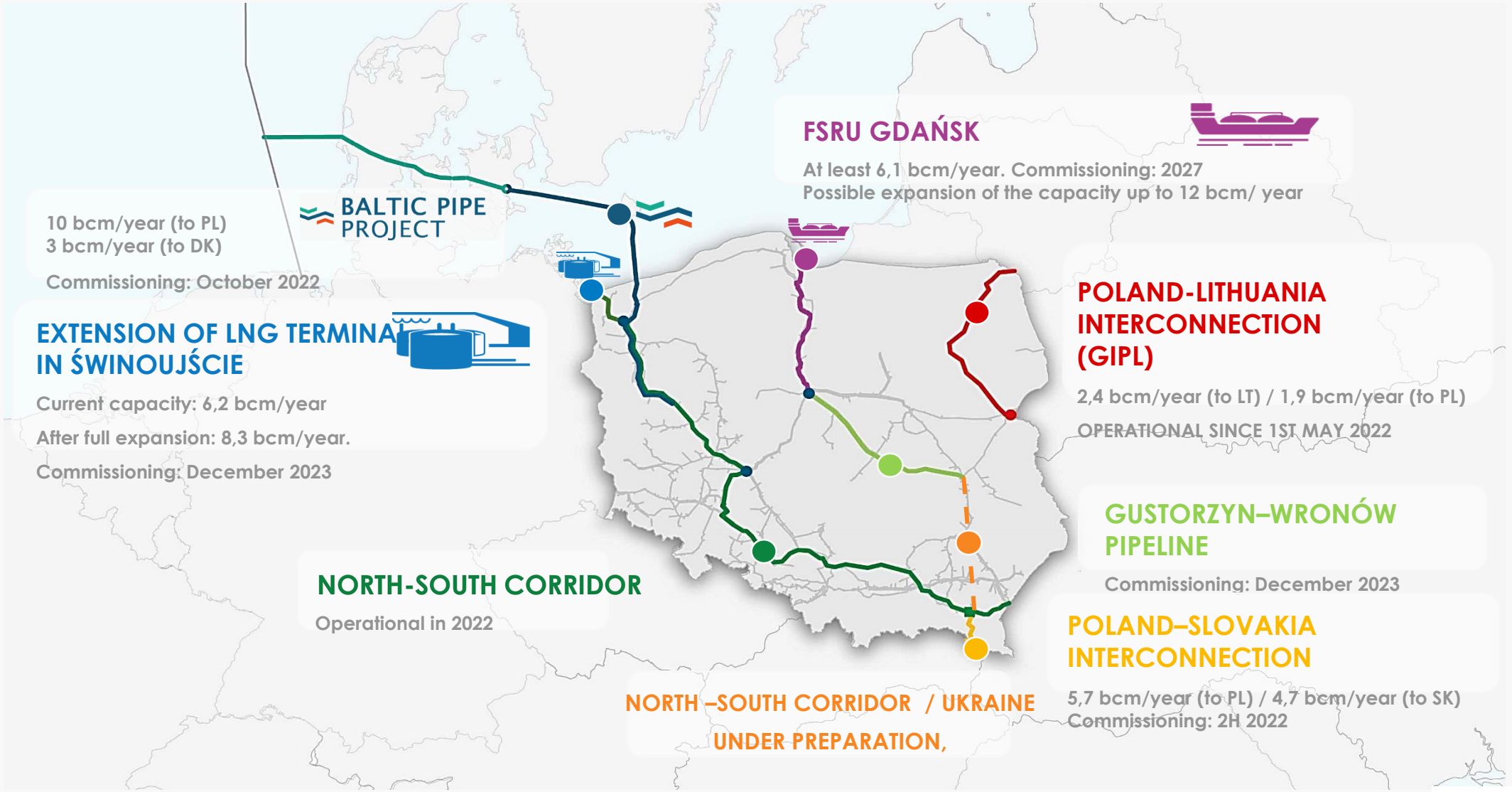
- GSA Platform is chosen as the starting platform for IP Faxe (first 3 years)
- Shippers should make sure to register in due time
- For registration and booking, please go to GSA (gsaplatform.eu)

HOW TO BECOME A SHIPPER IN POLAND

Copenhagen, 9 June 2022

GAZ system

GAZ-SYSTEM'S NETWORK – MARKET OPORTUNITIES



BALTIC PIPE PROJECT

10 bcm/year (to PL)
3 bcm/year (to DK)

Commissioning: October 2022

FSRU GDAŃSK

At least 6,1 bcm/year. Commissioning: 2027
Possible expansion of the capacity up to 12 bcm/ year

EXTENSION OF LNG TERMINAL IN ŚWINOUJŚCIE

Current capacity: 6,2 bcm/year

After full expansion: 8,3 bcm/year.

Commissioning: December 2023

POLAND-LITHUANIA INTERCONNECTION (GIPL)

2,4 bcm/year (to LT) / 1,9 bcm/year (to PL)

OPERATIONAL SINCE 1ST MAY 2022

GUSTORZYN–WRONÓW PIPELINE

Commissioning: December 2023

NORTH-SOUTH CORRIDOR

Operational in 2022

POLAND–SLOVAKIA INTERCONNECTION

5,7 bcm/year (to PL) / 4,7 bcm/year (to SK)
Commissioning: 2H 2022

NORTH –SOUTH CORRIDOR / UKRAINE

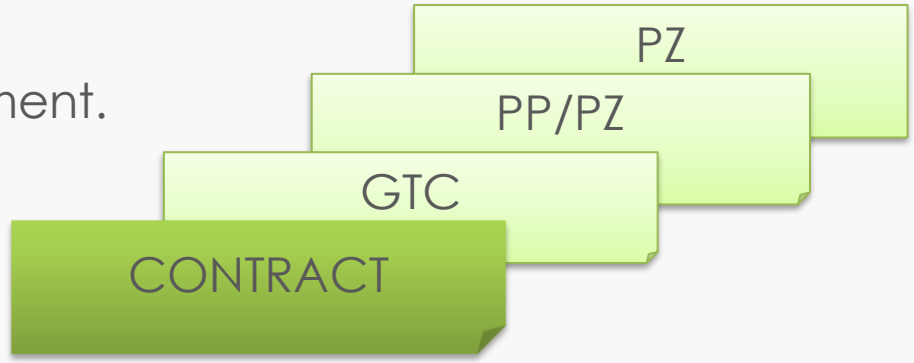
UNDER PREPARATION,

GAZ system

Co-funded by the European Union

TRANSMISSION CONTRACT

1. The transmission contract is a framework agreement.
2. GTC is a part of transmission contract.
3. Each framework contract has a separate PP or PZ for specific points.



Capacity Allocation (PP)	Availability Allocation (PZ)
• Physical entry/exit point	• Entry/exit points
• Duration of PP for a given point	• Duration of PZ for a given point
• Type of capacity – firm/interruptible	

https://www.gaz-system.pl/en/for-customers/services-in-the-nts/gas-transmission-through-the-nts/nts-transmission-contract.html

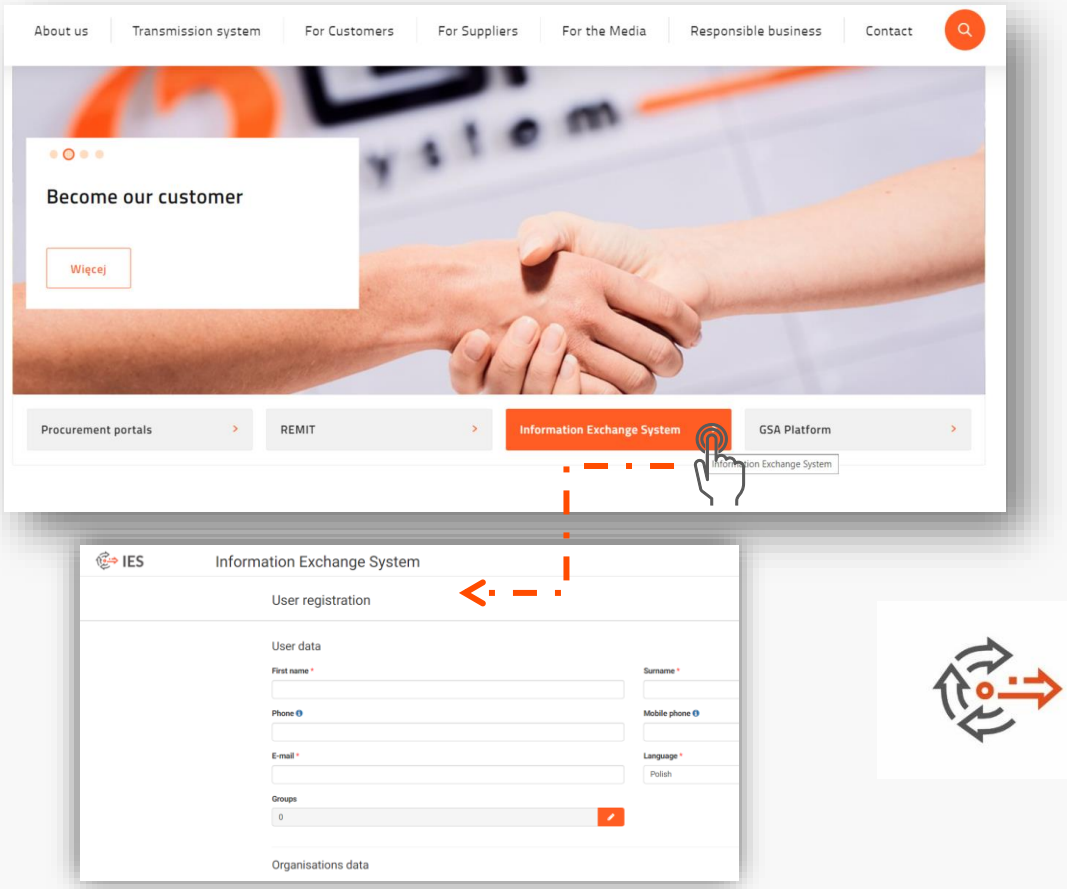
HOW TO BECOME A GAZ-SYSTEM'S SHIPPER?

1. Registration entity and first representatives in the Information Exchange System (IES)
2. Submission of an application for provision of the transmission service via IES and conclude an agreement
3. Submission of an application form for capacity allocation via IES for specific (internal) points

Auctions on IP's held on GSA booking platform

REGISTRATION IN THE INFORMATION EXCHANGE SYSTEM

Step 1 First User Registration



IES

Step 2 Delivery of the documents

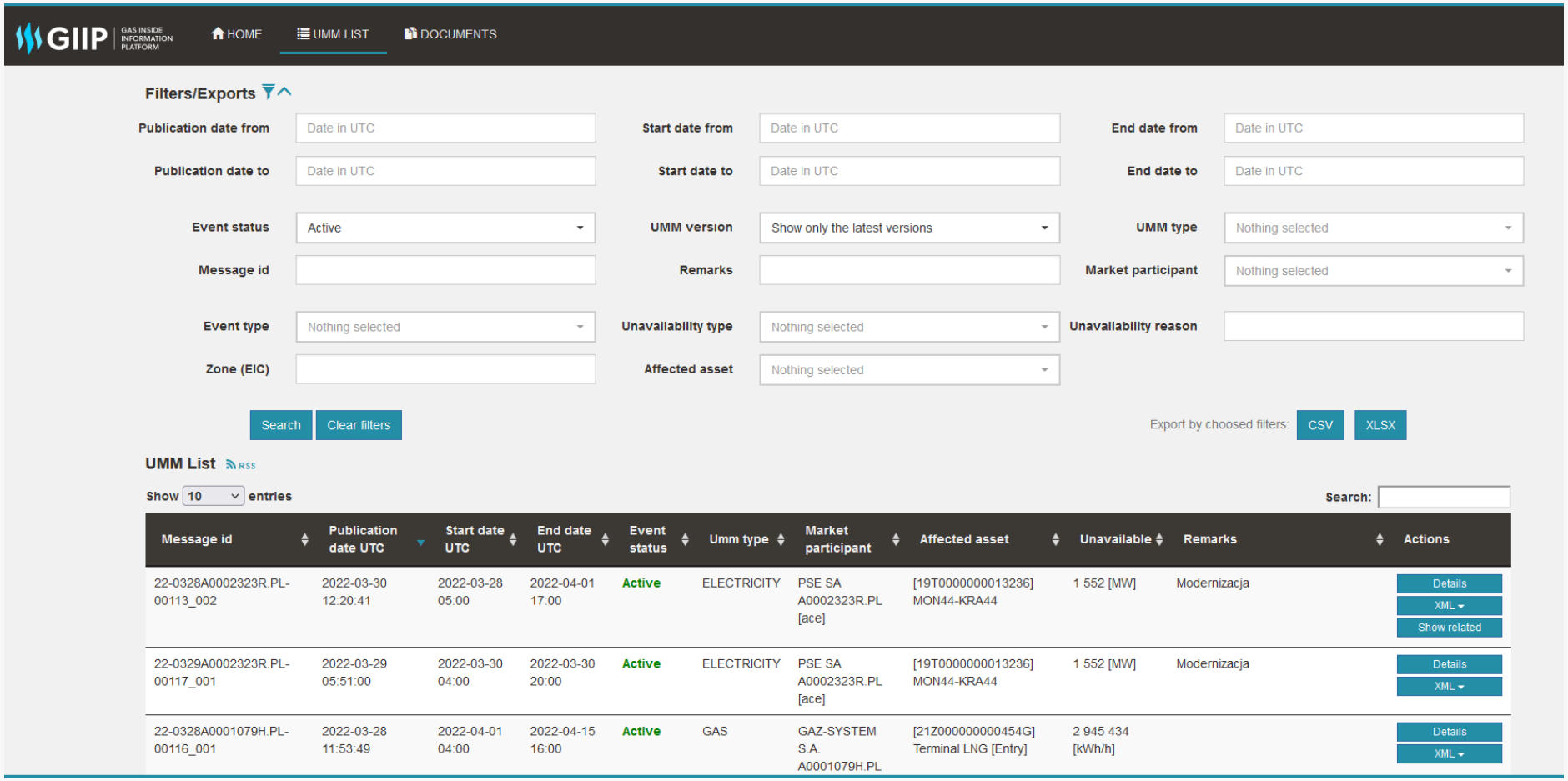
- **Power of attorneys to register in the IES.**
- **Power of attorneys to act in the IES within the scope of utilisation of services of GAZ-SYSTEM S.A.** for submitting applications for transmission contract, capacity allocation (PP) and transmission ability allocation (PZ).
- **Power of Attorney for Administrator within organisation (AWO)** who is responsible for managing all Users accounts, modifying user roles for people in your organisation.
- Current extract from the National Court Register.

Step 3 Activation of the account

Activation of the User account by IES Team after positive verification of the documents.

CONTACT: klient@gaz-system.pl

GAS INSIDE INFORMATION PLATFORM

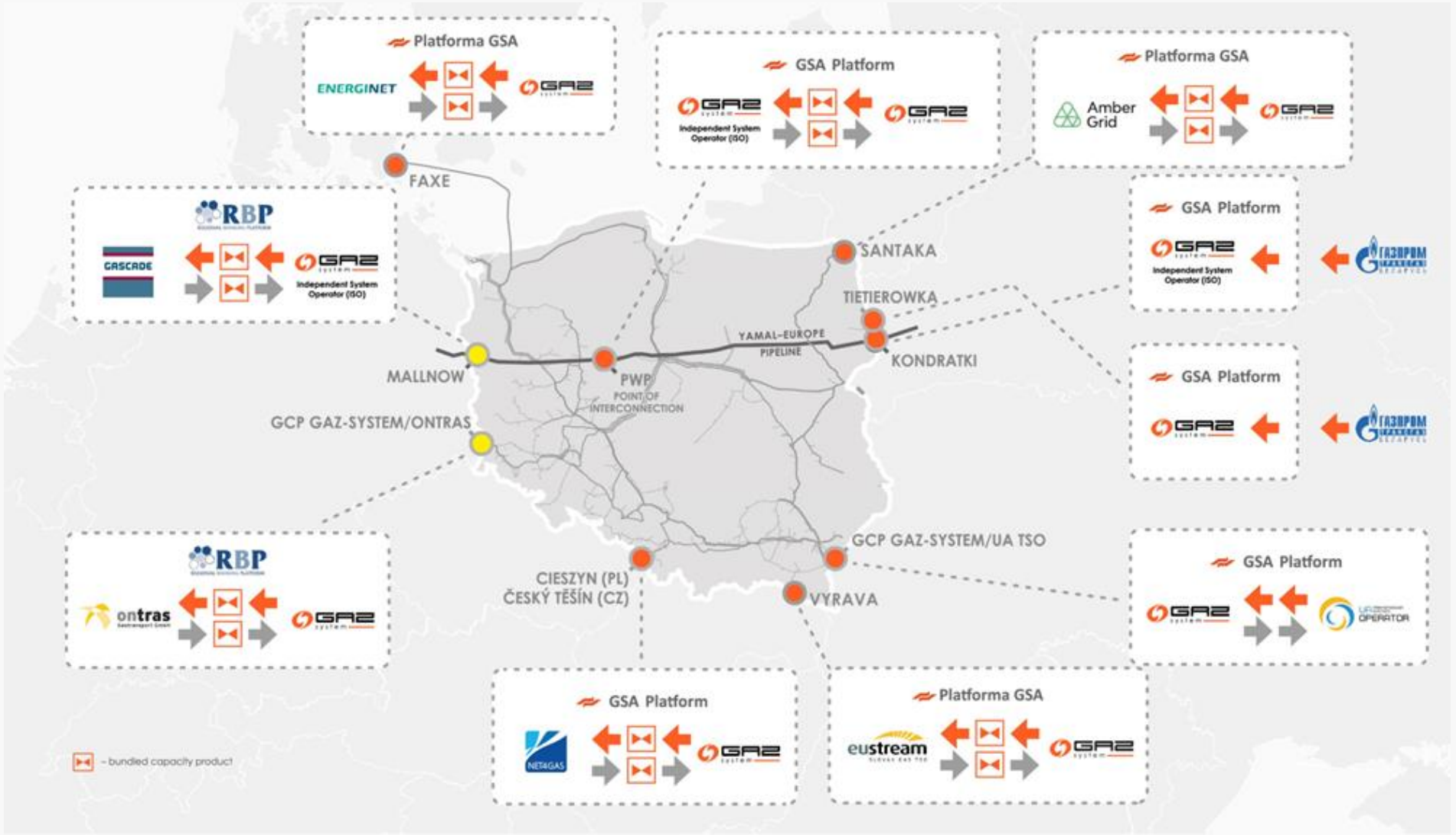


https://www.gasinsideinformationplatform.pl/publicUmmList.html

GAZ system

CAPACITY BOOKING PLATFORMS

GSA PLATFORM



HOW TO ACCESS GSA PLATFORM – SHIPPERS PERSPECTIVE

SHIPPER

Awareness and compliance with the GSA Platform Rules

Scan of Power of attorney & extract from commercial register from Shipper's First User

Provision of documents required by TSOs

During registration process, the Shipper needs to agree to comply with the GSA Platform Rules defining principles for the use of the GSA Platform.

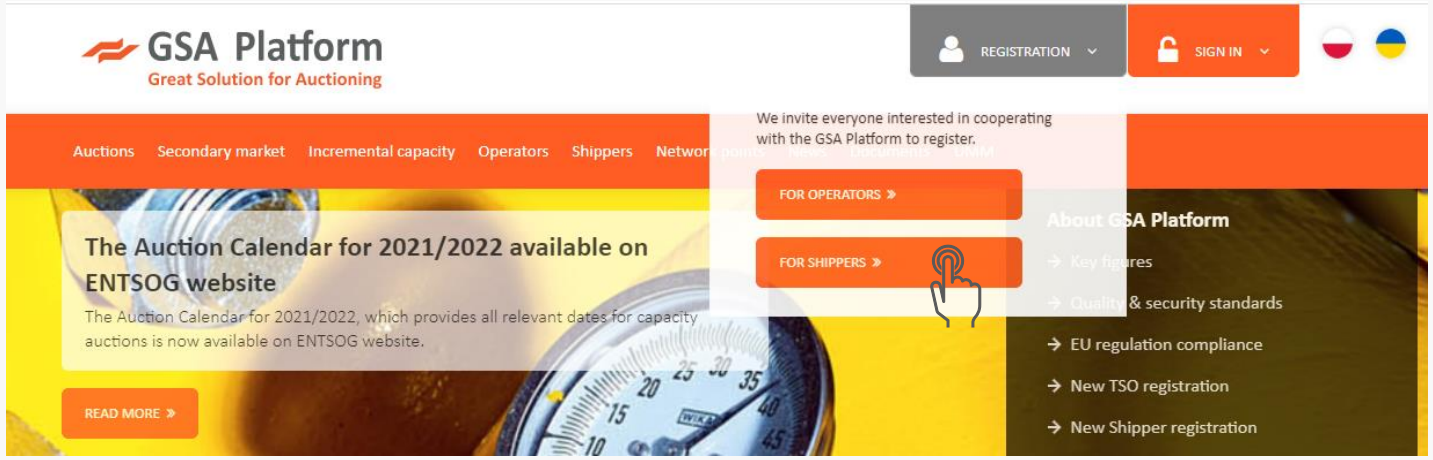
To use of the GSA Platform, the Shipper needs to provide electronic versions of a power of attorney and excerpt from commercial register.

To use the GSA Platform, the Shipper needs to be activated by a given TSO, after it provides all the documents required by the TSO.

REGISTRATION ON GSA PLATFORM

Step 1 — First User Registration

A	Entering the User data
C	Entering the System User/Organisation data
A	Acceptance of the Terms and Conditions
C	Confirmation of the registration (by clicking on the link)



Step 2 — Delivery of the documents

- ☐ **Power of attorneys for the first User - to conclude an agreement for the use of the GSA Platform**
- ☐ Current extract from the National Court Register.

Step 3 — Activation of the account

Activation of the User account by GSA Team after positive verification of the documents.

First Platform User = Organisation Administrator (AO)

Platform User acting as the Organisation Administrator on behalf of the relevant respectively Shipper has a constant view of the list of Platform Users and has the ability to accept, block, delete accounts and assign the role of Administrator or Observer to activated Platform Users.

CONTACT : aukcje@gsaplatform.eu

HOW TO REACH US?

https://gsaplatform.eu/

https://gsaplatform.eu/test2

Test environment

aukcje@gsaplatform.eu

https://gsaplatform.eu/files/downloads

Main documents

(GSA Platform Rules, GSA Platform Operator's and Shipper's Manuals)

https://www.linkedin.com/company/gsa-platform/

Linkedin

QUESTIONS

???

GAZ system

QUESTIONS

Contact: cru@energinet.dk

TARIFFS 2022/2023

Nina Synnest Sinvani, Energinet

CONTENT

- Adjustments of tariff methodology
- Tariff 2022/2023
- Development in transportation tariffs

- Assumptions:
  - Cost base - Over recovery
  - Capacity

- Next step

DANISH UTILITY REGULATOR APPROVED MOST ADJUSTMENTS

- 100 pct. capacity tariff
- Reference price methodology (RPM) so that the uniform tariff method-ology is continued including upstream costs related to the availability of capacity (in the EPII Branch Pipeline) are socialized.
- The change in the recovery period to move from gas year to calendar year.
- The emergency supply tariff for protected customers.

OTHER TOPICS OF THE APPROVAL

The approval of Danish Utility Regulator (DUR) can be found here.

- DUR did not approve:
  - The notified emergency supply tariff for non-protected customers
  - The notified capacity-based transmission tariff discount for long-term capacity products with terms of five years or more

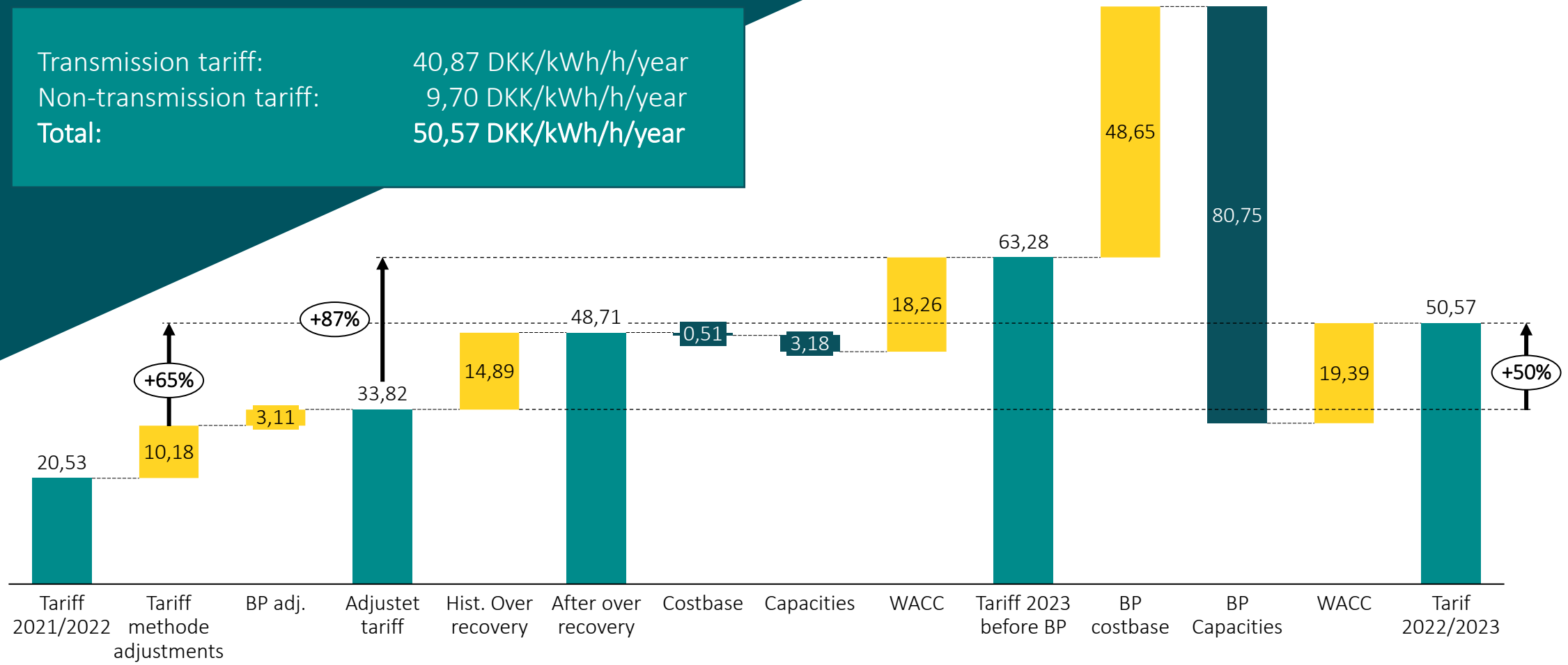
- Also, Energinet was asked to carry out a consultation on the process for the change to the recovery period. The description and process can be found here:

  Change of tariff period from gas year to calendar year | Energinet

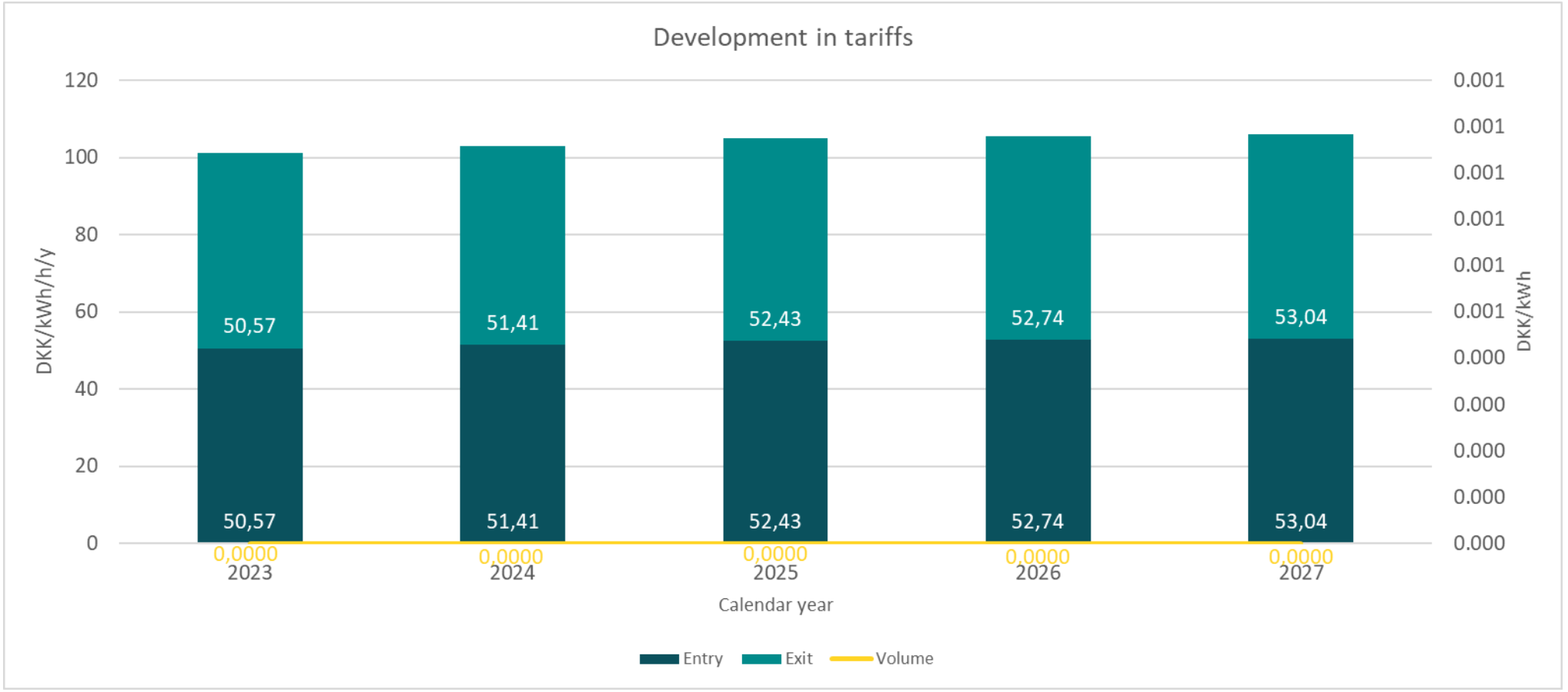
- If you have any comments to the process, please send an email to gasinfo@energinet.dk by 15 June, end of business day.

TARIFF EFFECTS 2022-2023 (DKK/KWH/H/YEAR)

Transmission tariff:	40,87 DKK/kWh/h/year
Non-transmission tariff:	9,70 DKK/kWh/h/year
Total:	**50,57 DKK/kWh/h/year**



DEVELOPMENT IN TRANSPORTATION TARIFFS



ASSUMPTIONS

COST BASE

Increase in return of investment (WACC 5.5 %)

Cost base in simulation (nominal)	Unit	2023
TOTEX, non transmission	MDKK	163
of which OPEX	*MDKK*	*69*
of which CAPEX	*MDKK*	*93*
WACC, non transmission	MDKK	144
TOTEX transmission system	MDKK	654
of which OPEX	*MDKK*	*344*
of which CAPEX	*MDKK*	*310*
WACC, transmission system	MDKK	640
Over/under coverage	MDKK	0
Tariff calculation cost base	**MDKK**	**1601**

Assumption 2021/2022:

- TOTEX 517 mDKK
- Over coverage -123 mDKK

CAPACITY AND FLOW ASSUMPTIONS

	2021/2022	2022/2023	Change
Capacity (kWh/h/year)			
Exit JEZ	3.700.000	3.847.673	4 %
Exit Ellund	0	100.000	-
Exit Faxe	2.607.200	11.752.854	351 %
Exit capacity	6.307.200	15.700.527	149 %
Entry Nybro	210.000	1.025.000	388 %
Entry Ellund	3.516.078	2.842.282	-19 %
Entry RES	809.278	1.002.222	24 %
Entry EPII	2.607.200	11.080.356	325 %
Entry Capacity	7.142.556	15.949.860	123 %
Capacity total	**13.449.756**	**31.650.386**	**135 %**

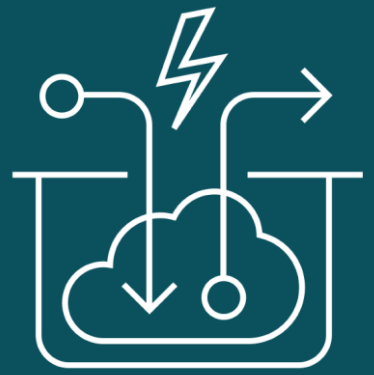
NEXT STEP

We will continue to have a high involment of the market on the tariff methodology in the coming years and are as always open for bilateral meetings.

Adjustments of the tariff methodology for the non-protected customers in public consultation at the end of June / start July.

QUESTIONS

Contact: nsy@energinet.dk

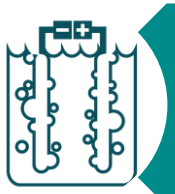


HYDROGEN INFRASTRUCTURE

Nicolai Sørensen, Energinet

NATIONAL PTX-AGREEMENT

Highlights



4-6 GW electrolysis in 2030

Net export of green energy

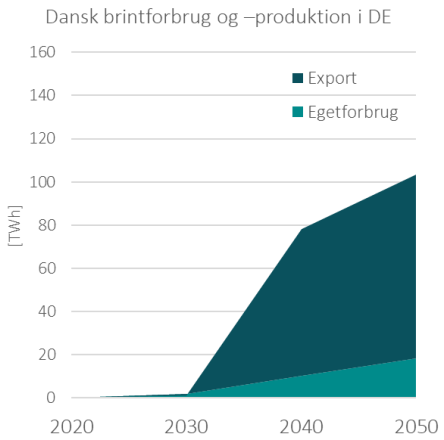
€170 million in subsidies over 10 years

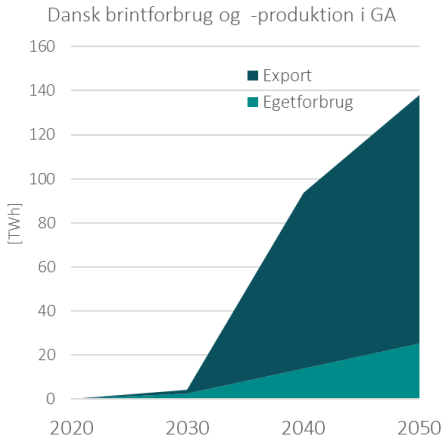
Holistic energy system planning

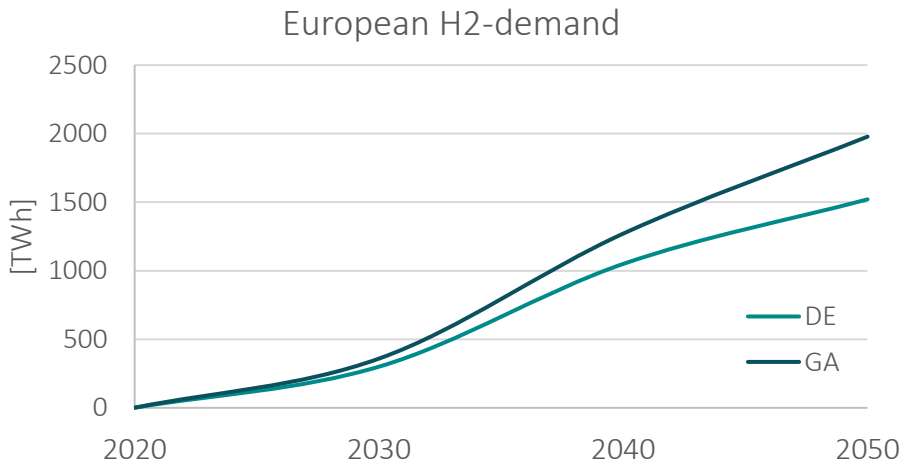
H2-infrastructure

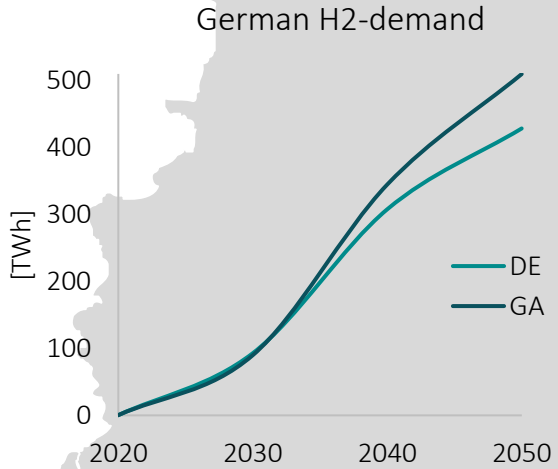
Fundamental reform of electricity tariffs

STRONG DANISH EXPORT CASE









THE EUROPEAN HYDROGEN BACKBONE

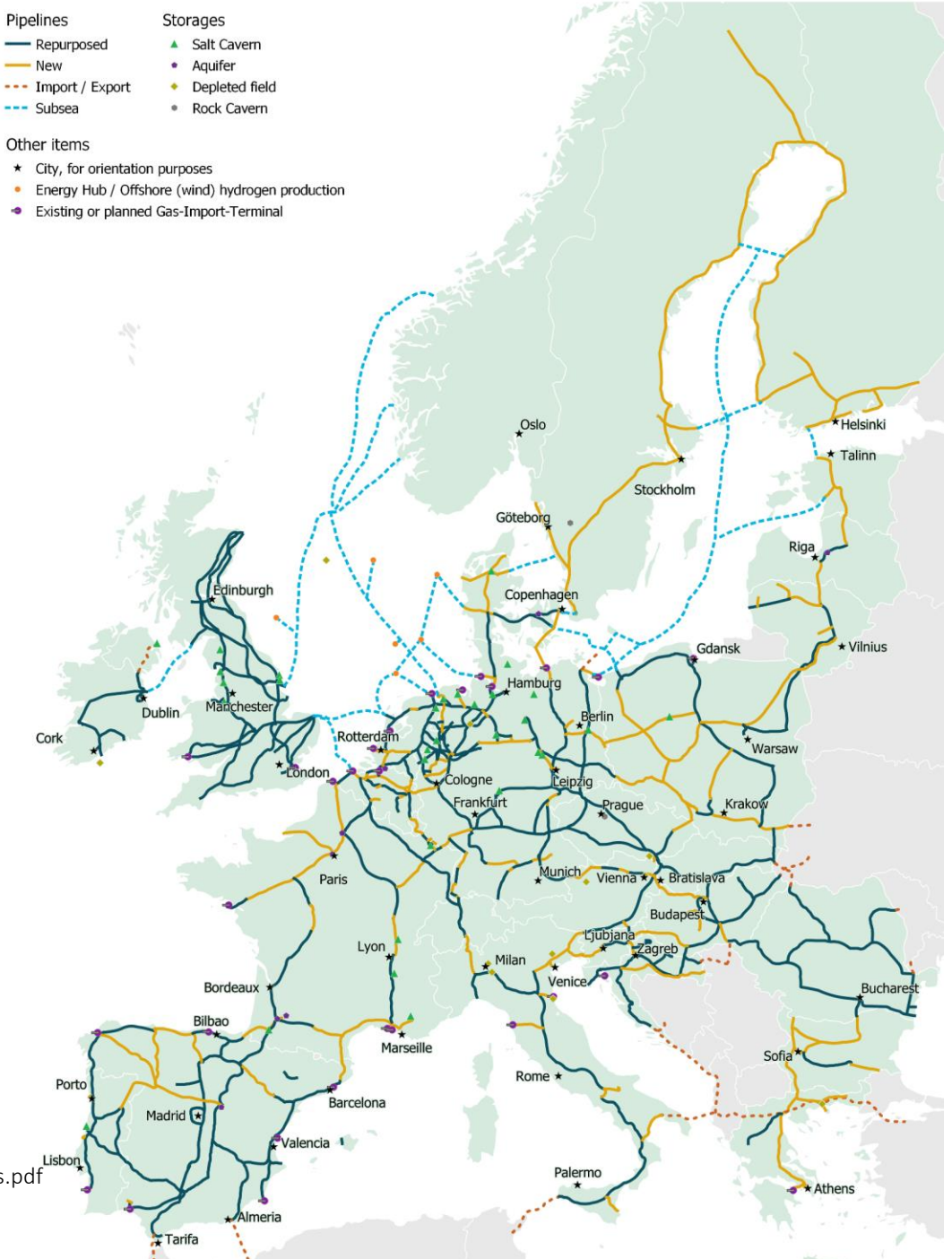
The report published shows a vision for a

~53,000 km hydrogen pipeline infrastructure

31 TSOs from **28** countries

over **60 %** of which is based on repurposed existing natural gas pipelines

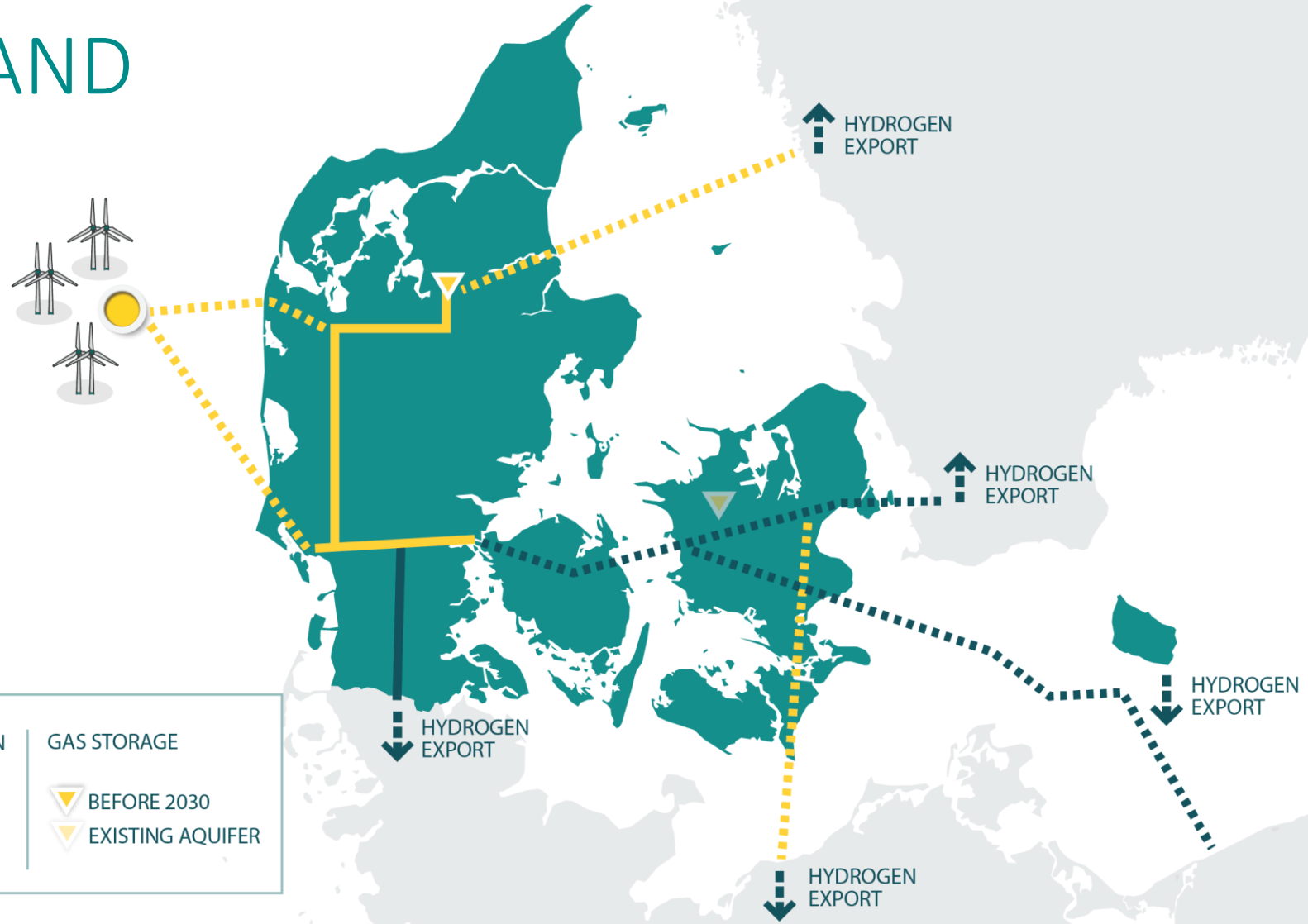
Making it possible to create the European Hydrogen Backbone at affordable costs



https://gasforclimate2050.eu/wp-content/uploads/2022/04/EHB-A-European-hydrogen-infrastructure-vision-covering-28-countries.pdf

WESTERN JUTLAND

Exports to Germany and Sweden and Poland



BACKBONE PROJECT PHASES

2022

2023-2025

2025-
2028/2030

DANISH HYDROGEN BACKBONE

PROJECT FEASIBILITY

Design solutions
Cost and time estimates
Socio economics

REQUIREMENTS FOR TRANSITION TO MATURATION

PROJECT MATURATION

Final designs
Environmental assessment
Market rules

Capacity contracts
Business case
FID §4

REQUIREMENTS FOR TRANSITION TO ESTABLISHMENT

PROJECT ESTABLISHMENT

Pipeline construction
Storage construction

QUESTIONS

Contact: nso@energinet.dk

FINAL REMARKS

Clement Johan Ulrichsen, Energinet

CLOSED FOR VACATION

- Week 29
- 18-24 July 2022

QUESTIONS

Contact: cju@energinet.dk