SHIPPERS' FORUM

7 March 2019

WELCOME

Clement Johan Ulrichsen, Energinet Gas TSO

HOST

EMERGENCY
EXIT

DEFIBRILLATOR
(AED)

MEETING POINT

PROGRAMME

12.00	*Lunch and networking*
13.00	Welcome *Clement Johan Ulrichsen, Energinet Gas TSO*
13.15	Preparing for the New EU Gas Package *Mads Lyndrup, Danish Utility Regulator*
13.25	Gas Strategy *Torben Brabo, Energinet Gas TSO*
13.45	Implicit Allocations and Customer Focus *Thibault Villedieu de Torcy, PRISMA*
14.05	Sales Status for Gas Storage *Hans-Åge Nielsen, Gas Storage Denmark*

14.25 Coffee break and networking

14.55	Tyra Redevelopment • Safe Storage Level– *Christian Meiniche Andersen, Energinet Gas TSO* • Seasonal tariffs – *Lasse Trøjborg Krogh, Energinet Gas TSO*
15.15	Stronger Balancing Signal *Julie Frost Szpilman, Energinet Gas TSO*
15.25	Joint Balancing Zone *Signe Louise Rasmussen, Energinet Gas TSO*
15.35	Incremental Capacity *Christian Rutherford, Energinet Gas TSO*
15.45	Baltic Pipe North Sea Entry *Michael Brock, Energinet Gas TSO*
15.55	Final Remarks *Clement Johan Ulrichsen, Energinet Gas TSO*

WHO IS WHO…

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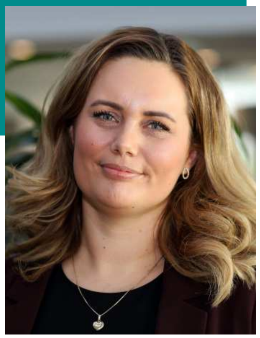
- ✓ General support



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- ✓ Filling Requirements

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- ✓ Emergency gas
- ✓ Filling requirements

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- ✓ Market surveillance

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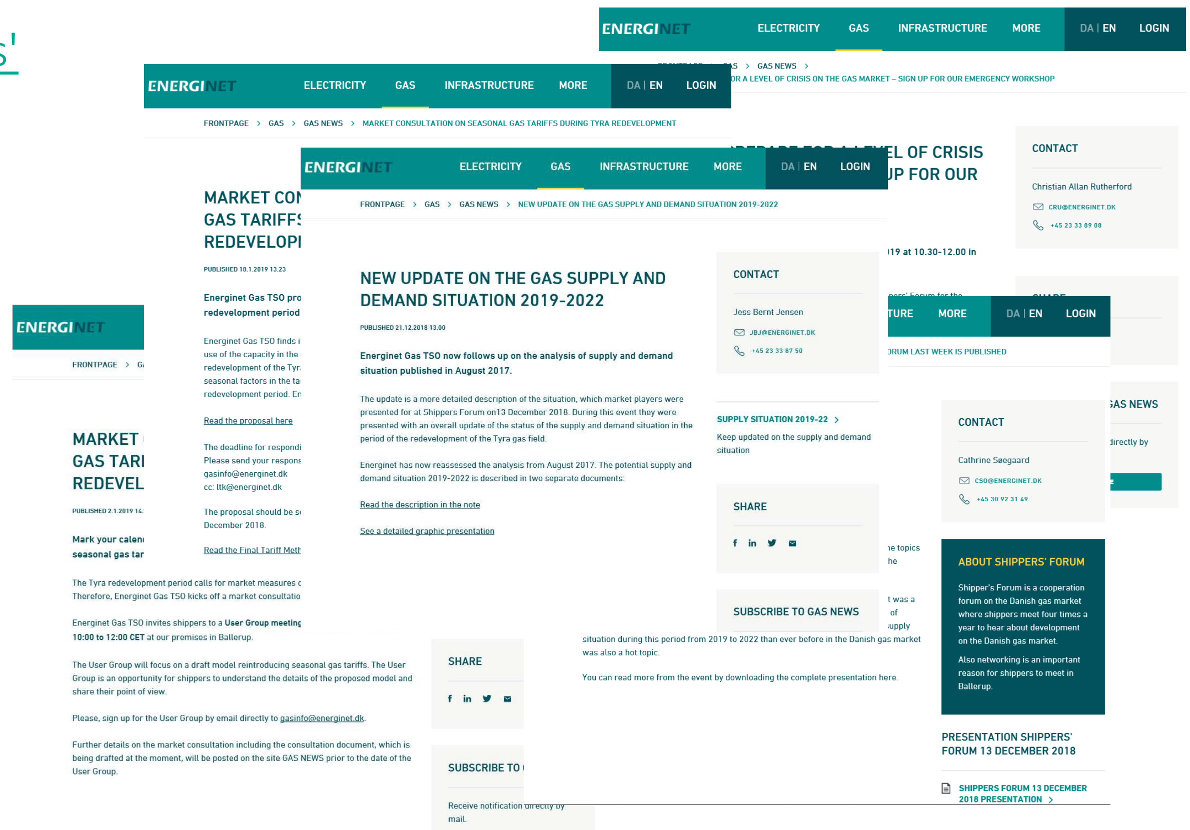
REMEMBER TO SIGN UP TO 'GAS NEWS'

[Click here to sign up for 'Gas News']

Information includes:

- Invitations (Shippers' Forum, User Groups, Workshops etc.)
- Market Consultations
- Presentations
- Etc.



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ENERGINET NOW OFFERS AS4 COMMUNICATION

Fulfilment of Network Code on Interoperability and Data Exchange

Safer data communication

EDIG@S	PROTOCOL	MORE INFORMATION
• XML 4.0 • XML 5.1	• AS2 • AS4	• www.energinet.dk

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BALANCING MEASURES APPROVED BY DUR

3 new measures enter into force on 1 April 2019

1. Removal of price caps
    - Marginal yellow zone trade prices (35 per cent)
    - Neutral gas price (10 per cent)
2. New method: Adjustment step 2 price
    - Highest alternative (Ellund or storage) calculated for each month
    - Prices for coming months (April-September) listed
3. New method: Imbalance price in Emergency
    - Highest day-ahead price during storage season at either GPN, NCG or GASPOOL
    - Current season price: **29,806 EUR/MWh** (GASPOOL, 24 Sep. 2018)

Month in 2019	Incentive relative to Neutral Gas Price
April	10 pct.
May	5 pct.
June	5 pct.
July	5 pct.
August	5 pct.
September	5 pct.

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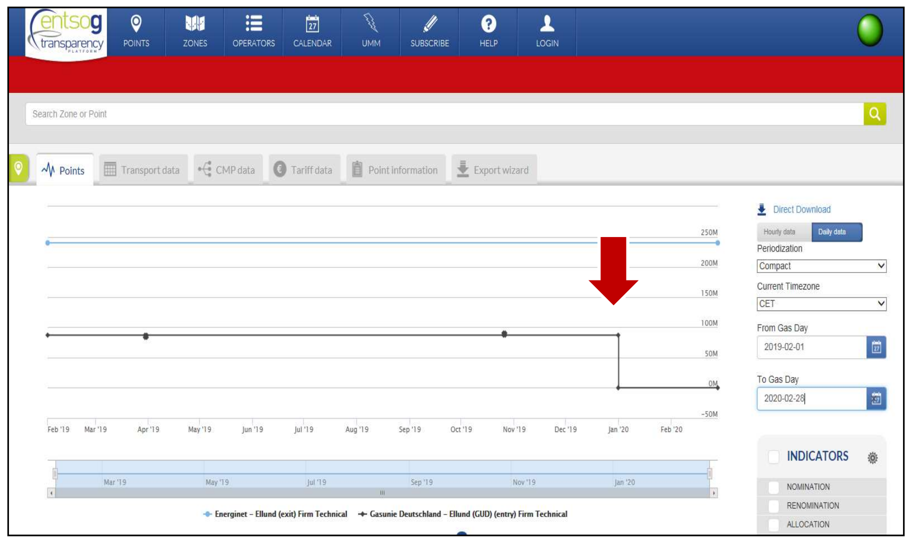
2020: NO FIRM SOUTHBOUND CAPACITY

From 1 Jan. 2020 GUD will reduce the southbound firm capacity at Ellund to zero

Make your voice heard in the incremental capacity process

- Graph shows capacity in direction of Gasunie Deutchland (GUD)
- Capacity reduction also after Tyra edevelopment
- If you need firm Ellund southbound:
  - Incremental capacity process in summer 2019
  - Please indicate in non-binding assessment form



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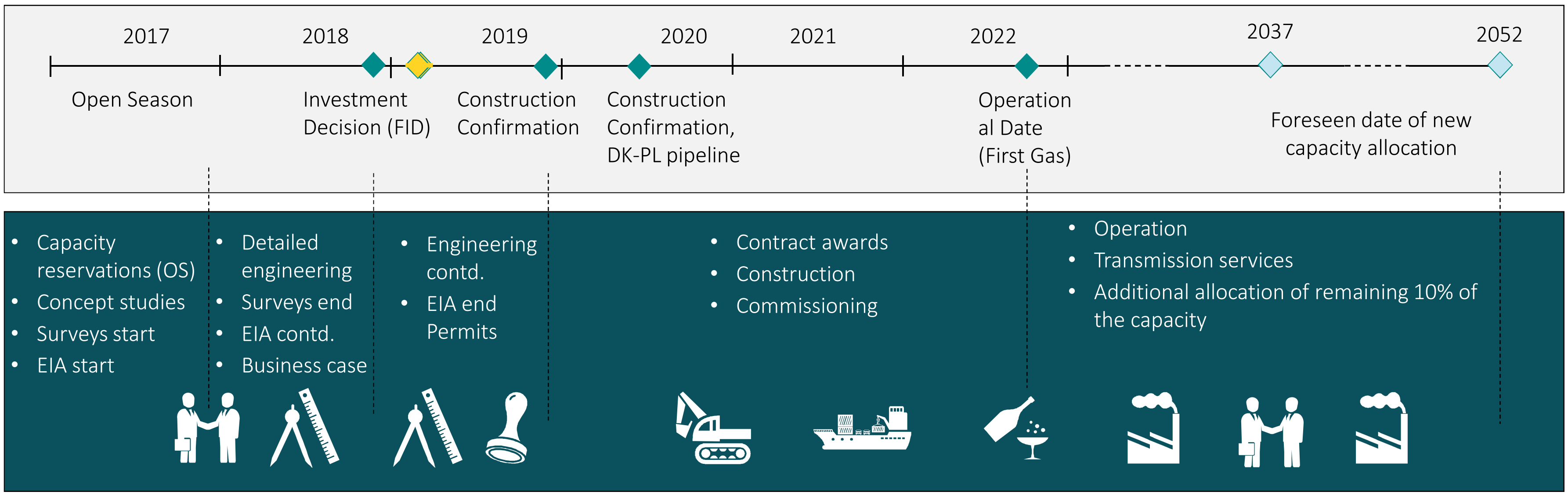
BALTIC PIPE PROJECT ON TRACK

Environmental Impact Assessment in Denmark: Public consultation from 15 Feb. to 12 April 2019.

Cross Border Environmental Impact Assessment (Espoo) consultation ongoing

Continued Engineering



Co-financed by the Connecting Europe Facility of the European Union

QUESTIONS

Contact: cju@energinet.dk

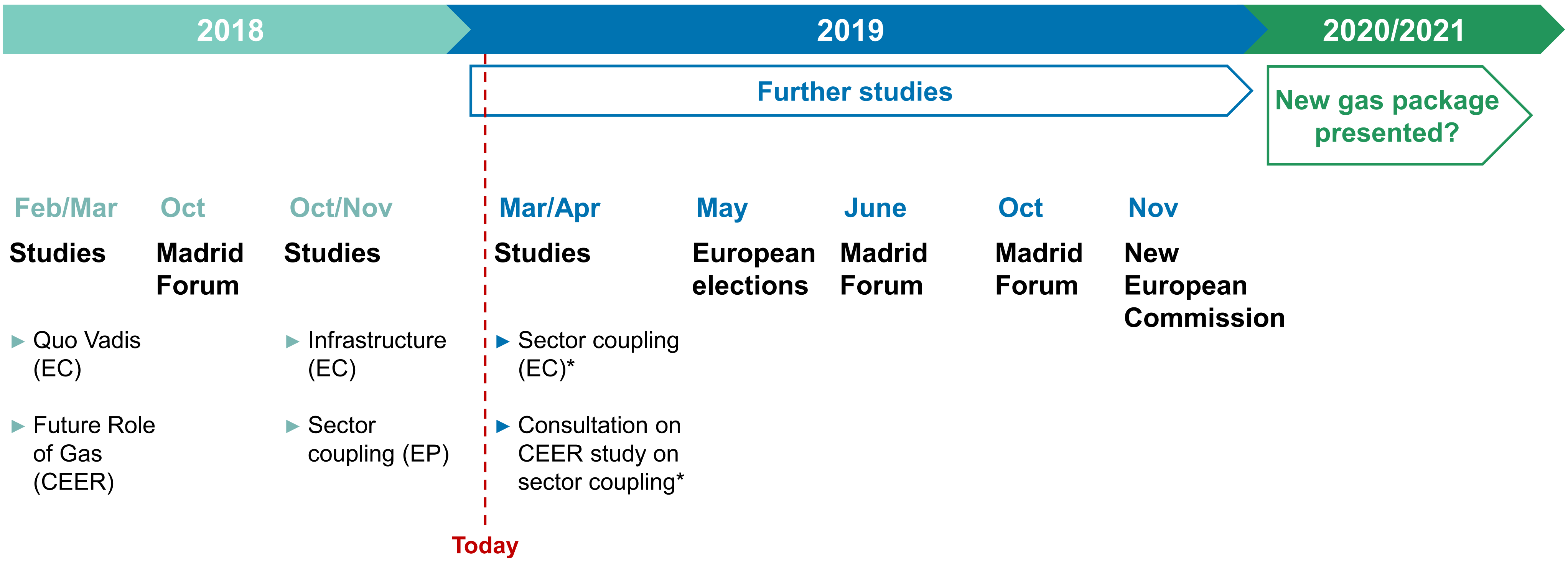
Danish
Utility Regulator

Preparing for the new EU gas package

Presenter/
Mads Lyndrup

Date/
07.03.2019

The road towards the new EU gas package



Feb/Mar	Oct	Oct/Nov	Mar/Apr	May	June	Oct	Nov
Studies	**Madrid Forum**	**Studies**	**Studies**	**European elections**	**Madrid Forum**	**Madrid Forum**	**New European Commission**
▶ Quo Vadis (EC) ▶ Future Role of Gas (CEER)		▶ Infrastructure (EC) ▶ Sector coupling (EP)	▶ Sector coupling (EC)* ▶ Consultation on CEER study on sector coupling*				

** Expected timing*

The focus areas for the new EU gas package

Mirroring the Clean Energy Package (CEP)	Upgrading the EU gas market and market rules	Sector coupling – the future role of gas in decarbonisation
– Governance and institutional measure, e.g. new DSO entity – Consumer rights and protection – Open and fair retail markets – Digitalisation	– Regulatory barriers for wholesale markets, e.g. trade licensing – Improve market liquidity: Capacity and commodity release – Tariffs: TSO revenue and pancaking – LNG terminal regulation – Tailor made regulation for underperforming markets	– Regulatory framework for renewable and low-carbon gases, e.g. unbundling principles and guarantees of origin – Maturity of sector coupling and renewable gas technologies – Infrastructure planning – Hydrogen and power-to-gas – Interoperability across markets

Information sharing and market dialogue

DUR would like to…

- understand all relevant challenges, barriers and opportunities in preparation of the new gas package
- collected feedback and input to be used in DUR's work with CEER and ACER

Facilitation of information

- DUR collects and shares the most relevant information and studies:

  http://forsyningstilsynet.dk/tool-menu/kontakt-og-presseinfo/nyheder/enkelt-nyhed/artikel/udvikling-af-ny-gasregulering-i-eu-gaspakken-2020/

Market dialogues

- DUR will invite market participants to provide feedback and ideas on the focus areas for the new EU gas package

__Relevance of CEP initiatives__ for the gas market__?__

Can __market functioning__ be improved? How?

Which __barriers and challenges__ do you see for upgrading the __gas market rules?__

How to __improve sector coupling__ and provide cost effective flexibility to the system?

Which __barriers and challenges__ do you see for improved __sector coupling?__

Studies and discussions (1/2)

Study on Quo Vadis EU gas market regulatory framework (Quo Vadis)
European Commission, February 2018
https://ec.europa.eu/energy/en/studies/study-quo-vadis-gas-market-regulatory-framework

Study on the Future Role of Gas from a Regulatory Perspective (FROG)
CEER, March 2018
https://www.ceer.eu/documents/104400/-/-/6a6c72de-225a-b350-e30a-dd12bdf22378

31st Madrid Forum
October 2018
https://ec.europa.eu/info/events/madrid-forum-2018-oct-17_en

All Madrid Forums
https://ec.europa.eu/energy/en/madrid-forum-previous-meetings

Interview with the Commission about the gas package (Klaus-Dieter Borchardt, DG ENER Deputy DG, EC)
January 2019
https://www.youtube.com/watch?v=qHCAc_5Yrh4&feature=youtu.be&utm_source=FSR+Energy+%26+Climate+Newsletter&utm_campaign=0429bbcd73-EMAIL_CAMPAIGN_10_18_2018_14_15_COPY_01&utm_medium=email&utm_term=0_d7cd3bc7fc-0429bbcd73-66778365

Studies and discussions (2/2)

Sector coupling and the future role of gas

Study on gas infrastructure in the light of the 2050 decarbonisation targets - European Commission October 2018
https://publications.europa.eu/en/publication-detail/-/publication/1796ecd6-cb71-11e8-9424-01aa75ed71a1/language-en/format-PDF/source-search

Study on sector coupling - European Parliament, November 2018
https://publications.europa.eu/en/publication-detail/-/publication/858d789d-f132-11e8-9982-01aa75ed71a1/language-en/format-PDF/source-search

Study on sector coupling: links between gas and electricity - European Commission, *expected in March 2019*

Study on sector coupling - CEER, *public consultation expected in March 2019*

Upgrading the gas market

Study on tailor made regulation for underperforming markets - European Commission, *expected in mid-2019*

Study on enhancing liquidity by gas and capacity release programs - European Commission, *expected in mid-2019*

Study on distortive effects of non-harmonised tariffs - European Commission, *expected in mid-2019*

Study on regulatory barriers to wholesale markets - European Commission, *expected in mid-2019*

Study on regulatory framework for LNG terminals - European Commission, *expected in 2019/2020*

Thank you for your attention

For an overview of material related to the new gas package, please visit our website:

”Udvikling af ny gasregulering i EU - gaspakken 2020”

http://forsyningstilsynet.dk/tool-menu/kontakt-og-presseinfo/nyheder/enkelt-nyhed/artikel/udvikling-af-ny-gasregulering-i-eu-gaspakken-2020/

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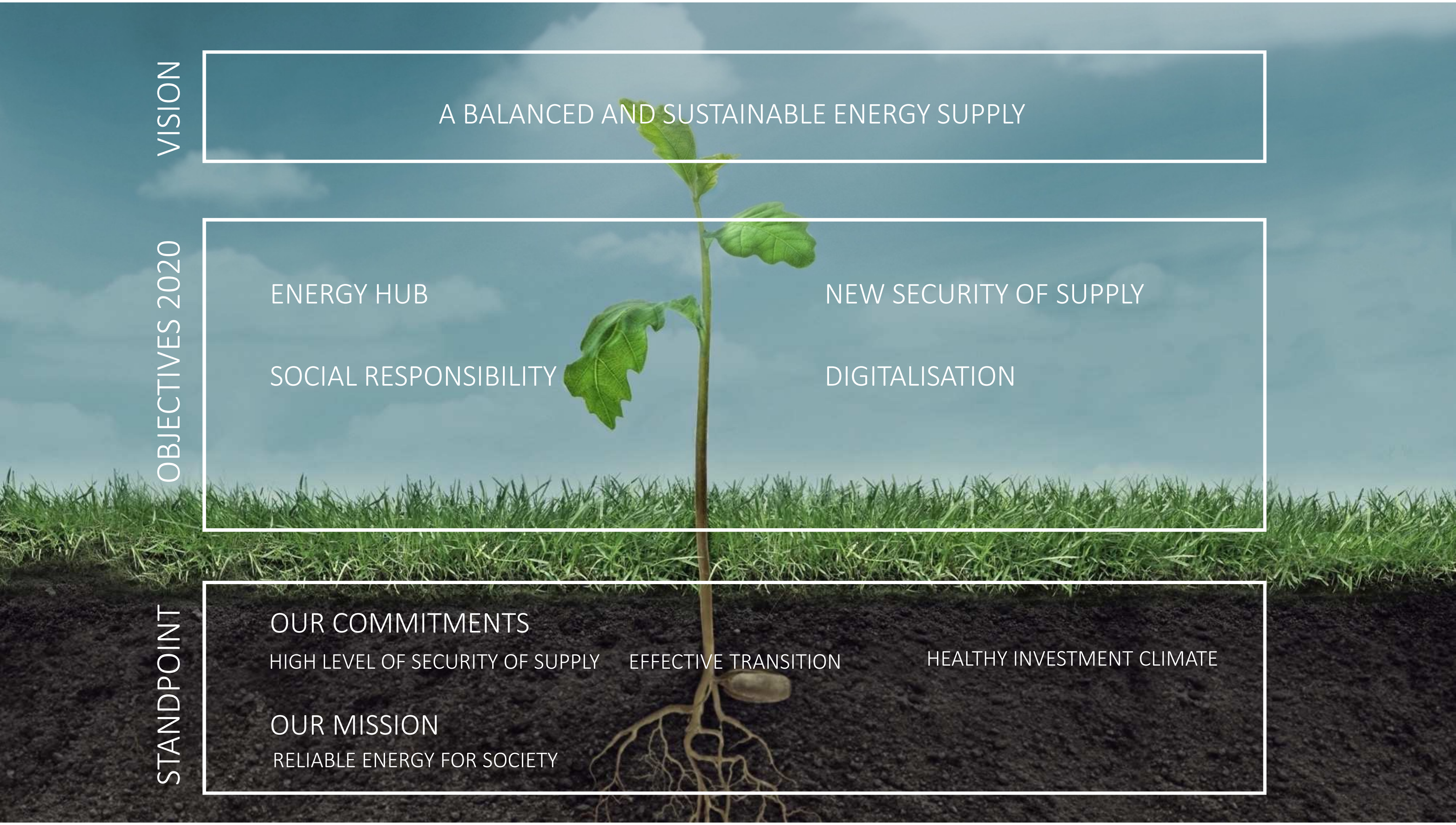
GAS STRATEGY

Torben Brabo, Energinet Gas TSO


STRATEGY 2020
ENERGY
ACROSS BORDERS


VISION
A BALANCED AND SUSTAINABLE ENERGY SUPPLY
OBJECTIVES 2020
ENERGY HUB
NEW SECURITY OF SUPPLY
SOCIAL RESPONSIBILITY
DIGITALISATION
STANDPOINT
OUR COMMITMENTS
HIGH LEVEL OF SECURITY OF SUPPLY
EFFECTIVE TRANSITION
HEALTHY INVESTMENT CLIMATE
OUR MISSION
RELIABLE ENERGY FOR SOCIETY

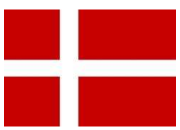
ENERGINET

POLITICAL WILL FOR A GREEN FUTURE

REFORM OF EU GAS REGULATION

”Full electrification is not sustainable…The future energy system be based on several forms of energy” , “The sector must now prove that gas is a part of the long term solution” , “The challenge facing renewable gas technology now is to bring it large-scale,” (..) “We need to bring prices down”

- Klaus Dieter Borchardt, director, DG Energy om gaspakke 2020



DANSK GASSTRATEGI

”(…)Strategien vil også se på rammevilkårene for en konkurrencedygtig udbygning med biogas og andre grønne gasser samt de samlede balancer i den danske gassektor, (…) mulige scenarier for en langsigtet udfasning af naturgas (…) [og] muligheder for at omdanne og lagre elektricitet som gasformigt brændsel eksempelvis via metanisering.

-Energiaftale 29. juni 2018


ENERGY
BECOMES SUSTAINABLE
In 2050, all energy in Denmark must come from renewable energy sources

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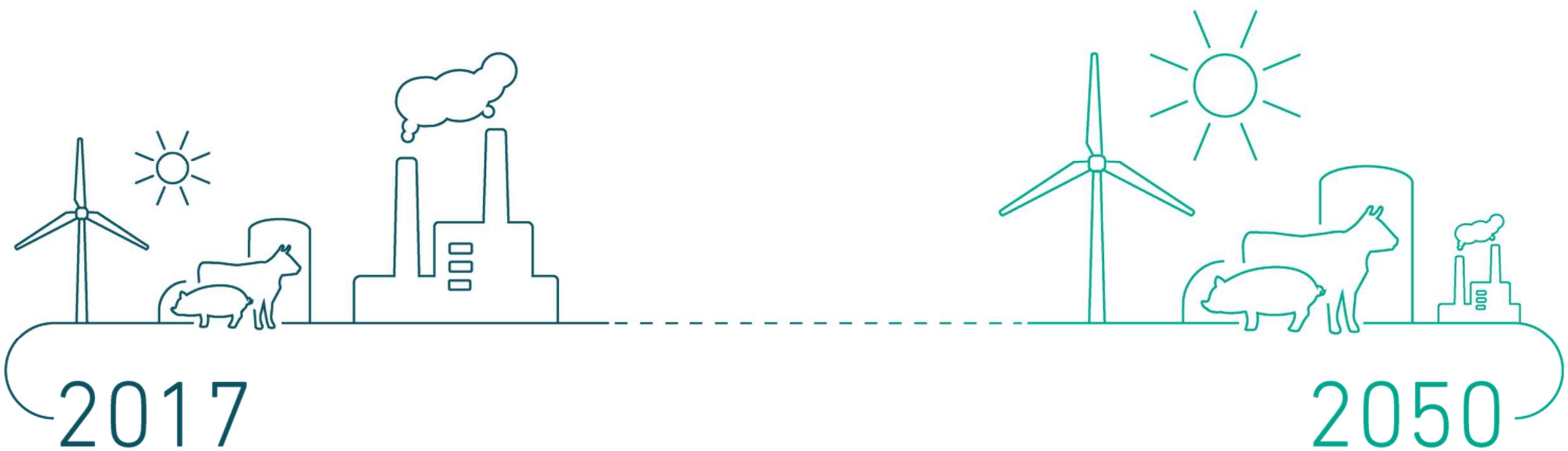
THE ENERGY SYSTEM IS CHANGING

Europe is in the middle of a historic transition of the energy system – Denmark has a leading position

- By 2020, wind power must constitute 50% of the electricity consumption; in 2017 it constituted 43,4%.
- In 2050, Denmark must be completely independent of fossil fuels



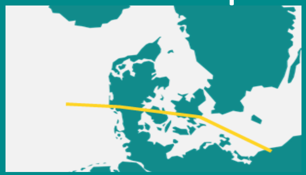
Tyra

NEW SECURITY OF SUPPLY FRAMEWORK

Green gas

SOCIAL RESPONSIBILITY THROUGH EFFICIENCY

Baltic Pipe

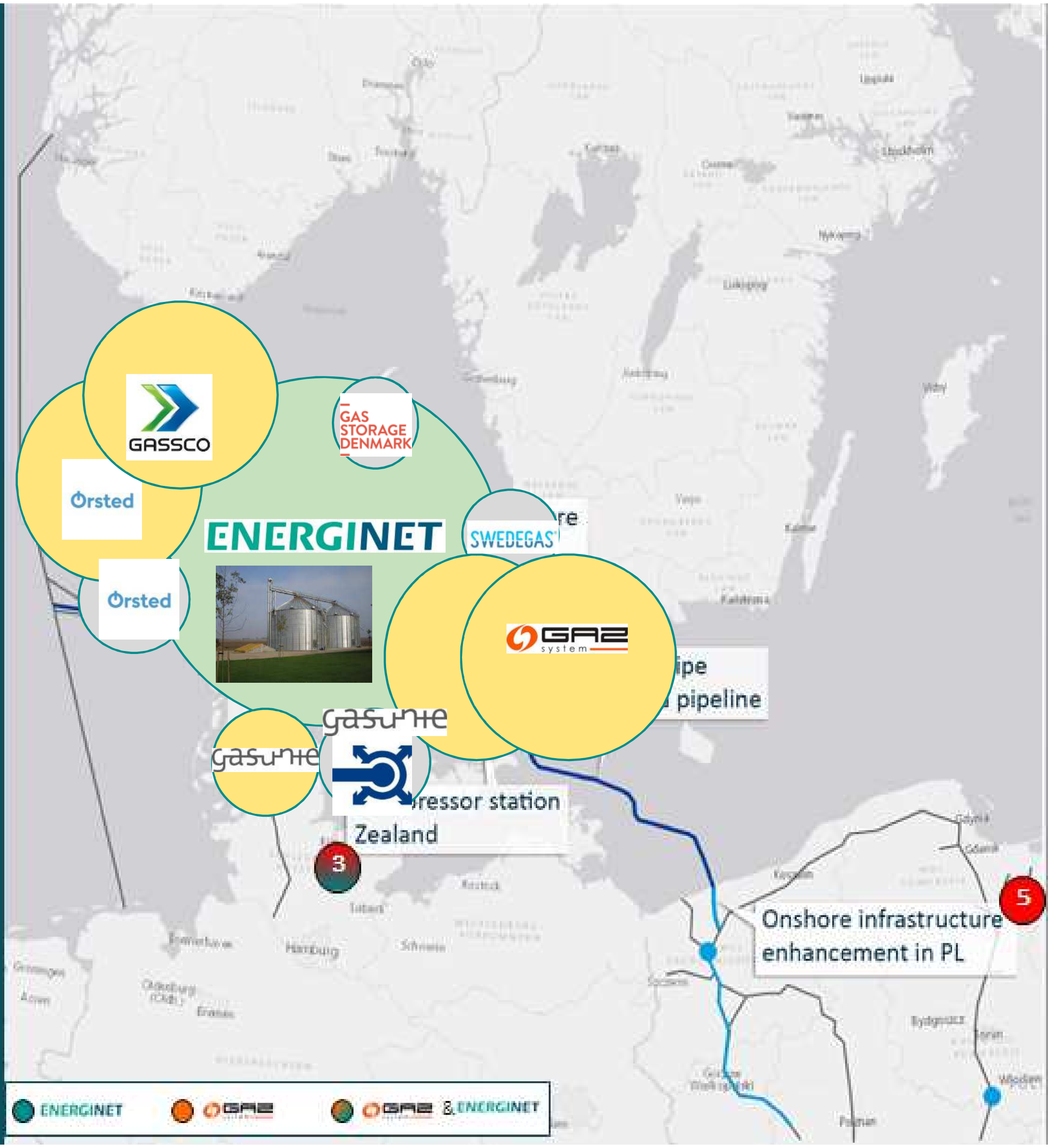


DENMARK AS AN ENERGY HUB

DIGITALISATION


ENERGY
REQUIRES COOPERATION
The green transition requires cooperation across countries and energy systems.

INCREASED SYSTEM COMPLEXITY



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NEW STAKEHOLDERS IN ENTIRE VALUE CHAIN

North Sea Producers

- nordsøfonden
- TOTAL
- INEOS Oil & Gas Denmark

Shippers

- MAERSK OIL
- seas-nve
- dc DANSKE COMMODITIES
- WINGAS
- Göteborg Energi
- modity
- Chevron
- nature energy
- Ørsted
- e.on Sverige
- DCC energi
- uniper
- NEAS ENERGY
- Energi Danmark
- RWE SUPPLY & TRADING

Suppliers

- eniig
- seas-nve
- DCC energi
- e.on
- EWII
- AALBORG NATURGAS SALG
- gasel.
- FRIenergy
- EnergiFyn
- Energi Danmark
- SEF ENERGI
- Ørsted
- OK

Bio Natural Gas Sellers

- BioManS
- eniig
- e.on
- FREMSYN
- nature energy
- seas-nve
- Ørsted

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BALANCING THE OPPORTUNITIES

Green gasses

Transit volumes

G2020 Package Scope

Pillar 1: Mirroring common topics

- Governance
- Open and fair retail markets
- Smart meters
- Consumer protection

Awaiting agreement on Clean Energy Package

Pillar 2: Strengthening functioning of the market

- Benchmarking of NC implementation and plan for EU action
- Capacity and commodity release
- EU benchmarking of TSOs revenues

EC launching several new studies for 2018/2019

Pillar 3: Future role of gas

- EU Energy (hybrid) system
- CCS/CCU framework
- Biogas – green gases in local production
- Hydrogen – P2G and sector coupling

ENTSOG Vision paper/ G2020 work preparing response: presented at Madrid Forum

NEW DANISH ENERGY POLICY

Offshore wind

Solar panels + Onshore wind

Biomethane

Gas Strategy

Electrification of heat

Renewable reserves

Taxes and subsidies

Research & Development

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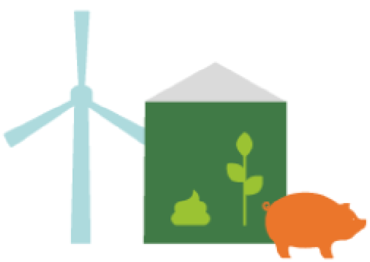
POTENTIAL TOPICS FOR THE GAS STRATEGY

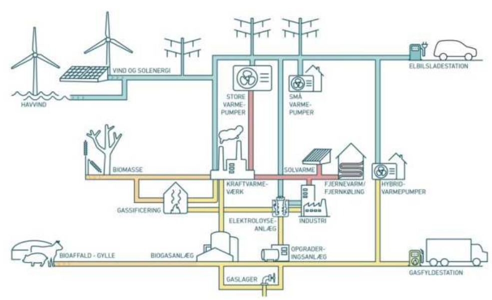
GREEN GASSES

- Lower unit costs
- Technology neutral mobility
- Develop a green market



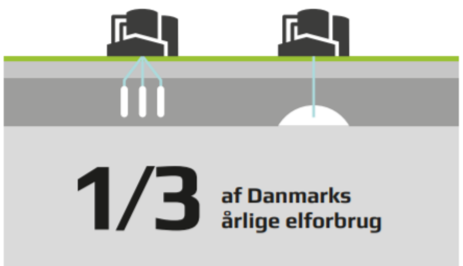
SECTOR COUPLING

- Support changes in value chain
- Hybrid solutions
- Integrate infrastructure planning



GAS INFRASTRUCTURE

- Prepare infrastructure for green gasses
- Integrate flexibility and storage in new value chain



QUESTIONS

Contact: tbr@energinet.dk

We believe

in the power of collaboration.

Thibault Villedieu de Torcy

Market Development Manager

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March 07, 2018

Driving

the future of gas capacity marketing.

Combined Explicit and Implicit Allocation of Capacity

PRISMA

Daily transport capacity not fully optimized

PRISMA analysis for the year 2017[1]

Hub [Exit]	Hub [Entry]	Number of days for which the spread was higher than the DA tariff	% of such days for which the bundled DA capacity was fully booked	% of such days for which the bundled DA capacity was booked at a premium
GPN	NCG	151	38%	20%
CEGH	PSV	108	25%	22%
GPN	GPL	102	0%	0%
GPL	TTF	73	48%	21%
TRS	Espana	28	25%	14%
GPL	NCG	27	0%	0%
NCG	CEGH	25	32%	32%
GPL	ZTP	20	50%	50%
ZTP	TTF	20	34%	31%
TRS	PEG Nord	17	0%	0%
ZTP	PEG Nord	14	21%	21%
NCG	PEG Nord	13	0%	0%
ZTP	GPL	7	0%	0%
NCG	ZTP	6	0%	0%
TTF	NBP	6	0%	0%
ZTP	NCG	6	0%	0%
NCG	TTF	5	0%	0%
TTF	ZTP	5	0%	0%
PEG Nord	ZTP	3	0%	0%
CEGH	NCG	1	0%	0%
TTF	GPL	1	0%	0%

In situations where the spread is higher than the daily transportation tariff, the shippers tends to be more active on the day-ahead capacity market **but** not up to its full possibility

- PRISMA analysis:
  - available DA capacity is fully booked in **24%** of the cases only
  - auction premia are existant in **16%** of the cases only

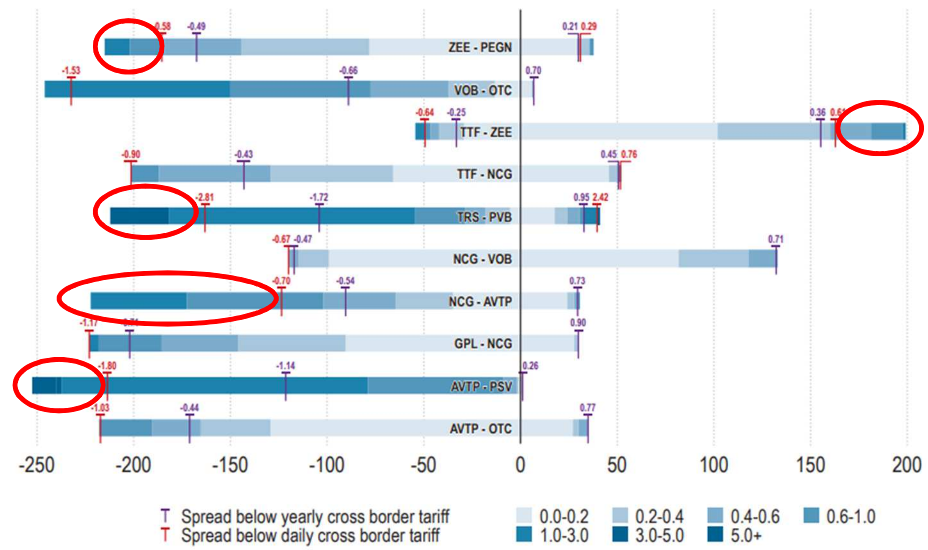
The reasons are multiple, but inter alia:
  - Risk of taking uncombined positions in comodity and transport markets
  - Traders are not all registered as shippers in both neighbouring countries

[1]The spread information was calculated from publicly available market DA average prices and may thus not be fully correct

ACER Market Monitoring Report 2017 has similar outcomes

- Day-ahead price spreads between many hub pairs are regularly below daily transportation tariffs
- Still in a number of occasions, day-ahead price spreads were above daily transportation tariffs
- In most of such occasions, the market conditions should have lead to:
  - Day-ahead capacity fully booked
  - booking premia up to leveling the spreads to the total transport costs

➢ What is actually observed during such days?



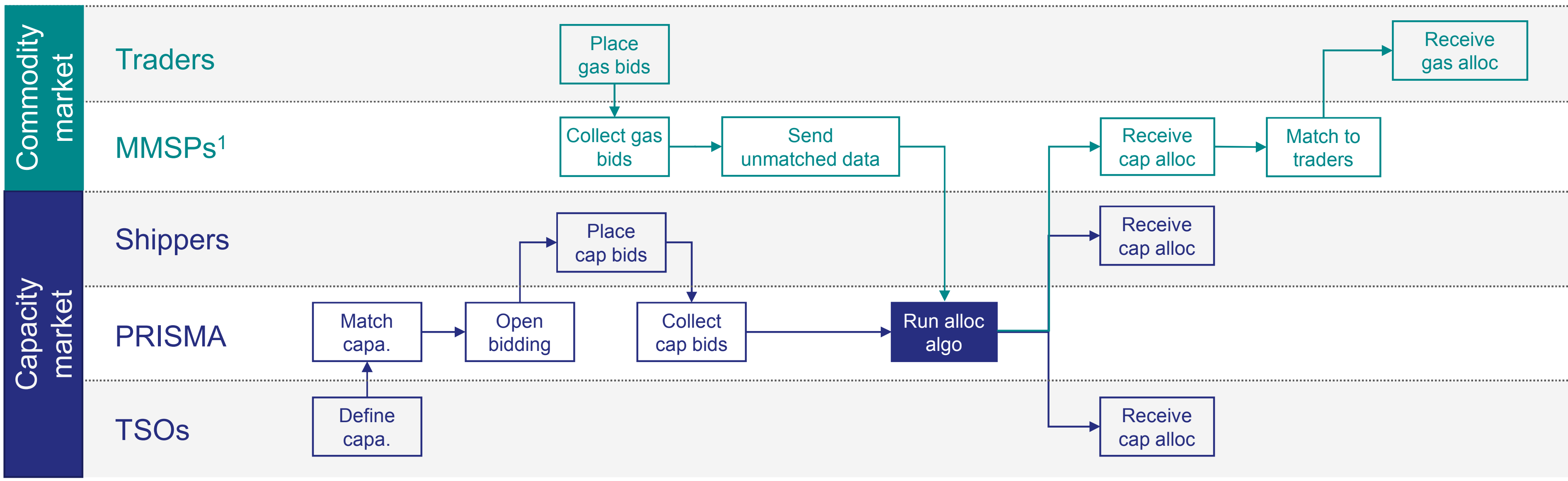
Source: : ACER Market Monitoring Report 2017

Functioning of short-term gas markets can be further improved

Occasional high spreads	• Still some spreads occasionally higher than DA transport reg. tariffs (e.g. in cases of cold winter spells like Feb/Mar 2018) • More structural higher spreads observed between a few hubs • Transport capacity is in most of such cases not fully booked and/or without surcharge
Market organization	• Risk for taking independent positions in both the commodity and the capacity markets at different points in time • Not all the market participants in the commodity markets are also shippers in neighbouring countries
Need for flexibility	• Increasing share of non-controllable renewable electricity generation • Combined with volatility in consumption and the role of gas as a balancing source is likely to increase pressure for further improving short-term capacity allocation processes
Changing contractual environment	• Many long term contracts running out between 2020 and 2030 with potential consequences on gas prices depending on the specific situation • Short term capacity allocation processes may play a bigger role

PRISMA's proposal: Combining the explicit and the implicit allocation of capacity

Proposal: *Add the input from the commodity markets to the current capacity allocation process on PRISMA and combine the allocation of both the explicit and the implicit demands for capacity into one global algorithm, thereby ensuring that the capacity is allocated to the market (explicit or implicit) that is valuing it the most*



1– Match Making Service Providers, i.e. Gas Exchanges, Broker Houses

One numerical example

Unmatched order in A
Trader A - sell
1,000 MWh/day @ 20 €/MWh

Market Area $_A$

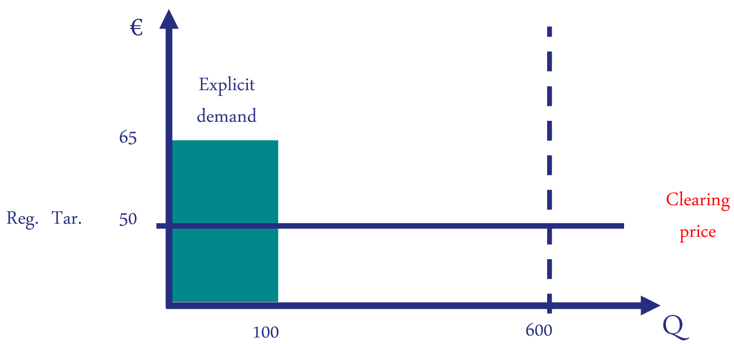
Explicit demand for capacity
Shipper – buy
100 MWh/day @ 65 €/MWh

Available bundled capacity
TSOs – sell
600 MWh/day @ 50 €/MWh

Market Area $_B$

Unmatched order in B
Trader B - buy
300 MWh/day @ 80 €/MWh

Current capacity market organization



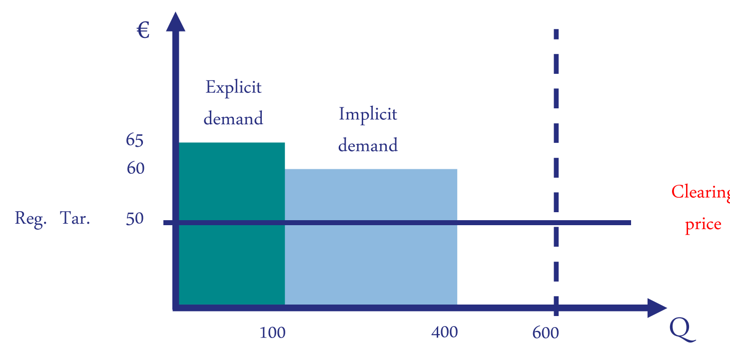
Shipper buys: 100 MWh/d @ 50 €/MWh/d

TSOs: 100 MWh/d @ 50 €/MWh/d

Trader A sells: 0 MWh @ 20 €/MWh

Trader B buys: 0 MWh @ 80 €/MWh

With Combined Explicit and Implicit Allocation



Shipper buys: 100 MWh/d @ 50 €/MWh/d

TSOs: 400 MWh/d @ 50 €/MWh/d

Trader A sells: 300 MWh @ 20 €/MWh

Trader B buys: 300 MWh @ 70 €/MWh

We care

about our customers.

How do we get better?

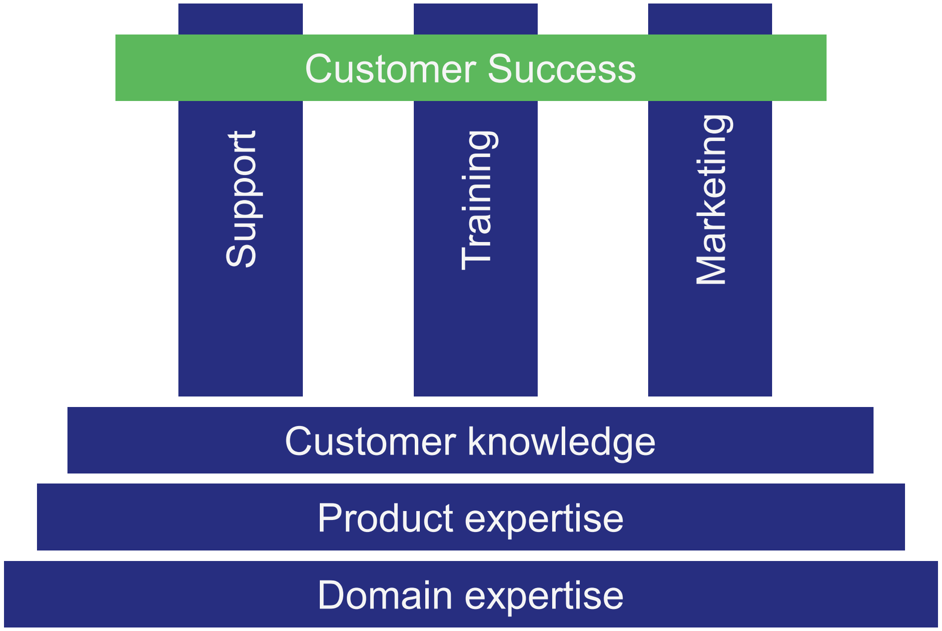
From helpdesk to customer success

Support

During 2018 we have insourced our Support team, resulting in

- faster response times,
- increased customer satisfaction and
- more transparency for you.

From helpdesk to customer success



We are here for you – PRISMA Customer Success team

Simona Lamba

René Lindner

Frederick Webner

Your concerns are our concerns

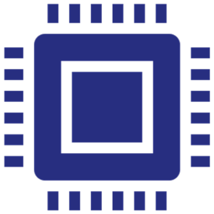
In 2018 you took part in a brief survey and reported to us, that our user interface is too slow for you.

Be faster, use the PRISMA API

What to do about it?

Connect your IT systems directly.
We have built an API for you.

Your IT system



PRISMA

- ✓ Get your concluded bookings
- ✓ Analyse past, upcoming and live auctions
- ✓ Place bids in auctions

Be faster, use the PRISMA API

Available in APRIL '19

What to do about it?

Connect your IT systems directly.
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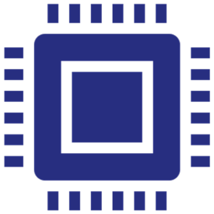
Your IT system 

 PRISMA

- ✓ Get your concluded bookings
- ✓ Analyse past, upcoming and live auctions
- ✓ Place bids in auctions

Thank you

PRISMA Customer Success
contact
+49 341 69 92 990 - 69
helpdesk@prisma-capacity.eu

www.prisma-capacity.eu

PRISMA

GAS STORAGE DENMARK

SALE STATUS SY19-22

SHIPPERS FORUM, 7 MARCH 2019

SALE

2/05-2018	Auction: SY19, SY20, SY21, Option to purchase storage capacity under Tyra
24/05-2018	Invitation to bilateral booking of rest capacity after auction SY19, SY20, SY21
20/11-2018	Auction - SY19, Option to purchase storage capacity incl. price guarantee
22/11-2018	Auction - SY19, Second option to purchase storage capacity incl. price guarantee
4/12-2018	Capacity available for online booking SY19, FCFS
15/01-2019	Auction - SY19, Sealed bid with Market Clearing Price incl. price guarantee

SALE STATUS

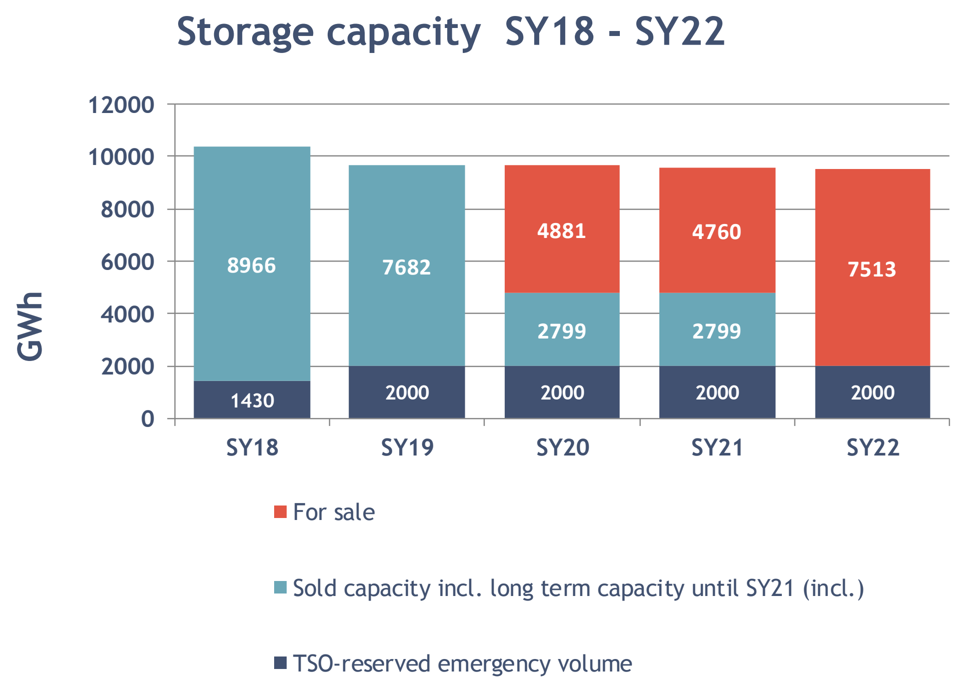
GSD GAS STORAGE DENMARK

SY2019

SOLD	
Long Term capacity until SY21 incl.	2,799 GWh
SY19 Capacity	4,883 GWh

RESERVED	
2,000 GWh for TSO Emergency until 2022	2,000 GWh

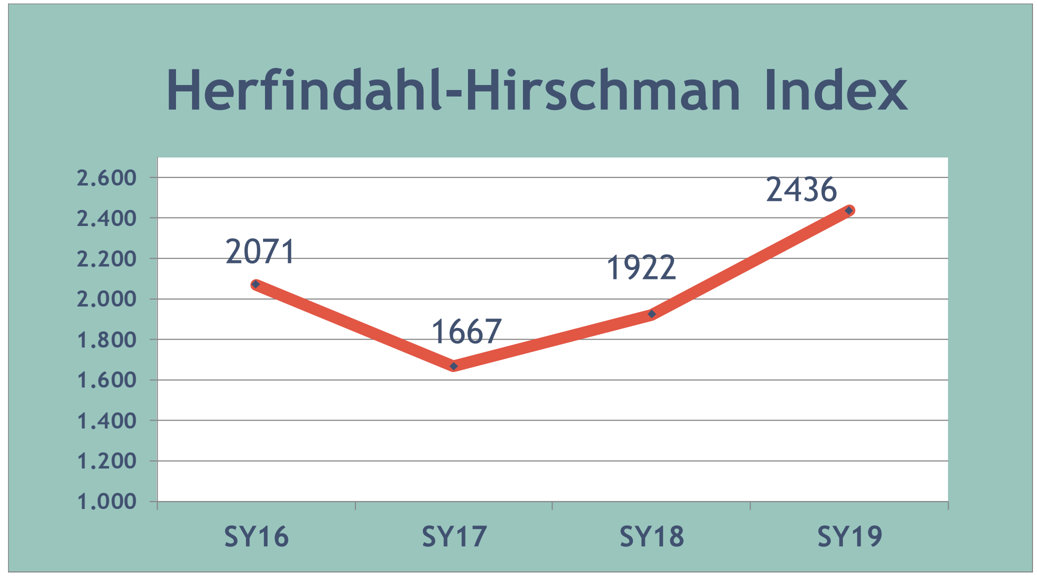
AVAILABLE FOR SALE	
SY2019	0 GWh
SY2020	4,881 GWh
SY2021	4,760 GWh
SY2022	7,513 GWh



EXTRA INJECTION AND WITHDRAWAL is available for sale in SY19 ► CONTACT US

THE SALE EXPERIENCE IN RETROSPECT

- All capacity has been offered on auctions
- The capacity sale ended with a surprising final sprint
- Many storage customers were not able to secure storage for the next season:
  - the auctions have resulted in significantly lower product customization
  - quick sale out



HHI suggests a highly concentrated marketplace for storage capacity

CAPACITY OUTLOOK

- Historically high storage filling before start of next season (more Danish gas in store)
- This will leading to higher calorific value than assumed in capacity calculation may lead to more Energy capacity in storage.

GSD will make a re-evaluation of capacity for SY 19 in April.

CALL FOR INTEREST - INVITATION

GSD GAS STORAGE DENMARK

If anyone is interested in storage capacity for SY19, please contact us with your preferences regarding

1) product, 2) volume and 3) sales form (auction or bilateral).

Then we shall consider how to allocate the extra capacity.

The deadline for CALL FOR INTEREST is 20 MARCH 2019

INITIAL CONSIDERATIONS

- Bilateral allocation in order to meet additional requests for customization
- Medium flex 120/60 product is preferred
- Multiple year storage capacity is preferred

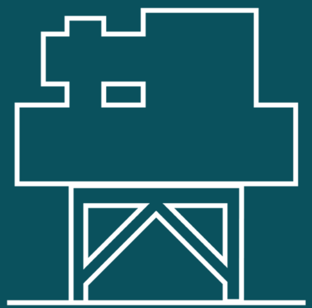
SALES PLAN

20 MAR 2019	• Deadline CALL FOR INTEREST
1 APR 2019	• Annoncement of decision for allocation form based on calls for interest
15 APR 2019	• Announcement of volume for sale • Allocation process starts
1 MAY 2019	• SY19 starts
Medio May 2019	• Options for SY 20

QUESTIONS?

Contact: hni@gasstorage.dk

BREAK



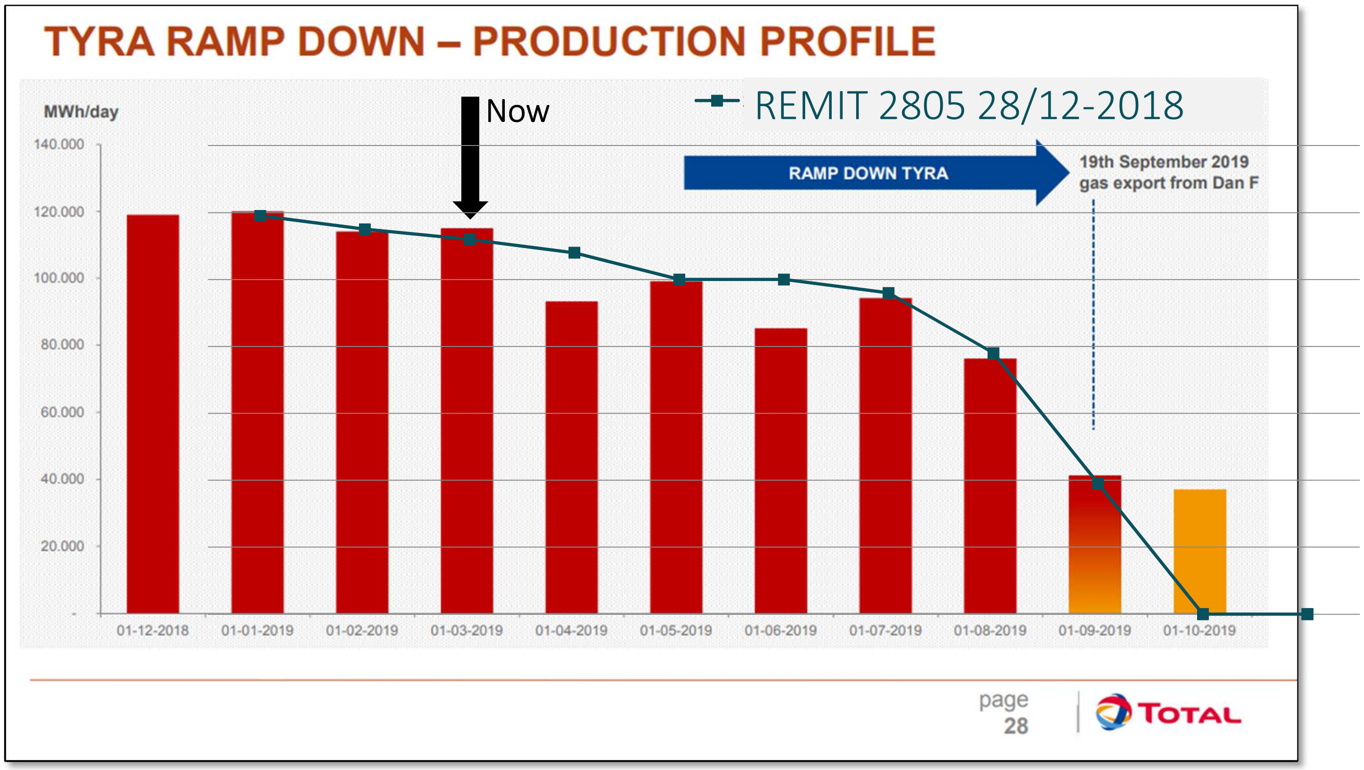
TYRA REDEVELOPMENT

Christian Meniche Andersen & Lasse Trøjborg Krogh,
Energinet Gas TSO

ENERGINET

TYRA RAMP-DOWN IN COMING MONTHS

The long-awaited shut-down is approaching fast

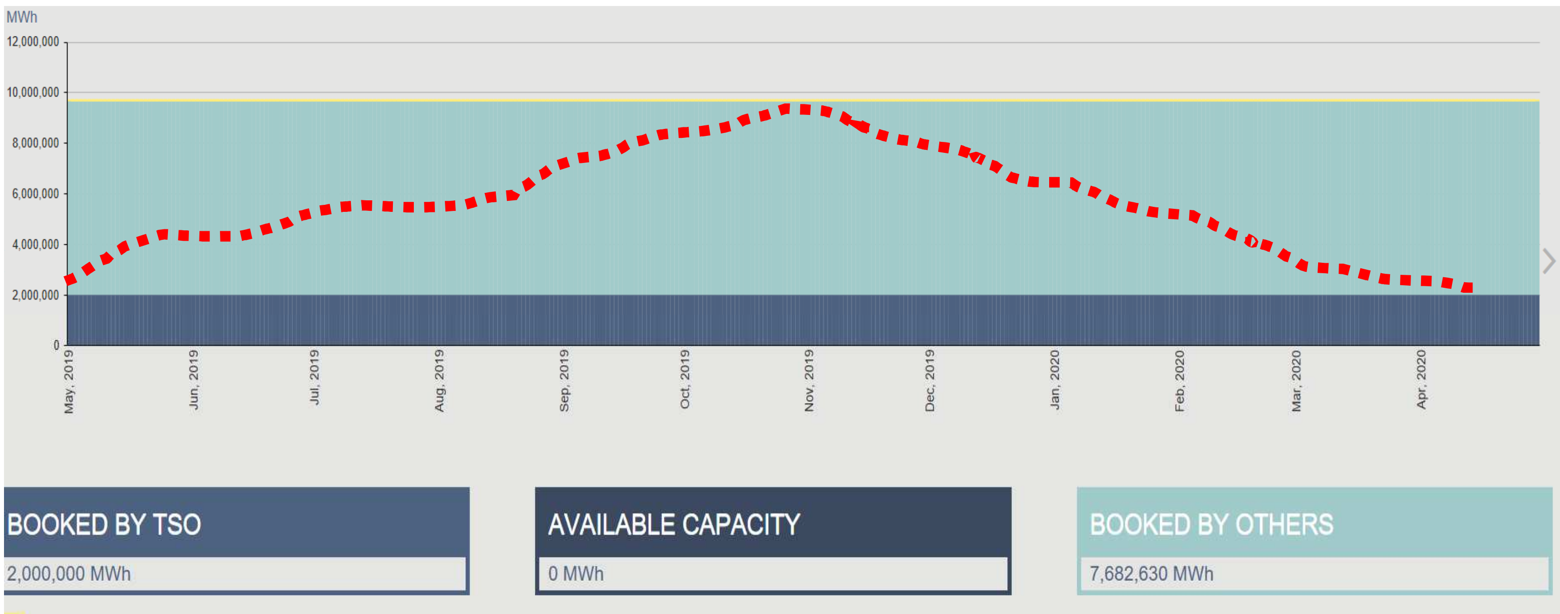


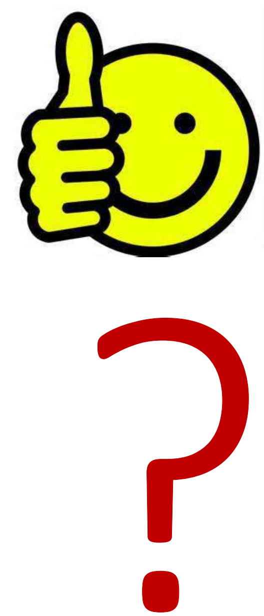
From Total's presentation at Shipper Forum 13 December 2018.

SAFE STORAGE LEVEL

Christian Meiniche Andersen, Energinet Gas TSO

STORAGE CAPACITY BOOKED 19/20





SAFE STORAGE LEVEL (SSL) ON A SPECIFIC DAY

- Can the stored gas fill the gap between consumption and import capacity rest of the storage year?
- Which filling level gives us 95% chance of avoiding a gas shortage in the winter/spring?

SAFE STORAGE LEVEL (SSL) ASSUMPTIONS

- Entry capacity (Ellund) is fully used rest of the storage year
- Biogas production increases as forecasted
- South Arne production at present level
- Temperature in DK will follow the same statistical behavior as the past 30 years
- Consumption cold year DK+S based on 2018
- No technical incidents affecting the entry capacity

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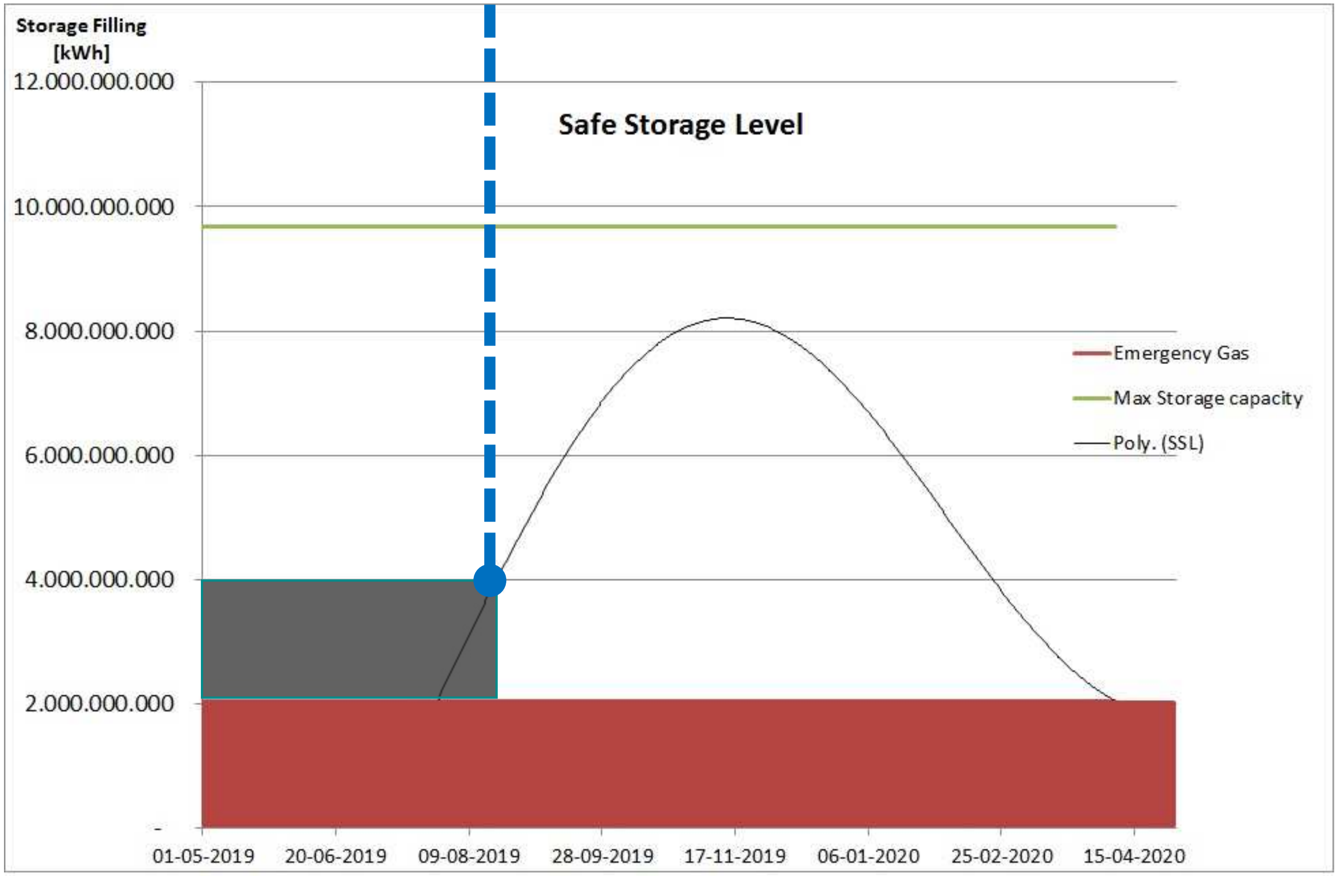
SAFE STORAGE LEVEL ON A SPECIFIC DAY



More about the SSL and the supply situation on our website

QUESTIONS

Contact: can@energinet.dk

SEASONAL TARIFFS

Lasse Trøjborg Krogh, Energinet Gas TSO

WHY NOW?

Because of the Tyra redevelopment period

Entry capacity to Danish gas market becomes a scarce resource

Gas Year 2019/20 – 2021/22

WHERE?

Only on interconnection points

Entry and Exit Ellund

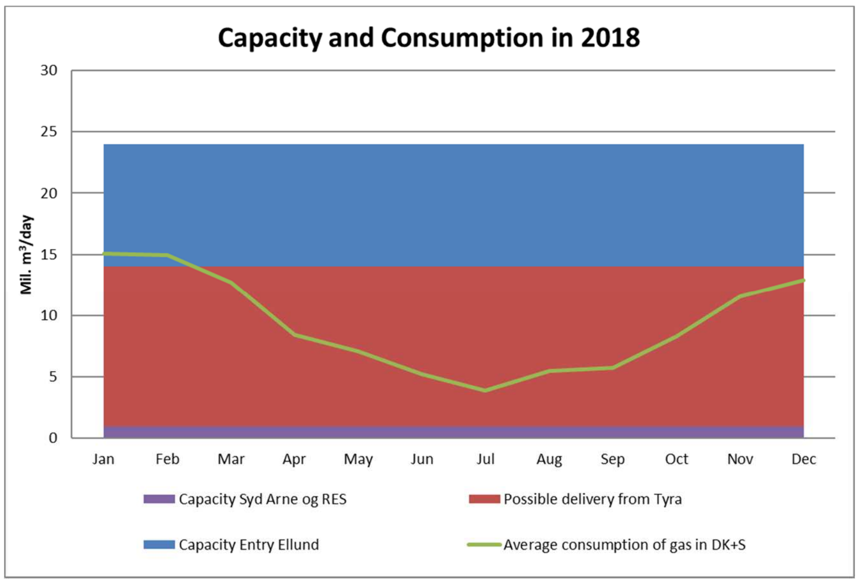
PURPOSE?

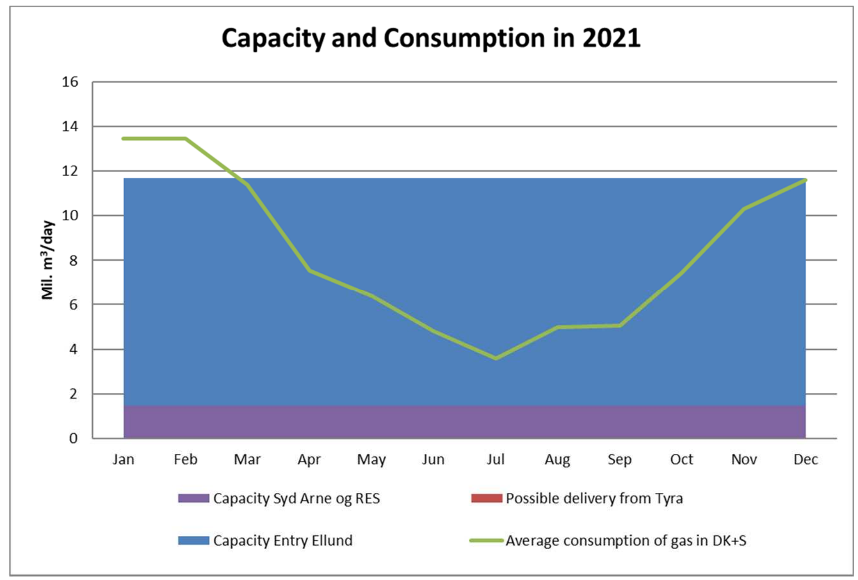
More efficient usage of the gas infrastructure

Increased incentive to buy yearly capacity products

ENERGINET

ENTRY CAPACITY TO THE DANISH MARKET





MARKET CONSULTATION

"secure efficient use of the gas system"

"only a marginal impact on security of supply"

"gives incentive to buy yearly capacity"

"an attempt to solve storage pricing issue"

"no need for seasonal tariffs as storage is already booked"

"a high multiplier in March is important for security of supply"

ENERGINET

LEGAL ASSESSMENT

- Proposal is not fully in compliance with TAR NC
- We will reconsider the proposal in dialogue with DUR
- We will update you as soon as possible (in March)

QUESTIONS

Contact: ltk@energinet.dk

STRONGER BALANCING SIGNAL

Julie Frost Szpilman, Energinet Gas TSO

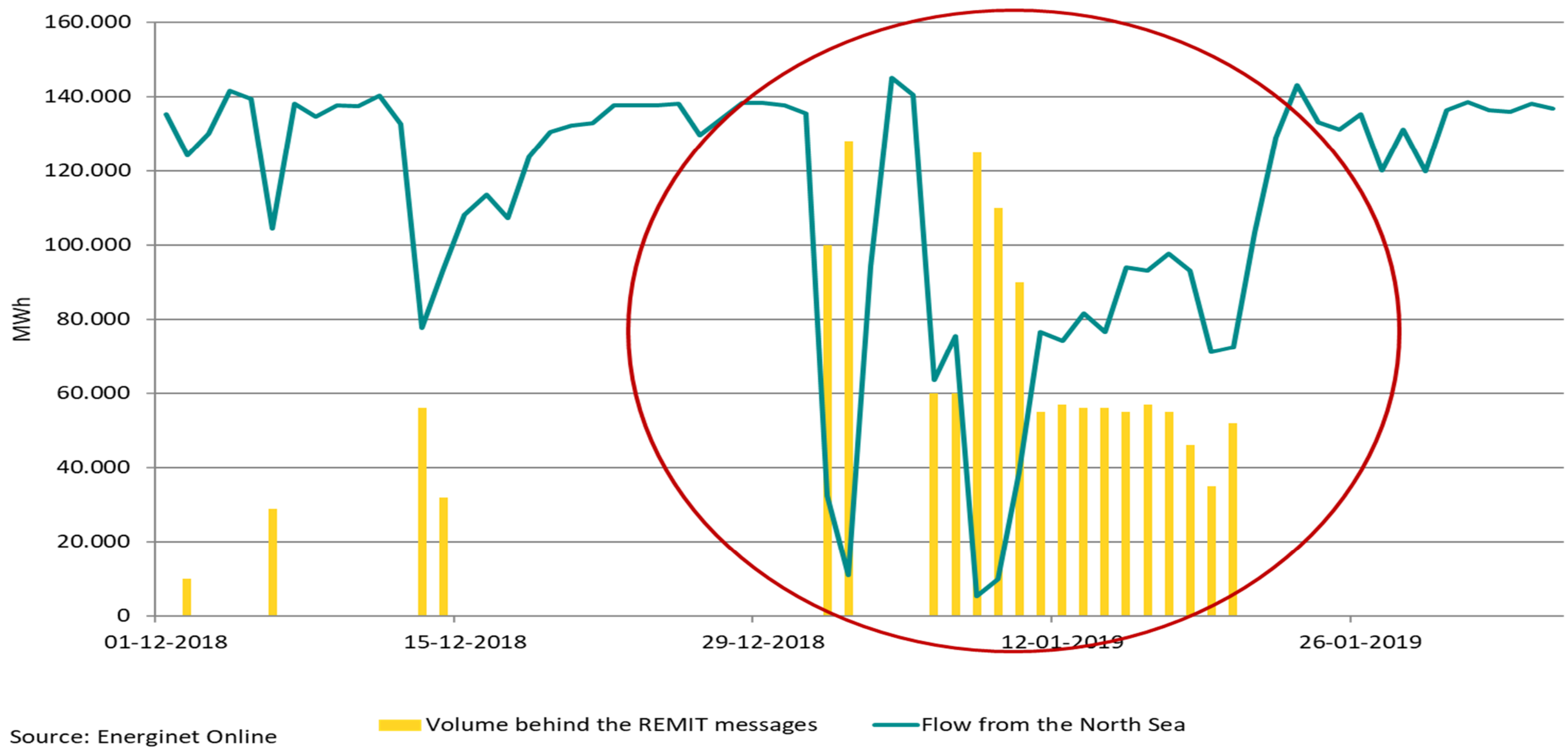
ENERGINET SHALL BE THE LAST RESORT TO BALANCE YOUR PORTFOLIO

Other flexibility provider should be used instead:

- Ellund
- Storage
- Within-day trading

EXAMPLE: START JANUARY 2019

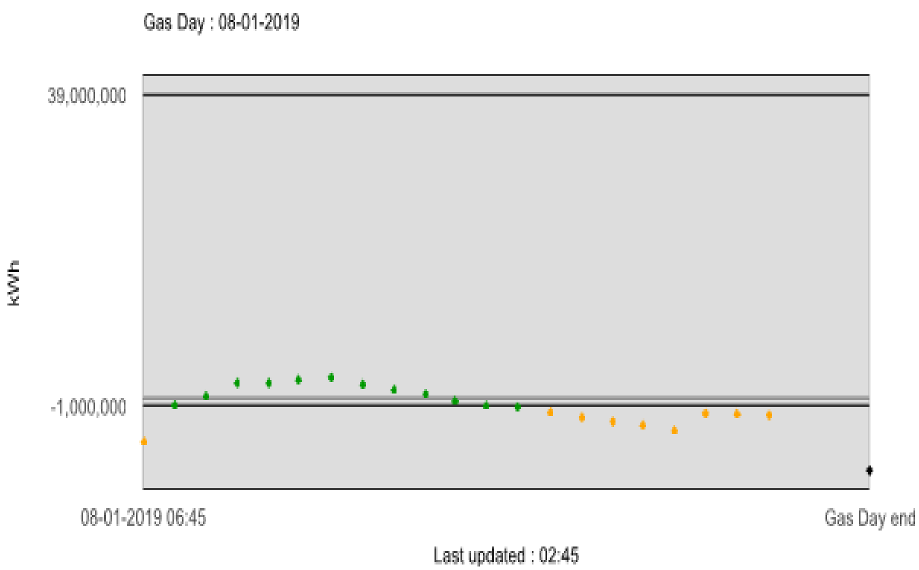
Large reductions of production from the North Sea put heavy pressure on the Danish gas system

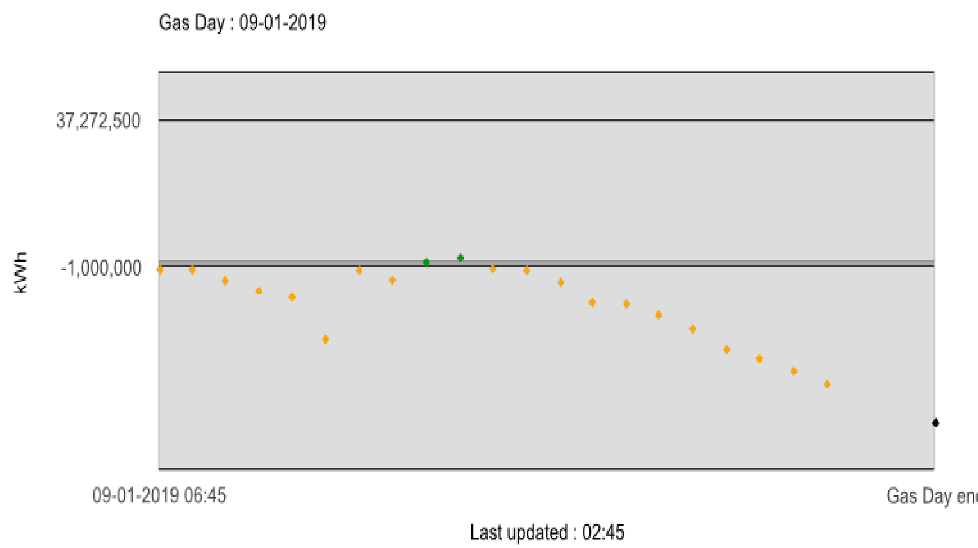


Source: Energinet Online

ENERGINET

DAYS WHERE SHIPPERS HAD DIFFICULTY STAYING IN BALANCE



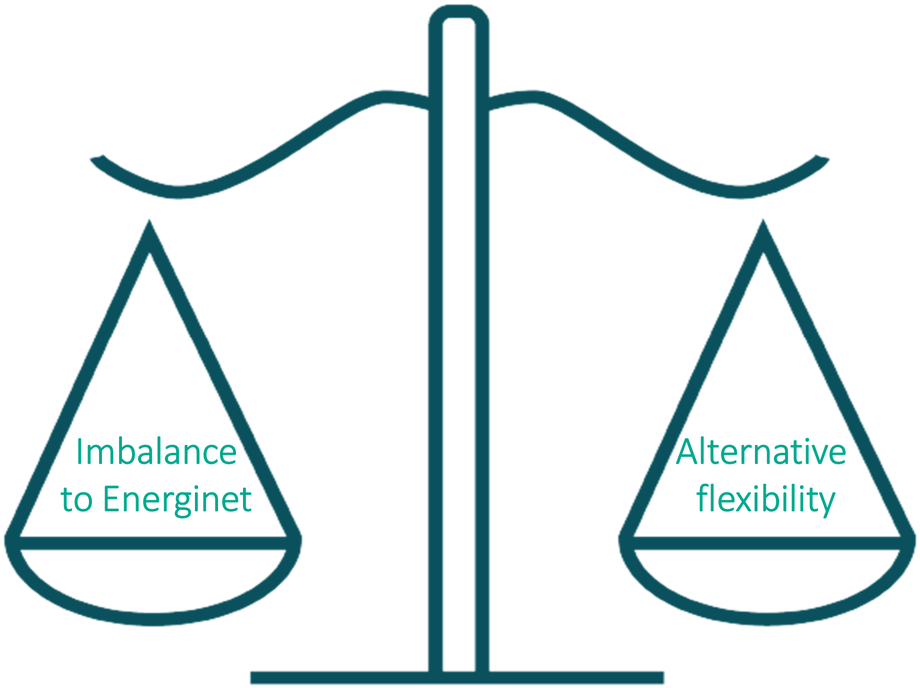


BALANCING PRICES WERE MOST ATTRACTIVE

Other ways to provide flexibility were more costly

EUR/MWH	8 January 2019	9 January 2019
Marginal Price	22.375	23.400
Within Day (ETF)	22.079	22.577
Interruptible Withdrawal	+ 1.000	+ 1.000
Transport Germany => Denmark	+ 1.000	+ 1.000

WHAT TO DO?



ENERGINET SHALL BE THE LAST RESORT TO BALANCE YOUR PORTFOLIO….

……..Therefore we are considering to trade more volumes in the yellow zone trade to reflect the psysical need for gas

This will create a stronger price signal which should incentivise you to bring yourself in balance

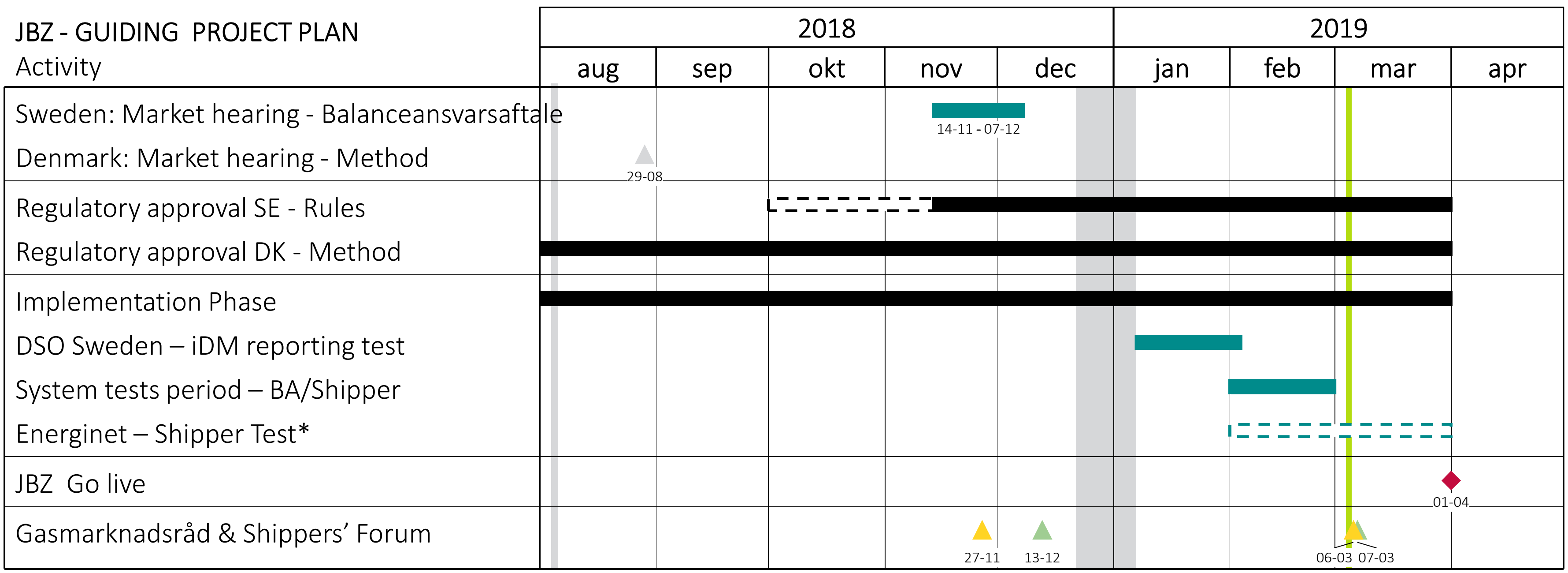
QUESTIONS

Contact: jfs@energinet.dk

JOINT BALANCING ZONE

Signe Louise Rasmussen, Energinet Gas TSO

PROJECT PLAN



Holiday period *Energinet Shippers are always welcome to test the existing functions

SWEDEGAS ENERGINET

GO-LIVE 1 APRIL 2019

PRATICAL PREPARATIONS

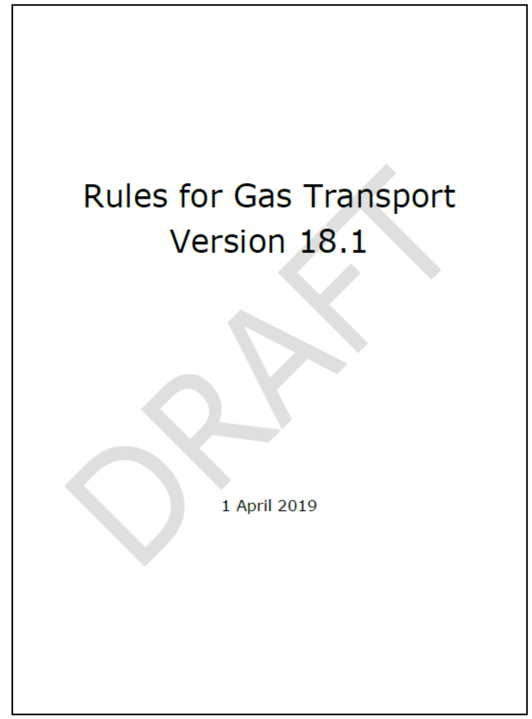
- Implementation to Rules for Gas Transport
- Pending regulatory approval
- Data communication
- Capacity contracts/purchase at Dragør
- Nomination at Dragør

SWEDEGAS ENERGINET

CONSULTATION ON RULES FOR GAS TRANSPORT

NEW version 18.1 with planned effect 1 April 2019

- Public consultation 25 February 2019 to 4 March 2019
- Changes related to implementation of JBZ
    - A new Appendix 8 – Data Privacy (GDPR)
    - Permanent removal of price caps
    - New price methodology for negative imbalances in crisis level Emergency
    - Various minor changes
- Comments received from one shipper
- Thank you for comments!


Rules for Gas Transport
Version 18.1

DRAFT

1 April 2019

REGULATION

JBZ needs regulatory approval from Ei in Sweden and DUR in Denmark

- ✓ We expect to receive an approval from both regulators.
- ✓ DUR has published a positive decision in draft version now for public consultation.
- ✓ However, we do not expect a final decision from Ei or DUR until the end of march.

Udkast til afgørelse om JBZ (Joint Balancing Zone) - en fælles balanceringzone for Danmark og Sverige

Forsyningstilsynet skal i denne sag tage stilling til et metodeforslag fra Energinet og Swedegas, som går ud på at oprette en fælles balancezone for Danmark og Sverige. Metodeforslaget er vedlagt sagen som bilag.

Forsyningstilsynet anmoder om at modtage evt. bemærkninger til Forsyningstilsynets udkast til afgørelse senest torsdag den 21. marts kl. 12.00.

Eventuelle bemærkninger sendes til post@forsyningstilsynet.dk med cc til Henrik Nygaard Jensen (hnj@forsyningstilsynet.dk)

Se udkast til afgørelse her
Se bilag her

DATA COMMUNICATION

Preparation for receiving data from the BAM

- Be able to receive data from the BAM in relation to Swedish points
- Change of AS2 to AS4

Contact for testing

backoffice@energinet.dk

CAPACITY CONTRACTS AT DRAGØR, EXIT ZONE & JEZ*

PRISMA

- No **monthly** auction running for April
- Last **daily** auction 30 March 2019
- Last **WD auction** 1 April 2019 (GD 31 March 2019)

Energinet Online

- **Before 1 April** purchase of long term Exit Zone capacity (covering JEZ)
- **From 1 April** capacity point Exit Zone will change name to Joint Exit Zone

Conversion of contracts

- Long term Dragør contracts converted to JEZ
- Existing Long term Exit Zone contracts will not be renamed (Cover JEZ)

*Joint Exit Zone

NOMINATIONS AT DRAGØR

When to send your last nomination at Dragør

Gas Day 31 March 2019

Latest nomination send by shipper at 03:00 on 1 April 2019

Gas Day 1 April 2019

NO NOMINATION

QUESTIONS

Contact: slr@energinet.dk or jbz@swedegas.se

INCREMENTAL CAPACITY PROCESS

Christian Rutherford, Energinet Gas TSO

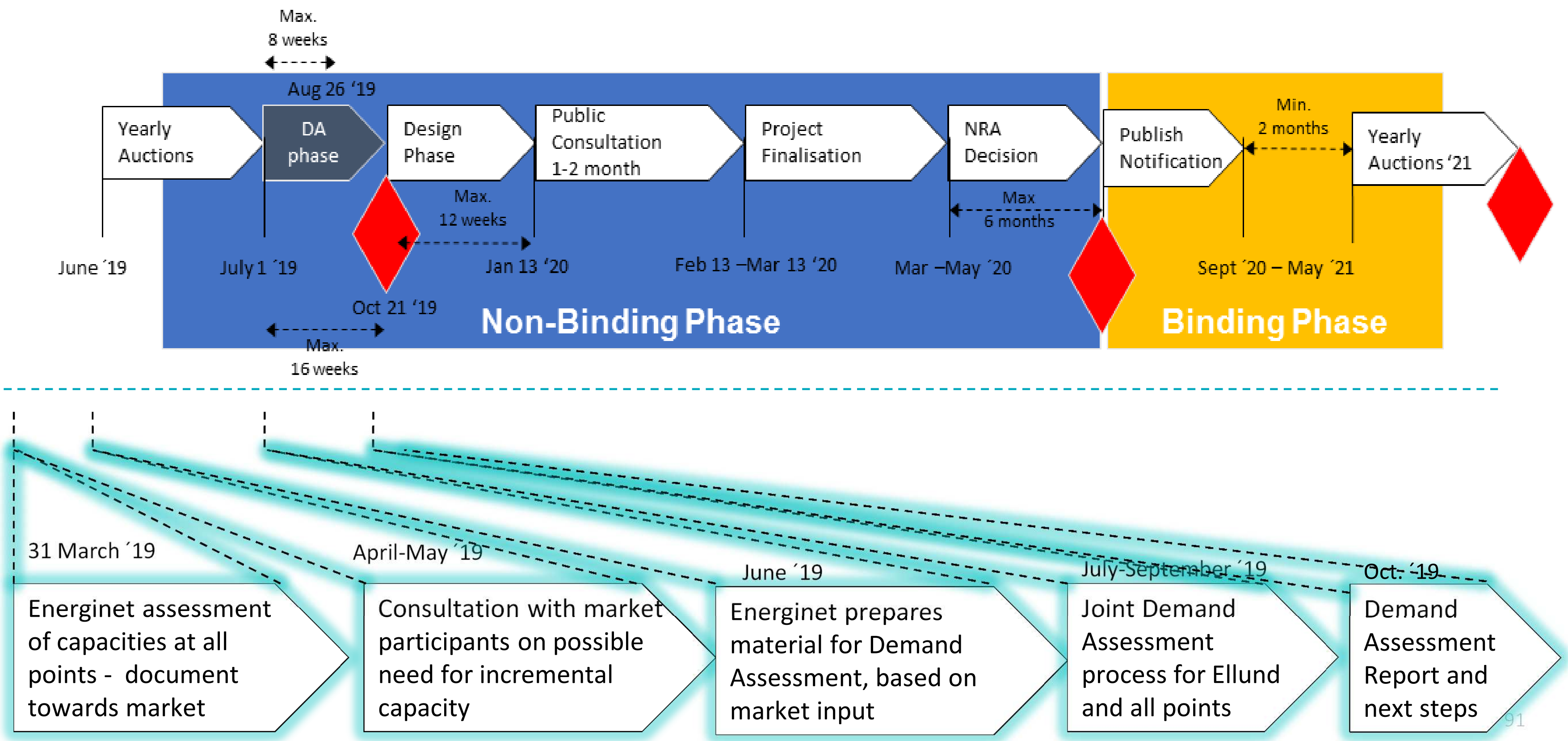
ENERGINET

INCREMENTAL CAPACITY PROCESS - TIMELINE

European and Danish approach

European incremental process at interconnection points (Ellund) – Together with GUD and OGE

Danish incremental process (all capacity points)



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INCREMENTAL CAPACITY PROSESS

Key messages

- Energinet prepares material on capacities in the system in due time for market participants to assess and comment
- Based on capacity material, Energinet invites market participants to comment on material, and to express non-binding needs for future capacity in the system
- Energinet will run the internal Danish incremental process in parallel with the official process at IP Ellund

It is important for Energinet to collect knowledge on potential future needs for incremental capacity in the system in due time, to support the market needs

QUESTIONS

Contact: cru@energinet.dk

BALTIC PIPE NORTH SEA ENTRY

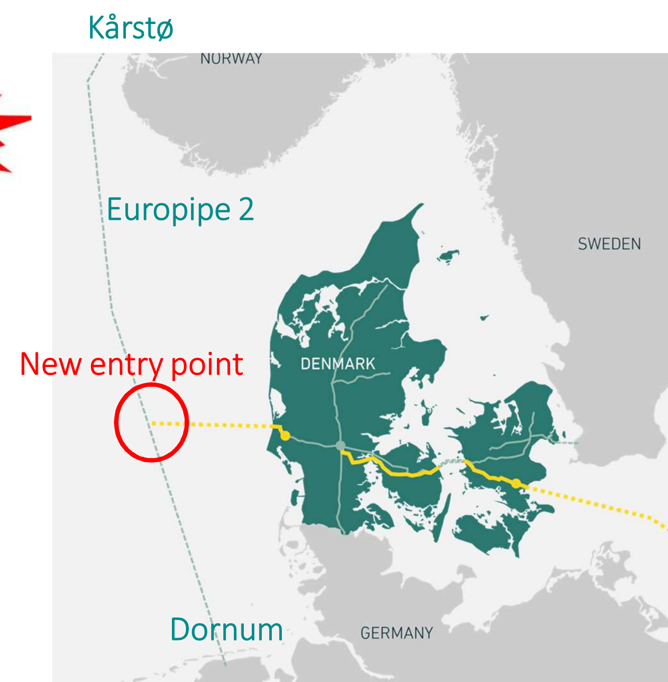
Michael Brock, Energinet Gas TSO

ENERGINET

FROM 2022, YOU CAN TRANSPORT GAS FROM NORWAY

”Entry Europipe 2” will be a new entry point to Danish gas system

- All shippers will be able to book the new entry capacity = import Norwegian gas to Denmark
    - Not necessary to have been part of Baltic Pipe open season, etc.
    - Large number of potential sellers active in Norwegian Gassled system
- Title transfer can be done inside Gassled (“Area D”), or after Exit from Gassled
    - Exit Area D capacity can be swapped daily between exit points, subject to physical constraints
    - Opportunities for you from access to Norwegian gas: Trading, flexibility, long-term sourcing?



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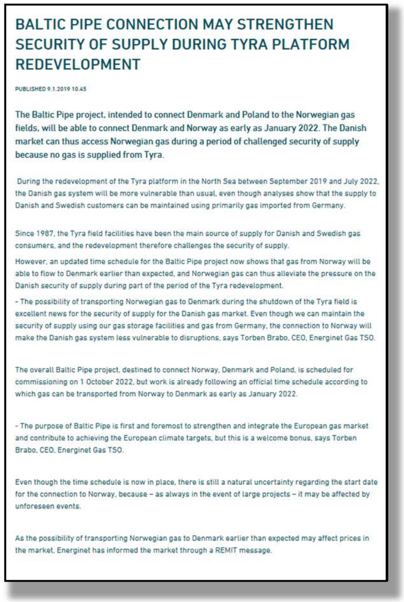
EXPECTED FIRST GAS FROM NORWAY: JAN. 2022

Baltic Pipe project has accelerated the time schedule for upstream part

- Expected ”first gas” target date: Currently January 2022
- New opportunity to source gas during the expected last winter of Tyra shutdown
  - Timing uncertainty, as for any large infrastructure project
  - Updates, if any, will be communicated to the market
  - Overall Baltic Pipe project (still) scheduled for 1 October 2022
- Entry EP2 capacity from first gas target date is expected to be offered to the market in July 2021 on PRISMA
  - Both long-term and short-term capacities
  - Energinet will be pragmatic concerning possible interruptible product, to start flow as soon as physically ready



BALTIC PIPE CONNECTION MAY STRENGTHEN SECURITY OF SUPPLY DURING TYRA PLATFORM REDEVELOPMENT

PUBLISHED 9.1.2019 10.45

The Baltic Pipe project, intended to connect Denmark and Poland to the Norwegian gas fields, will be able to connect Denmark and Norway as early as January 2022. The Danish market can thus access Norwegian gas during a period of challenged security of supply because no gas is supplied from Tyra.

During the redevelopment of the Tyra platform in the North Sea between September 2019 and July 2022, the Danish gas system will be more vulnerable than usual, even though analyses show that the supply to Danish and Swedish customers can be maintained using primarily gas imported from Germany.

Since 1987, the Tyra field facilities have been the main source of supply for Danish and Swedish gas consumers, and the redevelopment therefore challenges the security of supply.

However, an updated time schedule for the Baltic Pipe project now shows that gas from Norway will be able to flow to Denmark earlier than expected, and Norwegian gas can thus alleviate the pressure on the Danish security of supply during part of the period of the Tyra redevelopment.

- The possibility of transporting Norwegian gas to Denmark during the shutdown of the Tyra field is excellent news for the security of supply for the Danish gas market. Even though we can maintain the security of supply using our gas storage facilities and gas from Germany, the connection to Norway will make the Danish gas system less vulnerable to disruptions, says Torben Brabo, CEO, Energinet Gas TSO.

The overall Baltic Pipe project, destined to connect Norway, Denmark and Poland, is scheduled for commissioning on 1 October 2022, but work is already following an official time schedule according to which gas can be transported from Norway to Denmark as early as January 2022.

- The purpose of Baltic Pipe is first and foremost to strengthen and integrate the European gas market and contribute to achieving the European climate targets, but this is a welcome bonus, says Torben Brabo, CEO, Energinet Gas TSO.

Even though the time schedule is now in place, there is still a natural uncertainty regarding the start date for the connection to Norway, because – as always in the event of large projects – it may be affected by unforeseen events.

As the possibility of transporting Norwegian gas to Denmark earlier than expected may affect prices in the market, Energinet has informed the market through a REMIT message.

Press Release 9 January 2019

BEHIND THE SCENES – INTENTION IS TO CREATE ONE ENTRY POINT

Energinet intends to make things as easy as possible for you

- Two different sets of regulation
  - Upstream – negotiated access
  - Transmission – regulated access
- Method application to create combined product
  - Update of Rules for Gas Transport
  - User Group later this year
  - Financial separation of upstream and transmission accounts
- The product facing the shipper should be as simple as possible

Us:

You:

ENERGINET

RECAP

Can your business benefit from the new import opportunity?

- For *all* shippers
- Norwegian Gassled system is “open for business”
- First gas target date = expected January 2022
- We will make life as easy as possible for you!

QUESTIONS

Contact: mbk@energinet.dk

FINAL REMARKS

Clement Johan Ulrichsen, Energinet Gas TSO