

2nd Market Dialogue

Berlin, 4 June 2019

Agenda

- ▶ 11.00 – Welcome
- ▶ 11.15 – Comments and other questions
 - Capacity / congestion management instruments
 - 8KU questionnaire
- ▶ 12.00 – bdew view
- ▶ 12.15 – EFET view
- ▶ 12.30 – Annual auction and next steps
- ▶ 13.00 – Lunch break
- ▶ 14.00 – Panel discussion
- ▶ 15.00 – MAM topics
- ▶ 15.30 – End of event

Project status – Review and outlook

Project status – Review and outlook

Mandate for gas TSOs
(Sec. 20, 21 GasNZV)

- ▶ Create a joint market area
- ▶ Increase gas market liquidity
- ▶ Appoint a Market Area Manager (MAM)

Market Dialogue
event in Essen on
6 February 2019

Core messages:

- ▶ Limited exchange capacity between market areas makes it difficult to provide freely allocable capacities (FAC) for a joint market area
- ▶ The aim of the gas TSOs is to provide the existing capacities further on

This can only be achieved through network
expansions or market-based instruments

- ▶ Consultations with BNetzA are taking place on several levels

Project status – Review and outlook

Project
priorities
February to
May 2019

- ▶ Intensive discussions between BNetzA and gas TSOs on issues relating to the capacity model
 - ▶ Sufficient FACs
 - ▶ Allocation of costs for market-based instruments (MBI)
- ▶ Comments by market on capacity model
- ▶ Start of implementation project with both Market Area Managers
- ▶ Preparations for a capacity offer for the annual auction in 2019

Current /
next steps

- ▶ Reduce FACs for annual auction 2019 to secure zero cost line
- ▶ Resolve questions regarding the capacity model with BNetzA
- ▶ Agree capacity model that again ensures sufficient FACs
- ▶ Analysis of BNetzA process of establishing the rules for the introduction of an overbooking model



Comments and other questions



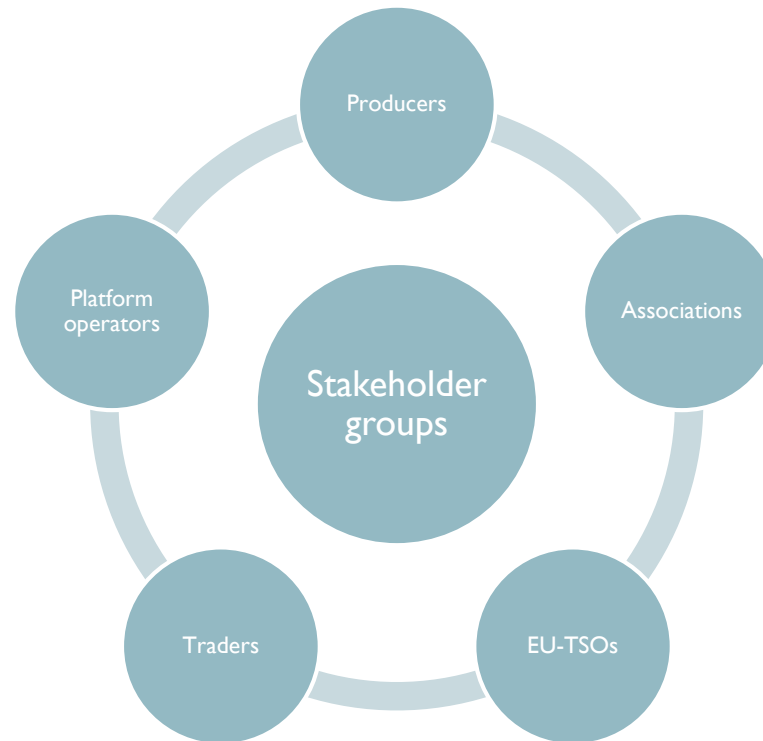
Comments and other questions

General

Shippers, network operators and the regulator can only successfully implement the new joint market area in Germany by 1 October 2021 if they act in unison.

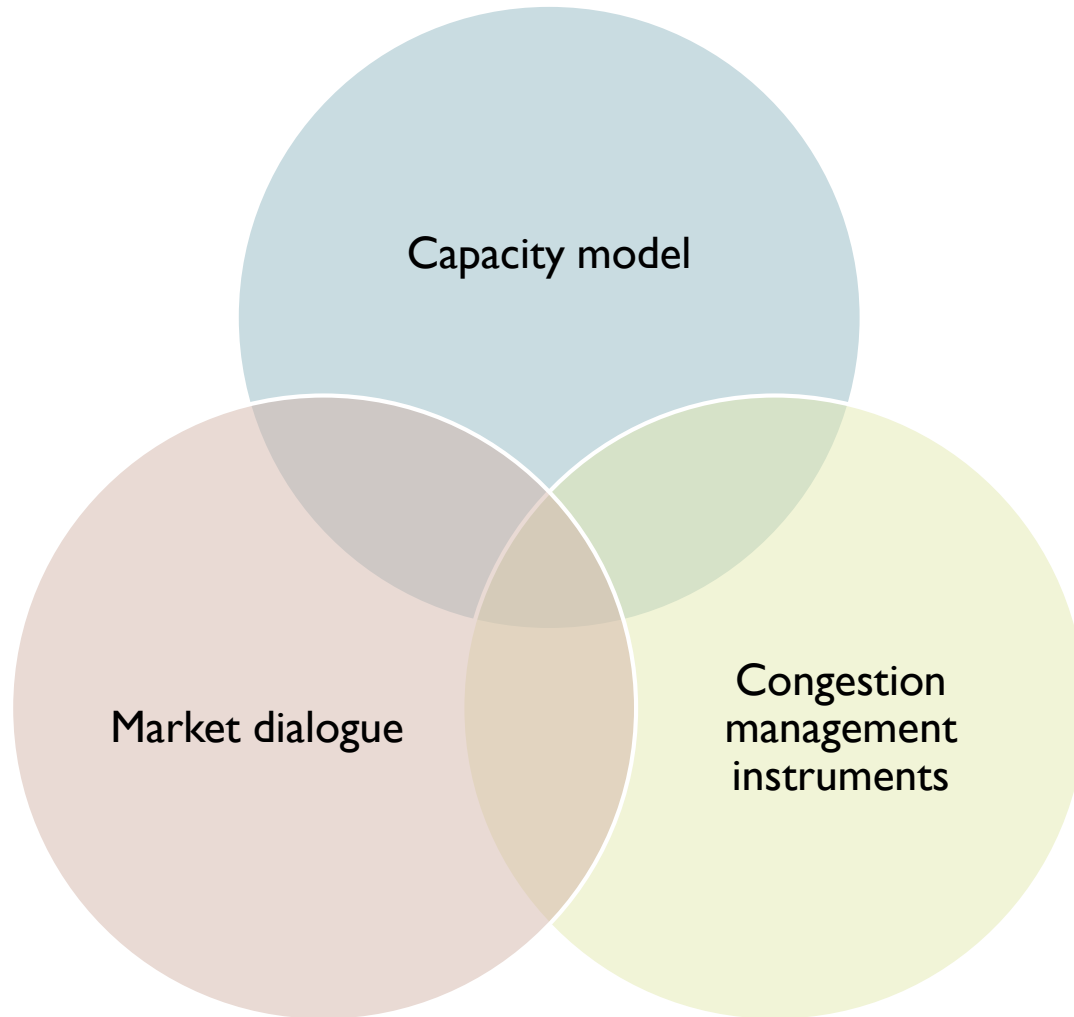
- 6 February 2019: Market Dialogue event in Essen: German gas TSOs presented their first thoughts on a Germany-wide capacity model.
- Feedback until 17 March 2019: Stakeholders have been asked to comment on the ideas presented at the event.
- The comments have been published. Details, ideas and suggestions will be discussed at this Market Dialogue in Berlin on 4 June 2019.

Comments by ten German and international companies and various energy industry associations*



* BDEW, EFET Deutschland, Equinor, Fluxys Group, Gazprom Export, INES, PEGAS, Shell Energy Europe, Uniper SE, VIK/VCI,

Three thematic groups



Comments and other questions

Market Dialogue

Organisation

- ▶ Continuation of Market Dialogue with gas TSOs and BNetzA
- ▶ Continuous Market Dialogue workshops
 - ▶ At least twice a year like the one in Essen (German/English) & web conference
 - ▶ EFET offers workshop (e.g. on product design & congestion management)
- ▶ Formation of small, additional working groups
 - ▶ (4 times a year) with relevant associations, among others
- ▶ Detailed project schedule incl. milestones
 - ▶ Contradiction between NDP application and next Market Dialogue on 4 June 2019.
- ▶ Transparency: Immediate and publication of comments (unchanged) on the MGKO (market area cooperation) website

Comments and other questions

Capacity model

Capacity model basics

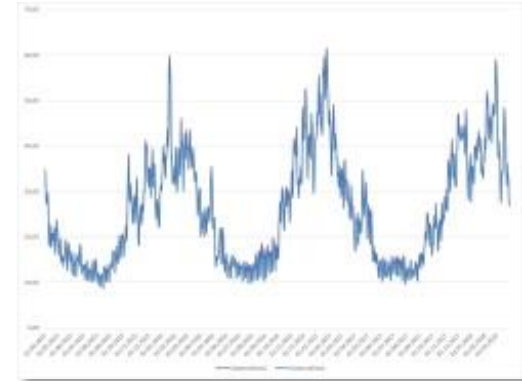
- ▶ Experience gained in 10 years of market area development in various different models has been incorporated into the development of the new capacity model
- ▶ Combination of statistical model approach with Germany-wide scenario development for the future management of gas transmission

Basic assumptions for statistical approach

- ▶ Determination of gas consumption based on the period from 1 April 2015 to 1 April 2018

- ▶ Consumers are subdivided into the network user groups
 - ▶ Internal Orders (IO)
 - ▶ Power Plants (PP)
 - ▶ Industry (IND)

in accordance with the Gas NDP 2018-2028



- ▶ Consumption of network user groups is scaled according to capacity change pursuant to Gas NDP 2018-2028
- ▶ Market area conversion is taken into account as set out in the conversion plan of the Gas NDP 2018-2028



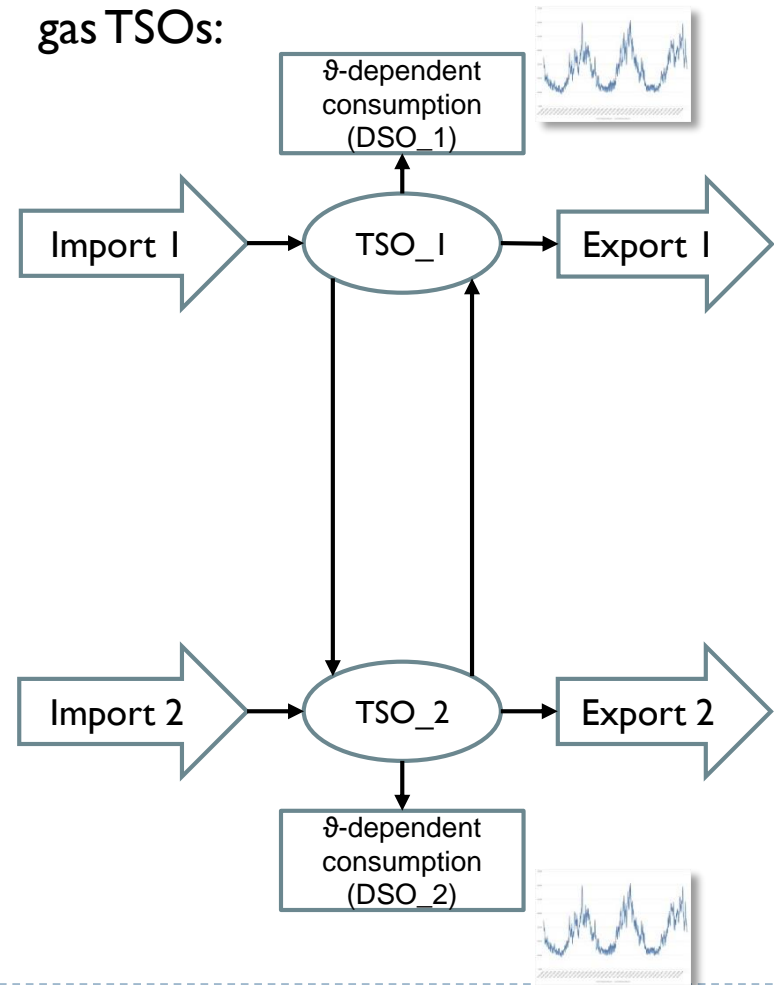
Basic assumptions for statistical approach

- ▶ Cross-border interconnection points (IPs), storage and production have been considered for the period of use from 1 April 2015 to 1 April 2018
- ▶ The usage profiles of the cross-border IPs are increased or reduced as part of the scenarios examined
- ▶ The technically available capacities according to the Gas NDP 2018-2028 represent the limits

Node-edge model as an instrument

- ▶ Look at one day out of 1096 days to be examined (3 years)

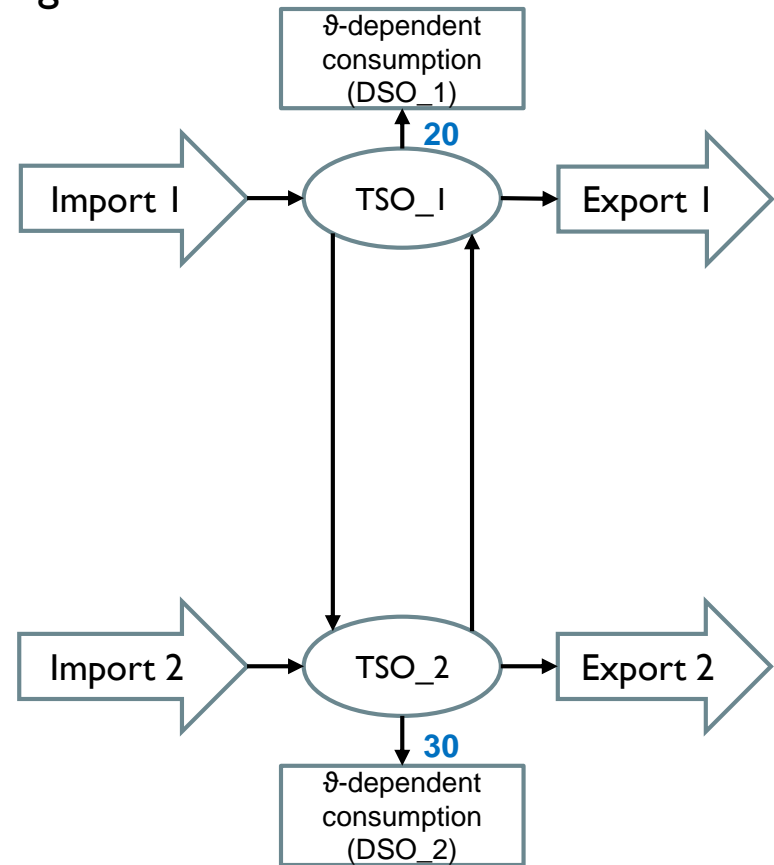
Simplified representation with two gas TSOs:



Node-edge model as an instrument

- ▶ Look at one day out of 1096 days to be examined (3 years)
- ▶ Calculate daily consumptions 1 and 2 in 2021

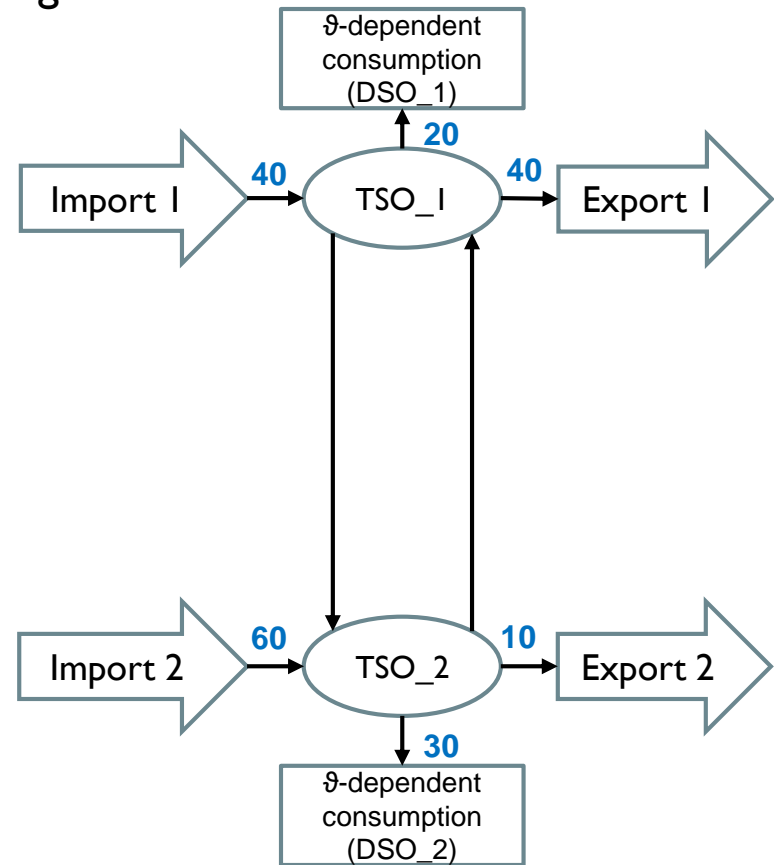
Simplified representation with two gas TSOs:



Node-edge model as an instrument

- ▶ Look at one day out of 1096 days to be examined (3 years)
- ▶ Calculate daily consumptions 1 and 2 in 2021
- ▶ Adjust import and export values

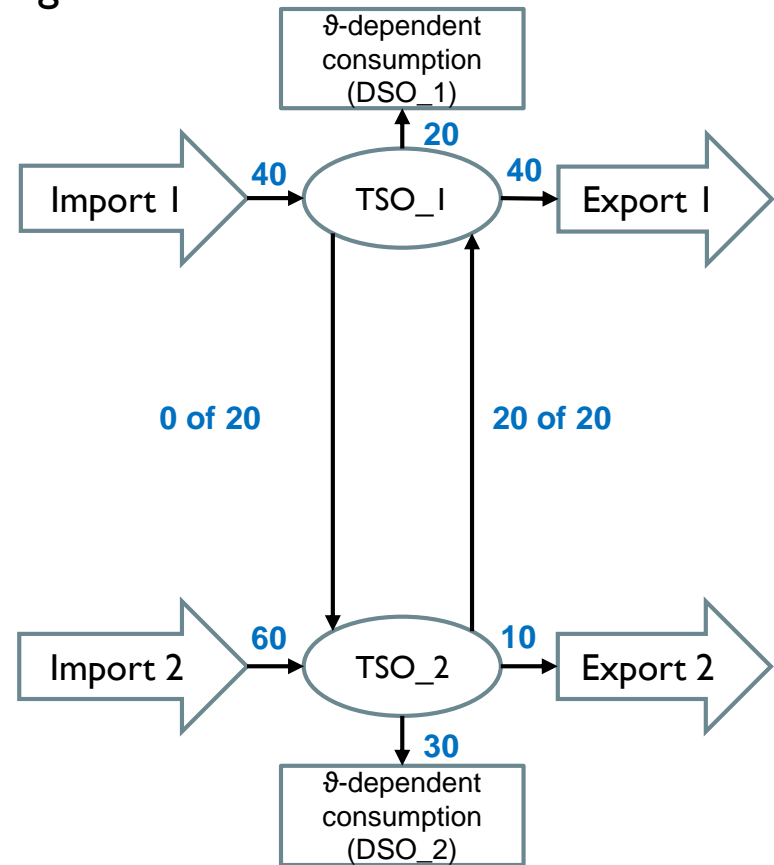
Simplified representation with two gas TSOs:



Node-edge model as an instrument

- ▶ Look at one day out of 1096 days to be examined (3 years)
- ▶ Calculate daily consumptions 1 and 2 in 2021
- ▶ Adjust import and export values
- ▶ Find the best flow between the TSOs within the capacity

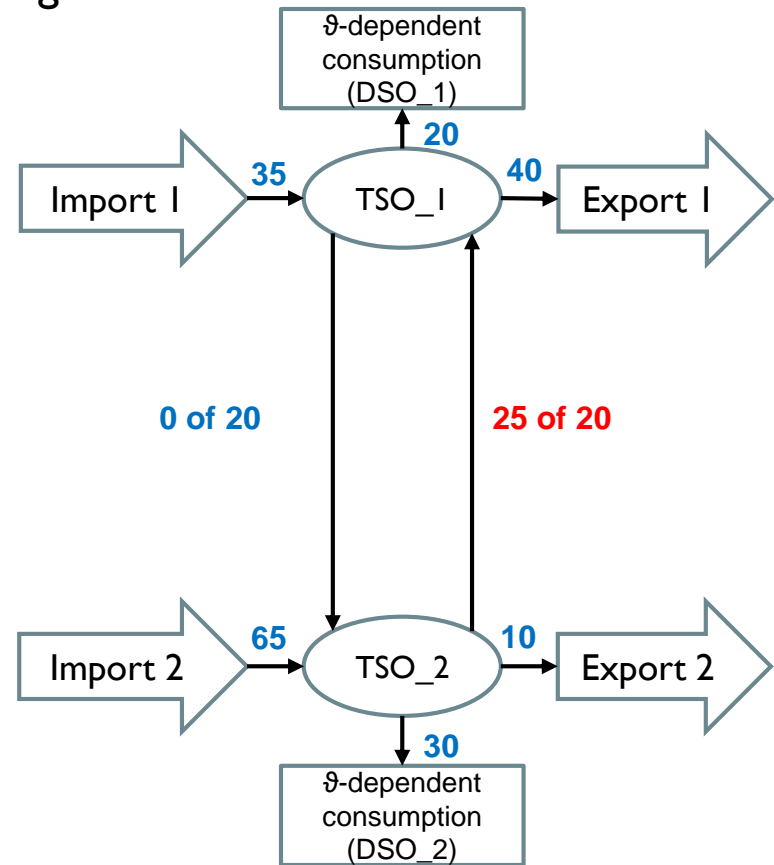
Simplified representation with two gas TSOs:



Node-edge model as an instrument

- ▶ Look at one day out of 1096 days to be examined (3 years)
- ▶ Calculate daily consumptions 1 and 2 in 2021
- ▶ Adjust import and export values
- ▶ Find the best flow between the TSOs within the capacity
- ▶ Vary the imports

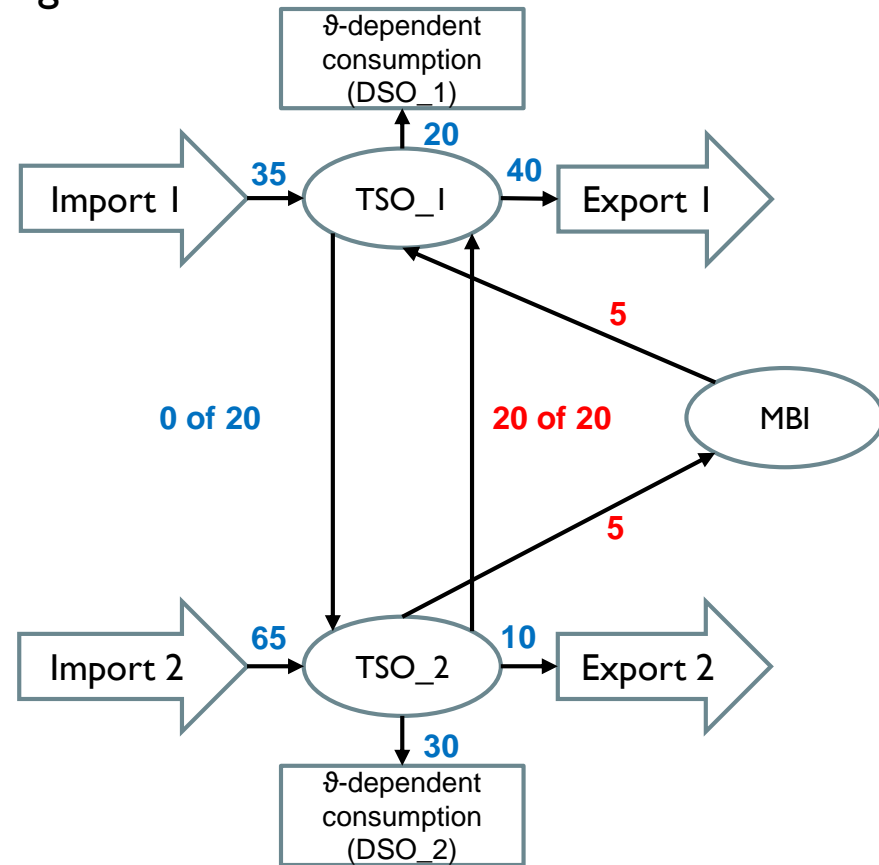
Simplified representation with two gas TSOs:



Node-edge model as an instrument

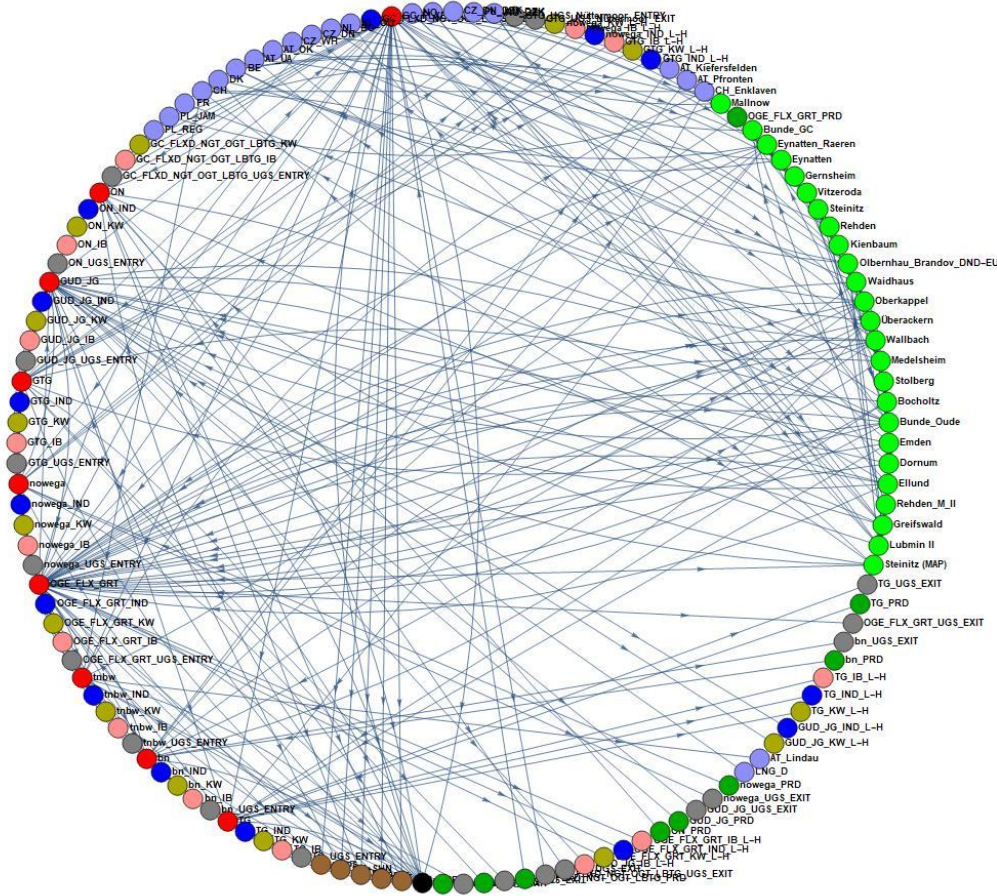
- ▶ Look at one day out of 1096 days to be examined (3 years)
- ▶ Calculate daily consumptions 1 and 2 in 2021
- ▶ Adjust import and export values
- ▶ Find the best flow between the TSOs within the capacity
- ▶ Vary the imports
- ▶ Add MBI nodes

Simplified representation with two gas TSOs:



Topology

► Current node-edge model



- approx. 140 nodes
- approx. 300 edges
- over 60 scenarios analysed per year under review
- approx. 1.1 million input values
- approx. 60-70 million result values

Simulated variations at the cross-border IPs

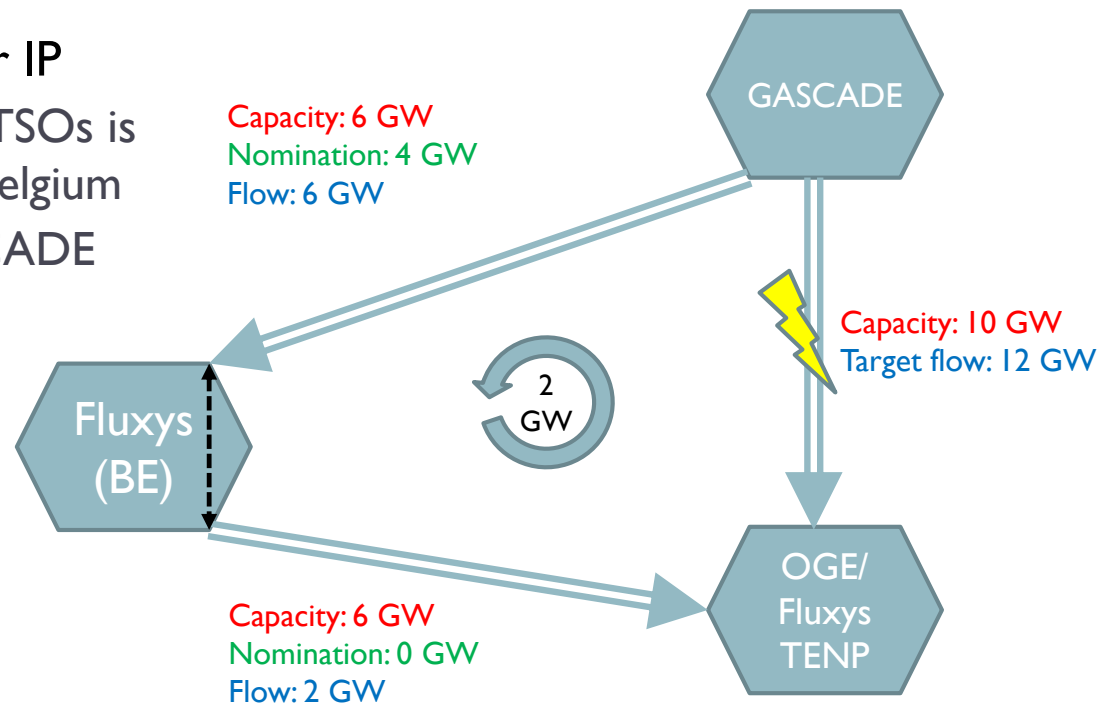
- ▶ Variation of the supply sources Russia, Norway and LNG
- ▶ Redistribution variants (supplies to Germany)
- ▶ Transit variants (supplies to Europe)
- ▶ Variation of entry and exit flows up to the maximum use of the technically available capacity or until there is a market shift of approx. 10%

Comments and other questions

Congestion management instruments

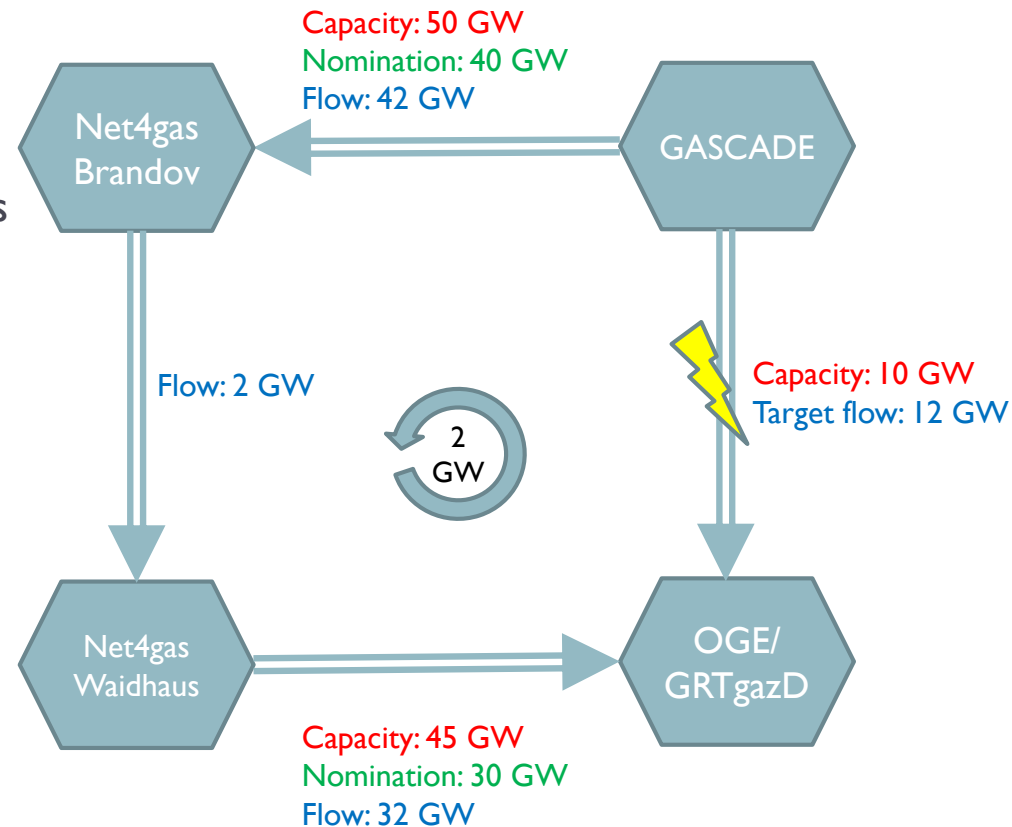
Market-based instrument: Wheeling

- ▶ Gas transmission from one TSO to another TSO via a cross-border IP or nearby connection points (CZ, NL, BE)
- ▶ Example: Eynatten cross-border IP
 - ▶ Bottleneck between German TSOs is resolved by circular flow via Belgium
 - ▶ 6 GW of gas flow from GASCADE to Fluxys (BE)
 - ▶ 2 GW of gas flow from Fluxys (BE) to OGE
- ▶ Used where it is available and has a supporting effect



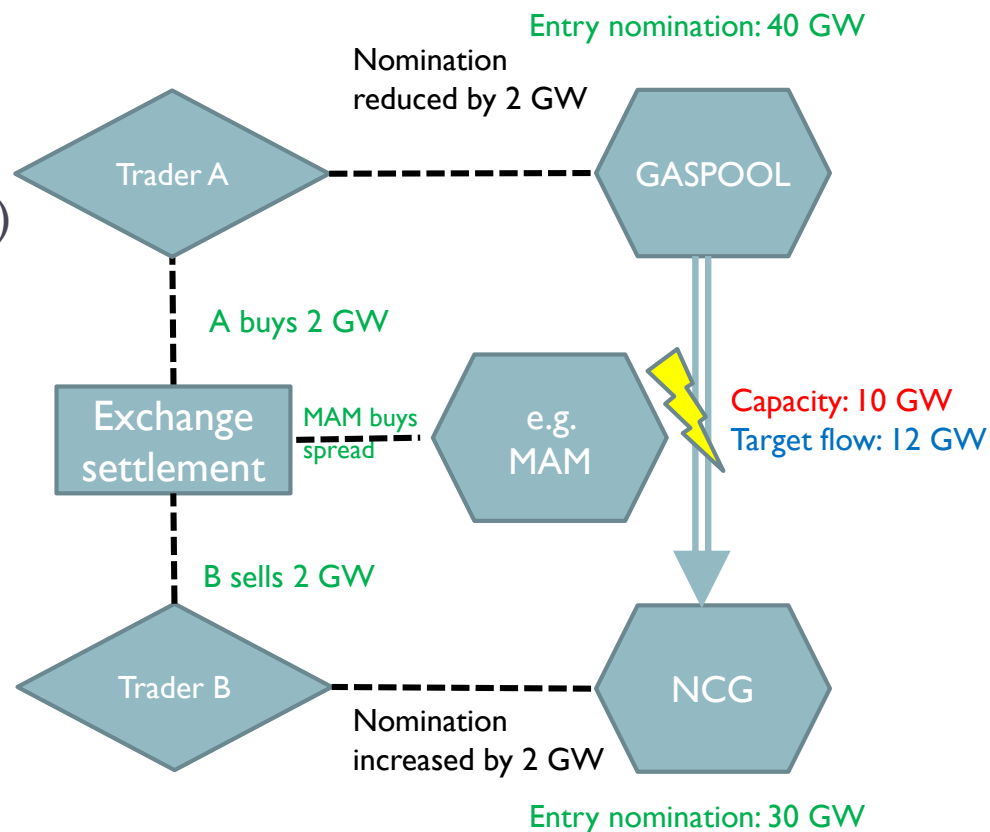
Market-based instrument: Third-party network use

- ▶ Gas transmission from one TSO to another TSO via two cross-border IPs (CZ, NL, AT)
- ▶ Example: Czech Republic
 - ▶ Bottleneck between German TSOs is resolved by circular flow through Czech Republic
 - ▶ 42 GW of gas flow from GASCADE to Brandov
 - ▶ 32 GW of gas flow from Waidhaus to OGE/GRTgaz D
- ▶ Used where it is available and has a supporting effect
- ▶ TSO participation in auctions for firm capacities (possibly only first round)



Market-based instrument: Exchange-based spread product (Example)

- ▶ Fictitious transmission of gas from one TSO to another TSO by local purchase and sale
- ▶ Example:
 - ▶ A reduces entry nomination with GASPOOL by 2 GW (e.g. sale abroad) to 38 GW
 - ▶ B increases entry nomination with NCG by 2 GW (e.g. purchase from abroad) to 32 GW
 - ▶ Exchange trades spread product, e.g. MAM buys it at commodity price
- ▶ Penalty for dealer A or B if nomination obligation is violated
- ▶ Restrictions on renomination and marketing across large congested areas prevent abuse



Market-based instrument: Exchange-based spread product (Principles)

- ▶ In the case of a congestion, all points (IPs, storage facilities, possibly also exit points) can be divided into effective points upstream and downstream of the congestion (upstream/downstream zones) and ineffective points.
 - ▶ Defined groups through which products are made available have to be selected across the TSOs in such a way as to ensure sufficient liquidity at all times.
 - ▶ Purchases and sales are made exclusively on the basis of commodity prices.
- ▶ The market is warned sufficiently early about the congestion situation and at the same time is requested to submit offers for the purchase and sale of gas quantities.
 - ▶ Offers have to be made in standardised lot sizes as day-ahead or rest-of-the-day offers on a trading platform (e.g. exchange) which combines the best offers for the spread product and ensures the exchange of the same gas quantities via the VTP.
 - ▶ The market player must submit agreed renominations (if necessary via the Balancing Group Manager) after the bid has been accepted. Thereafter, the market player may no longer change nominations for the day in a way that would have an adverse impact on the network (i.e. neither increase quantity fed into system nor decrease the quantity withdrawn from system in the upstream zone; and vice versa in the downstream zone).
 - ▶ Penalty, if the agreed nomination is not made or if renomination has adverse impact on the network.
- ▶ Cooperation with the exchange is required, which has significant experience with spread products.

Comments and other questions

8KU questions

Capacity model – questions from 8KU on capacity model

Internal Order (IO)

- ▶ **Will the DSOs' indefinite firm capacities from the IOs remain unchanged after the market area merger?**

Yes, the current indefinite firm capacities for IOs will remain unchanged.

- ▶ **How are the current firm and interruptible capacities developing?**

The calculations are based on the NDP 2018-2028 which includes the DSOs' long-term forecasts for the respective base year.

The IOs will be taken into account as firm capacity as per the NDP ramp-up.

Capacity model – questions from 8KU on capacity model

NDP

- ▶ **Will the network expansion activities under the Gas NDP to eliminate capacity congestion in the direction of the DSO networks continue unchanged?**

Yes, the network expansion process planned in the NDP 2018-2028 will be implemented as planned.

- ▶ **Are the network expansion activities under the Gas NDP to eliminate capacity congestion independent from the use of market-based instruments (MBIs)?**

The recently confirmed network expansion under the NDP 2018 - 2028 will be independent from the expected deployment of MBIs. In the coming NDPs, the most cost-effective solution for eliminating congestion between today's market areas will be determined using MBIs.

Capacity model – questions from 8KU on congestion management instruments

Market-based measures

- ▶ **Will the three proposed market-based instruments fully resolve the network use cases?**

Yes, the load cases under consideration can be illustrated and balanced using the MBIs.

- ▶ **Which contractual requirements of which market players are needed in order to apply the three individual market-based measures that have been proposed?**

Apart from the existing contracts and opportunities, the spread product needs to be put in place. Existing market platforms and processes may be used for this purpose.

- ▶ **What financial impact will the expected commercial effects of the three proposed MBIs have?**

The highest expected value for the MBI costs in the first years is assumed to be around € 30 million per annum. This is marginal compared to the revenue cap costs of all gas TSOs or the costs of the market area conversion.

Market view I

bdew

Market view II

EFET



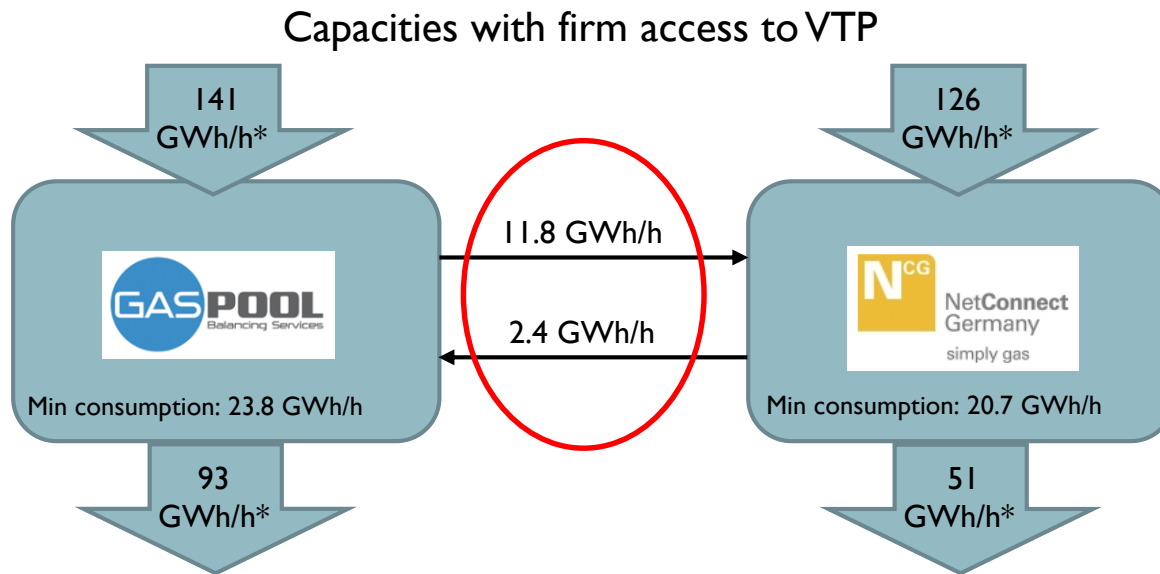
2019 auction and next steps

Basic options for solving the new transportation task

- ▶ Reduction of entry capacities
(without additional costs)
- ▶ Network expansion
- ▶ Use of market-based instruments

Determination of the necessary reduction

- ▶ Limited exchange capacity between today's market areas makes it difficult to freely allocate capacities in the common market area



* cFAC and FAC for IPs, storage and production

Note:

VTP: Virtual trading point

cFAC: Conditionally firm freely allocable capacity ("bFZK" in German); capacity is firm if utilisation/gas flow-dependent conditions are met

FAC: Freely allocable capacities ("fZK" in German) allow booked entry and exit capacities to be used without defining a transport path.

IP: cross-border interconnection point

- ▶ Max. entry capacity
 - ▶ 2021: NCG → 23.1 GWh/h,
 - GPL → 35.6 GWh/h

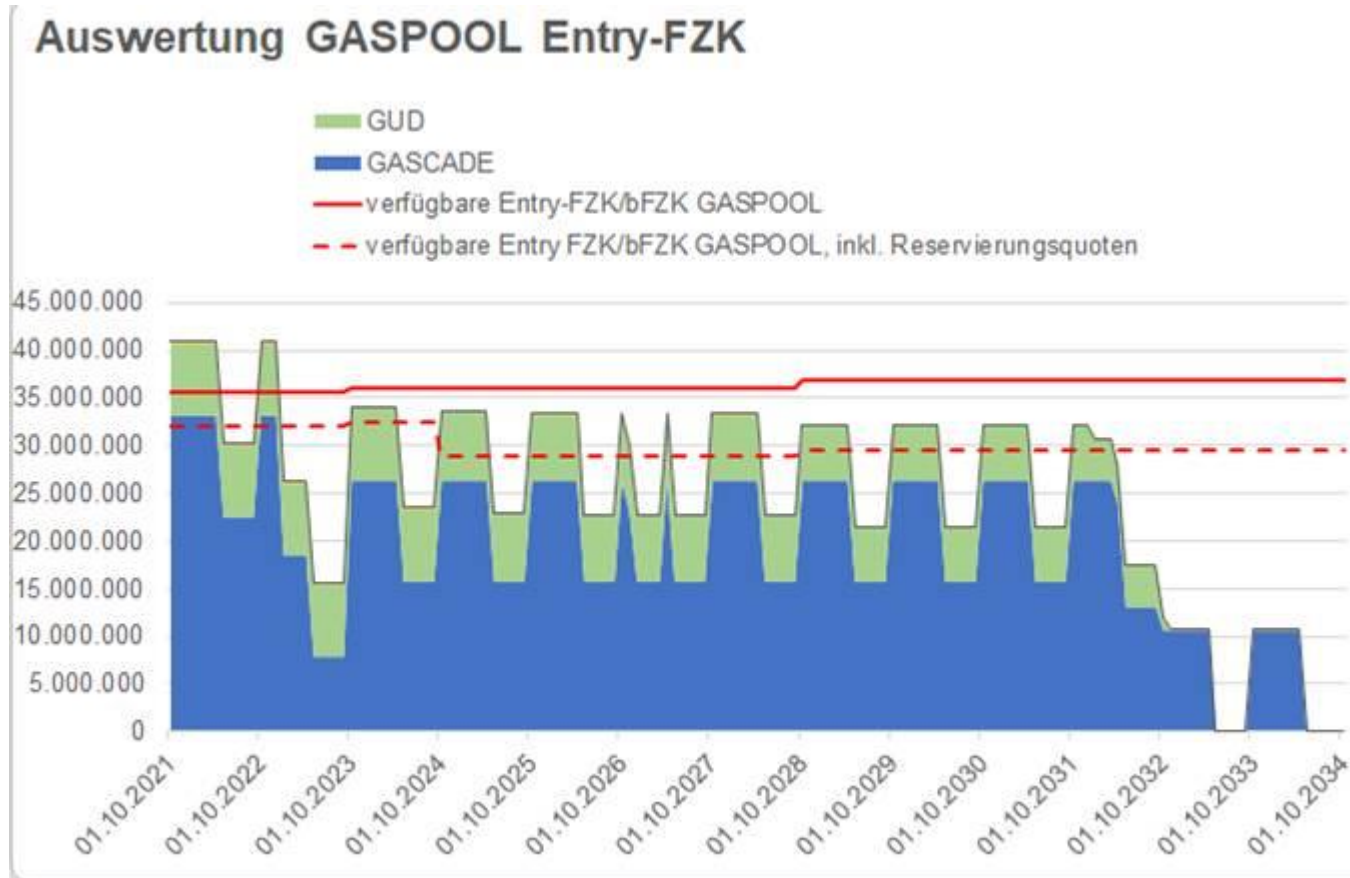
Annual auction 2019 (H-gas from GY 2021/2022)

- ▶ 22 % of the previous entry FACs:
 - ▶ No offer of FACs, as long-term bookings and confirmed reservations pursuant to sections 38, 39 of Gas Network Ordinance (*GasNZV*) make full use of the available FACs
- ▶ 78 % of the previous entry FACs:
 - ▶ Offer on an interruptible basis (iFACs)
- ▶ Existing products with allocation requirement and usage restrictions will be marketed as before

Comparison of long-term bookings and available capacities in kWh/h

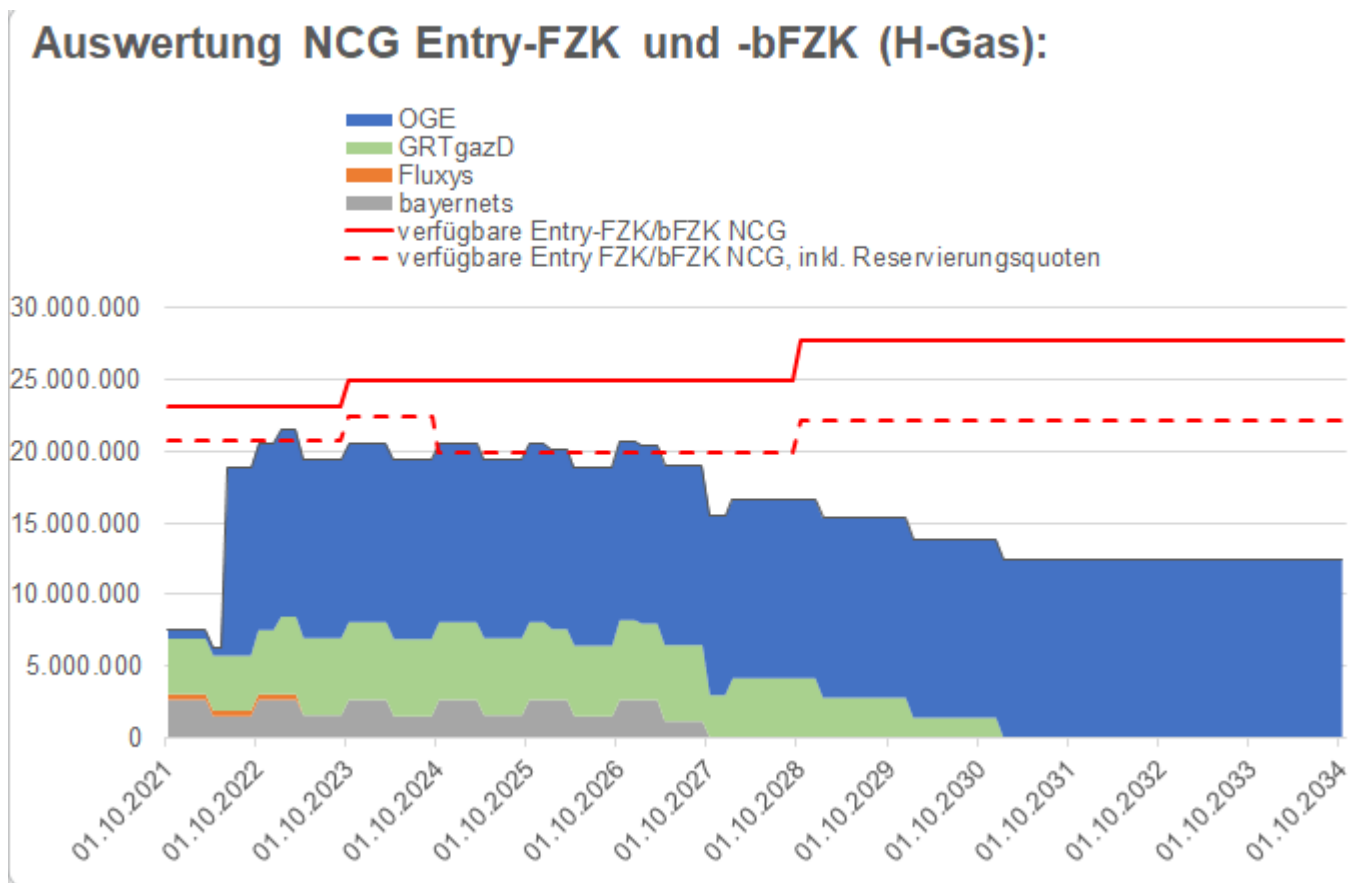
- ▶ Review of long-term bookings and existing confirmed reservations pursuant to sections 38,39 of the Gas Network Access Ordinance (*GasNZV*)
- ▶ Graphs show that following the KARLA Gas decision reservation rates are not fully sustainable over the marketing period
- ▶ 22 % FACs not fully sufficient to fulfil existing long-term bookings

1. Comparison of the long-term bookings (H-gas) and the available capacities in kWh/h



No noteworthy bookings with Ontras

1. Comparison of the long-term bookings (H-gas) and the available capacities in kWh/h



No noteworthy bookings with Thyssengas and tnbw

Annual auction 2019 (H-gas from GY 2021/2022) – Other conceivable capacity products (22% FAC + X)

Product	Chance of being implemented until annual auction
FAC flow (firm capacity as a new product under the premise that the previous flow does not change significantly)	Establishment of a new product, operational handling unclear.
cFAC-TDC (temperature-dependent capacity) (<i>"TAK" in German</i>) (firm capacity as new temperature-based cFAC product)	Establishment of a new product, It may not be possible to define temperature curve in time.
cFAC load (firm capacity offered as new load flow-dependent cFAC product)	Could be workable (operational risks in network control will depend on the condition); implementation influenced by KASPAR decision
DAC (with firm routes or flexible)	Non-discriminatory market survey required to identify routes
DAC with allocation requirement for all exits (that can be nominated) of the previous market areas	Operational handling unclear; does not fulfil the condition of a joint market area
iFAC	(+)

Next steps

- ▶ Create further entry FACs
 - ▶ Use market-based instruments (MBIs) necessary
 - ▶ Ensure that MBIs are used
 - ▶ Within the existing legal framework
 - ▶ By clarifying the legal framework (BMW offer)
 - ▶ By introducing an overbooking model (consultation with BNetzA)
- ▶ Create further conditional entry FACs
 - ▶ Temperature-dependent
 - ▶ Load-dependent (KASPAR?)
 - ▶ Dynamic

Overbooking model

First assessment by TSOs

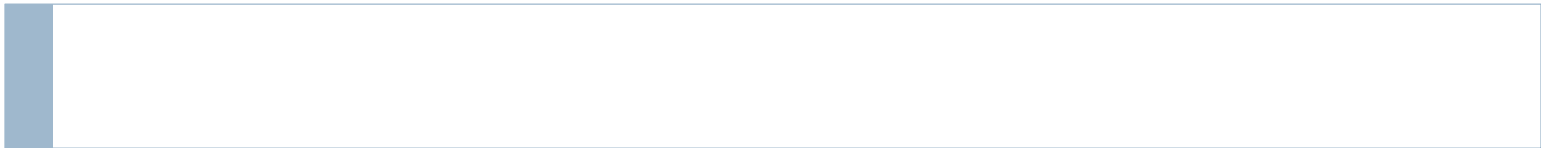
1. Overbooking and repurchase models are not generally excluded as options
2. The complexity is significantly increased
3. As far as the TSOs are concerned, the overbooking model cannot be fully assessed as yet because there are still a large number of open questions - further dialogue necessary

NDP - 2020

- ▶ Scenario framework consultation (17 June - 12 July 2019)
 - ▶ Capacity requirements based on NDP 2018
 - ▶ Preserved through use of MBIs (where efficiency value neutral)



Lunch break





Podium discussion





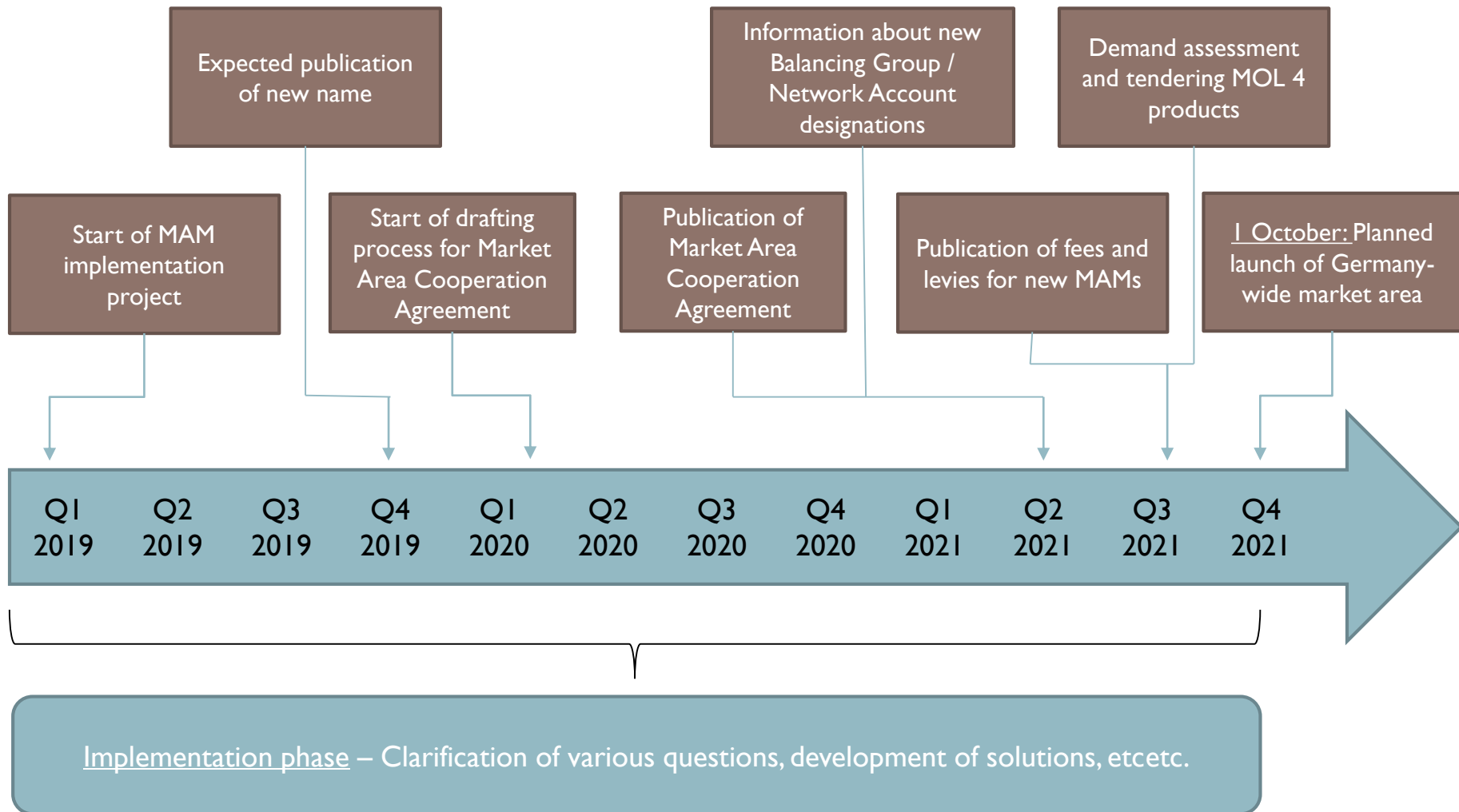
**The implementation project
of the Market Area Managers**



MAM implementation project objective

- ▶ The objective of the MAM implementation project is to create **one** fully functional Germany-wide MAM
 - ▶ Define the future MAM process landscape, organisational structure, etc.
 - ▶ Implement the IT adjustments ("from system selection to data migration and ensuring the go-live")
 - ▶ Coordinate and implement the organisational changes ("from re-organisation to business card")
 - ▶ Coordinate and implement the legal adjustments
- ▶ MAM implementation project is complementary to the marco project

Current schedule



Examples:

Questions and topics to be clarified

Which IT systems and portals are used?

How are charges and levies determined?

What is the name of the new market area?

How will the transfer of levy accounts be handled?

What will change for balancing energy zones, balancing energy contracts and tenders?

How will the procurement of balancing energy change?

Message formats, certificates, data exchange, nomination regime?

What happens to the existing balancing group contracts and network accounts and other old data?

Will the balancing group and network account numbers change?

How can old issues (e.g. surplus/shortfall quantities) be defined/differentiated?

What do previous market area overlappers have to take into account?

...

Necessary adjustments (excerpt)

- Charge/levy planning
- Liquidity planning
- Data migration...

Financial planning

- Balancing energy procurement
- Schedule management
- ...

Balancing energy management

- Website
- Publications
- Data migration
- Contract portal, data portal, VTP
- ...

Portals / website

- VTP system
- Handling of the nomination process
- ...

VTP operation

- Nomenclature of balancing groups
- Balancing processes
- ...

Balancing group management

- Market partner codes
- Message formats
- ...

Data flows

Important aspects and initial considerations

- ▶ ... for the calculation of levies:
 - ▶ Provide an estimate of the joint costs and revenues
 - ▶ Provide an estimate for a joint liquidity buffer (risk assessment)
 - ▶ Consolidate (merge) the levy accounts

- ▶ ... for balancing energy management:
 - ▶ Define the balancing energy zones in the new market area
 - ▶ Identify any further balancing energy products that may be required for the new market area
 - ▶ Determine the logic and indicators for the conversion charge

Important aspects and initial considerations

- ▶ Various codes are used to ensure clear identification during the data exchange
 - ▶ As part of the merger, GPL and NCG will clarify the further use of these codes and any adjustments that may be required
- ▶ Nomenclature for balancing group designation and network account numbers
 - ▶ Due to the new name, new designations will be defined as part of the Cooperation Agreement process
- ▶ Balancing group contracts and contracts for the connection of balancing groups
 - ▶ Termination and conclusion new contracts vs. migration and continuation with new nomenclature

Next steps

- ▶ The MAMs and the gas TSOs are working hard on the design of the new MAM.
- ▶ Implementation questions will be clarified, there will be further coordination/alignment with market partners
- ▶ Close dialogue with BNetzA will continue
- ▶ The MAMs and gas TSOs will provide updates on relevant developments at other events.
- ▶ The next Market Dialogue will take place on 5 November 2019