INC Reality Check WG

Considerations to be raised at

GAC WS2 Meeting on July 1, Vienna

INC reality check WG

Output:

- To develop a more detailed – but not binding – understanding of the INC process, focus on Article 20d CAM NC
- To test the INC process on the basis of realistic proposal/case of demand for new cross-border capacity – NL-BE-FR INC realistic case
- If inconsistencies of the process will be identified, indication of proposed improvements of the INC process can be considered (based on the results of the “Reality Check”) within a CAM NC amendment comitology process in Q2/2016

Timing:

- February to June 2016

Organization and Stakeholder involvement

- The INC Reality Check WG is chaired by ENTSOG INC Team
- WG members:
  - ENTSOG INC team
  - 16 TSOs – Enagas, Ontras, GRTgaz, Open Grid Europe, eustream, Gas Connect Austria, Gascade, NET4GAS, GTS, National Grid, Fluxys, Fluxys TENP, Gasunie Deutschland, SNAM, Gaz-System, FGSZ
  - INC Prime Movers – Gazprom, IFIEC, IOGP and GIE
  - European Commission (observer)

10 WG meetings since February 2016

Past events:

- Kick off Meeting/teleconference – February 18
- 2nd Meeting – 29 February – half day teleconference
- 3rd Meeting – 16 March – half day teleconference
- 4th meeting – 4 April – Face-to-Face – full day meeting
- 5th meeting – 13 April – Face-to-Face – full day meeting
- 6th meeting – 18 April – half day teleconference
- 22 April 2016 – Reporting of the first findings at GAC WS2 meeting
- 7th meeting – 19 May – full day meeting
- 8th meeting – 2 June – full day meeting
- 9th meeting – 20 June – teleconference
- 10th meeting – 27 June – full day meeting

Work done – Recommendations of the WG

INC reality check WG sent 7 recommendations to EC on April 20

- **5 recommendations (out of 7) from the recommendation paper were included to CAM NC:**
  - Booking horizon for existing capacity: Art. 11(3) [CAM]
  - Absence of/late NRA decisions: Art. 24(1)-(2) [former Art. 20b(5)-(6)] [CAM]
  - Auction as a 'fall-back' from AAM: Art. 24(2) [former Art. 20b(6)] [CAM]
  - Definition of Alternative allocation mechanism: Art. 3(24) [former No. (6)] [CAM]
  - Application of fixed price: Art. 25(1)(b) [TAR]
- **The WG sent additional 2 recommendations to EC on June 3:**
  - Risk of hampering the INC process due to the intermediary annual auction
  - 20% of INC CAP to be set aside

  These recommendations were not included into CAM NC text.
- **The WG sent additional 2 recommendations to EC on June 28**

Transitional arrangements: CAM NC Art. 27

Current wording of Article 27

''In the case of incremental capacity processes initiated but not completed before the application date of this Regulation[specific date to inserted by OP], those processes shall continue in accordance with the subsequent phase of the respective incremental capacity process in accordance with Articles 22 to 26.''

Concerns

- The ambiguity of the EC wording represents a risk, that the project would have to be re-started according to the new provisions for an Incremental process and thus being detrimental to the development of the network
  - Legal uncertainty, which may lead to a stop of processing currently ongoing projects
  - Risk of delay of already started projects due to a possible re-start or legal uncertainty
  - Financial risks for the involved parties due to potential delays or a project re-start, which may even lead to an abandonment of an already started project

Transitional arrangements: CAM NC Art. 27

Proposal

- New wording proposal for Article 27, which allows for smooth transition between ongoing and upcoming projects that is unambiguous:
- *"Only in the case of incremental capacity processes initiated but not completed before the application date of this Regulation, those processes shall continue in accordance with the existing legal framework, which was applicable when these processes were initiated."*
-

Application of mandatory minimum premium Art. 37.3 TAR NC

Current text

''In case the allocation of all incremental capacity at the reference price would not generate sufficient revenues for a positive economic test outcome, a mandatory minimum premium may be applied in the first auction in which the incremental capacity is offered.[…].''

Concern

> The TAR NC is not clear on the possibility to apply mandatory minimum premium under AAM.

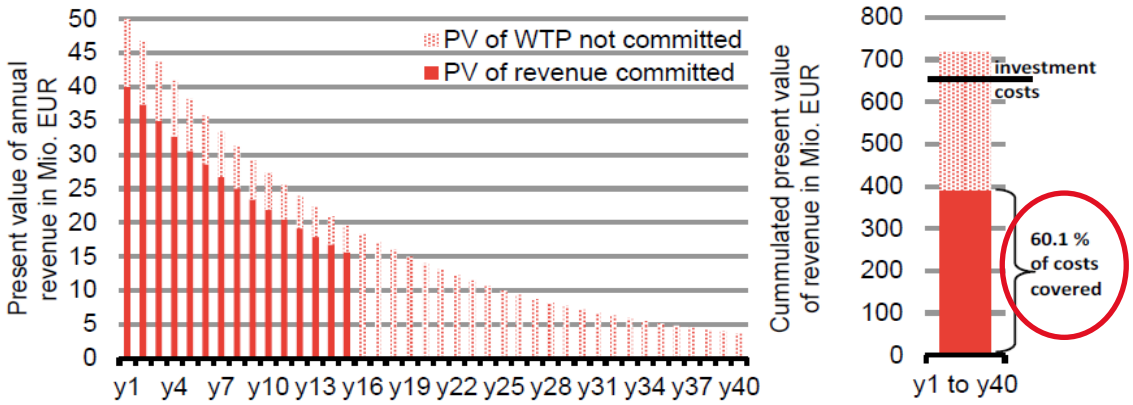
Proposal

> To add AAM to the 1st sentence the of Art 37.3 TAR NC as follows: *''In case the allocation of all incremental capacity at the reference price would not generate sufficient revenues for a positive economic test outcome, a mandatory minimum premium may be applied in the first auction or alternative allocation mechanism in which the incremental capacity is offered.''*

20% of CAP to be set aside: Art. 20d(4)

Frontier Economics report commissioned by ACER: The application of a quota equal to 20% results in only 60% coverage of total cost by upfront commitments.

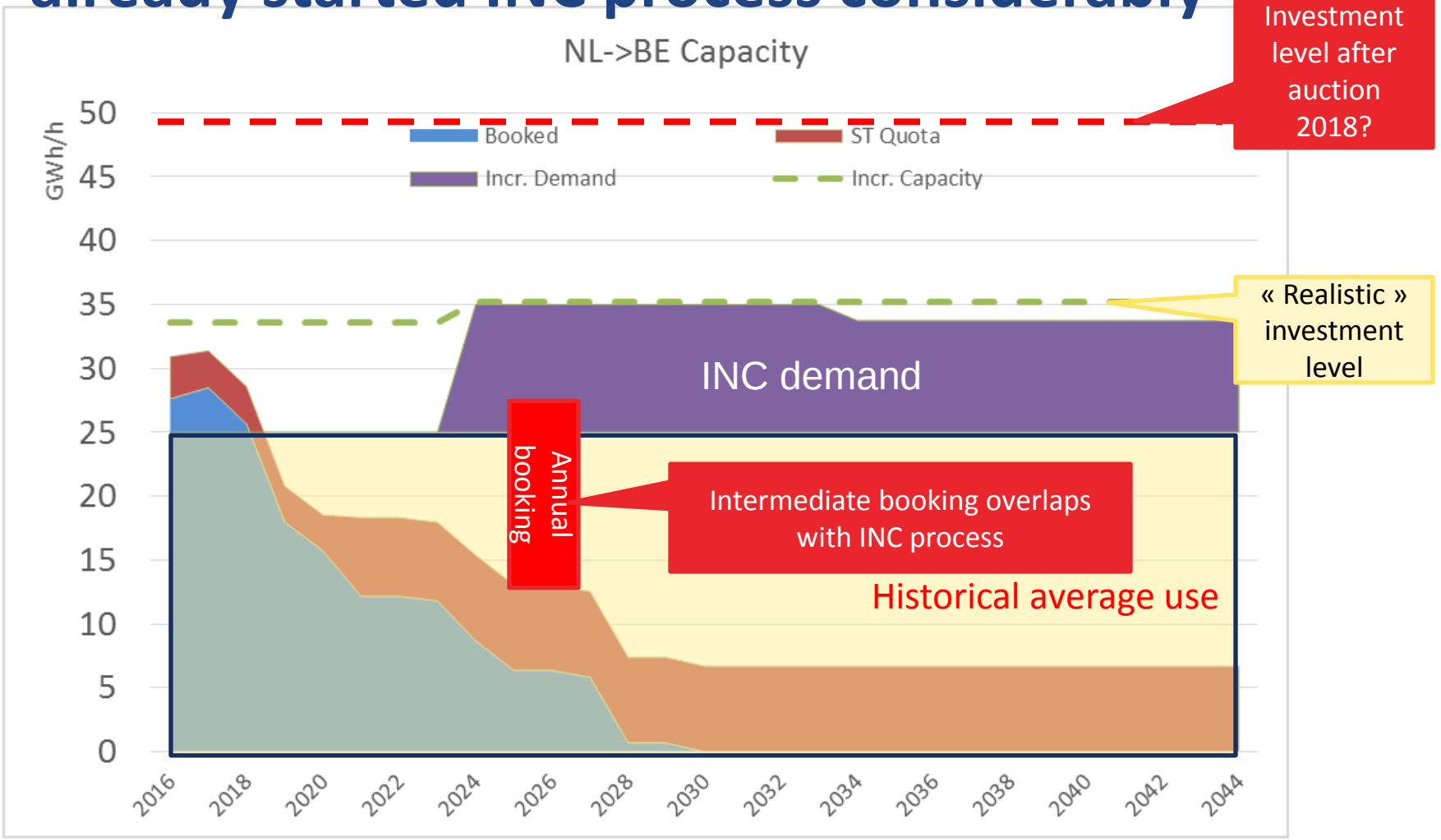
Figure 9. Impact of retaining 20% for short and medium term allocation



Source: Frontier; assumption of €50 million annual undiscounted revenue, 6.5 % discount rate on future revenue, 40 years economic lifetime of asset, 15 year booking horizon of shippers

- Costs covered by upfront commitments of shippers
- Costs potentially socialized to all gas customers

Intermediary annual auction can hamper already started INC process considerably



Solution: « freezing » the capacity > Y+5 in the intermediary annual auction

Next steps

- **ENTSOG and involved TSOs agreed with prolongation of the INC Reality check WG work (up to September/October 2016)**
  - To continue and finalize the process of the NL-BE-FR INC realistic case regarding:
    - Capacity allocation mechanism
    - Economic aspects – Reserve price, f-factor and minimum premium

Current status of the virtual realistic case NL-BE-FR INC project

Disclaimer

This presentation constitutes the preliminary outcome of the discussions within the INC Reality Check Working Group which took place from February to June 2016. It has been prepared for the purposes of informing the Gas Advisory Council WS 2 at the meeting of July 1 2016.

The INC Reality Check Working Group consists of the representatives of ENTSOG, IFIEC, IOGP, GIE, Gazprom group. The proposals set out in this presentation do not constitute the official position of those entities. Such proposals are the preliminary findings by the INC Reality Check Working Group with regards to the current text of the CAM NC amendment on the matter of incremental capacity and the TAR NC which are both undergoing the comitology process. The final content of the CAM NC and the TAR NC shall be subject to the outcome of the procedure according to Article 5a(1) to (4) and Article 7 of Council Decision 1999/468/EC, as foreseen by Article 28(2) of Regulation (EC) No 715/2009.

Positive effects of INC capacity

- New capacity is built according to market demand
- Additional gas to the EU gas markets
- Improvement of competition on gas markets -> lower gas prices for final consumers
- Increase of Security of Supply

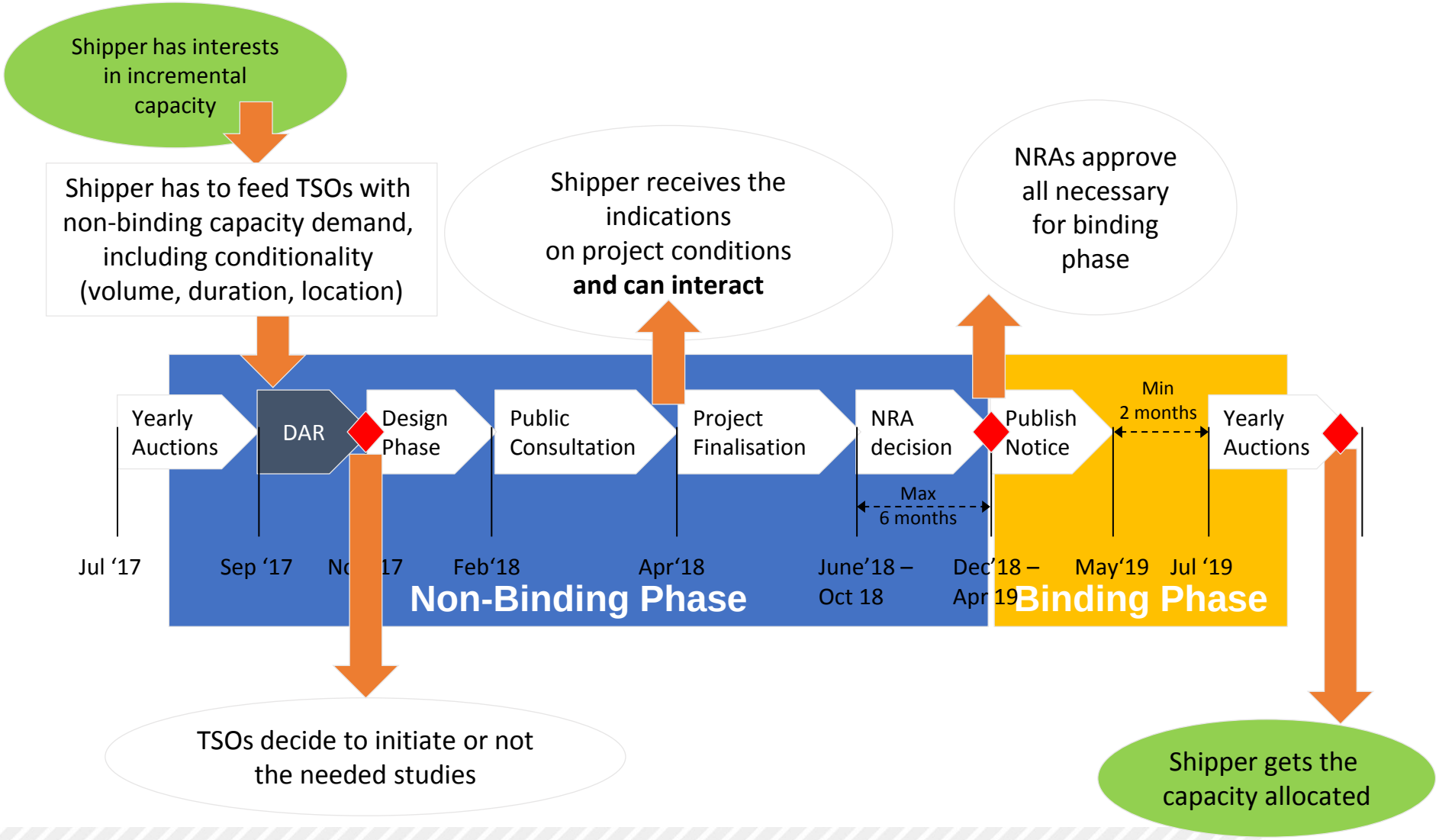
Without a successful Incremental capacity process the positive effect will not materialize

- Goal is to have successful Incremental capacity projects

Reminder of the WG objective

- A STUDY CASE AIMING AT TESTING THE WORKABILIITY OF THE CAM NC
- DOES THE NC TRIGGER NEW PROBLEMS?
- DOES THE NC HAMPER THE POSSIBILITY TO FIND SOLUTIONS?

INC process steps



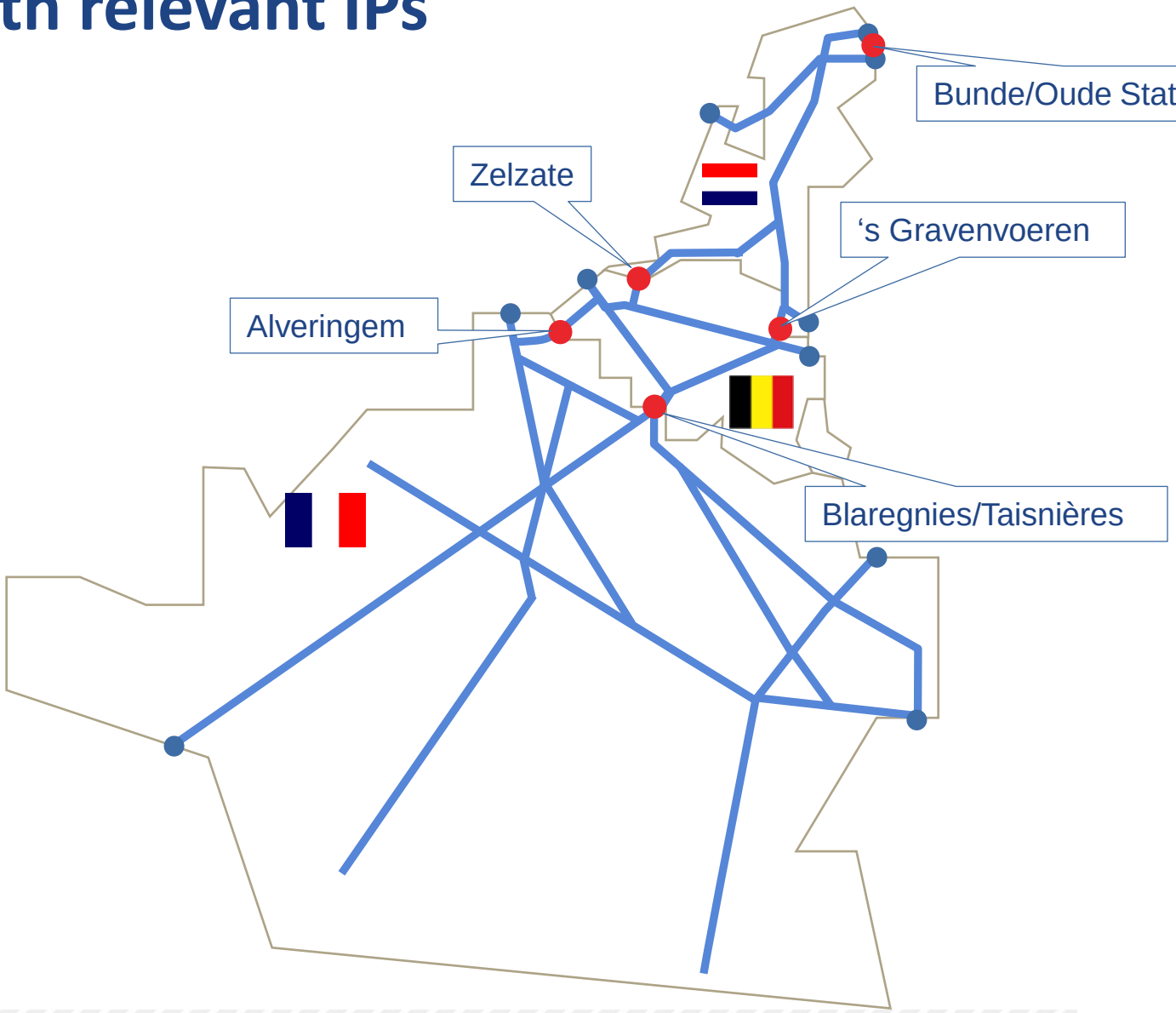
Virtual case NL-BE-FR

Current status :

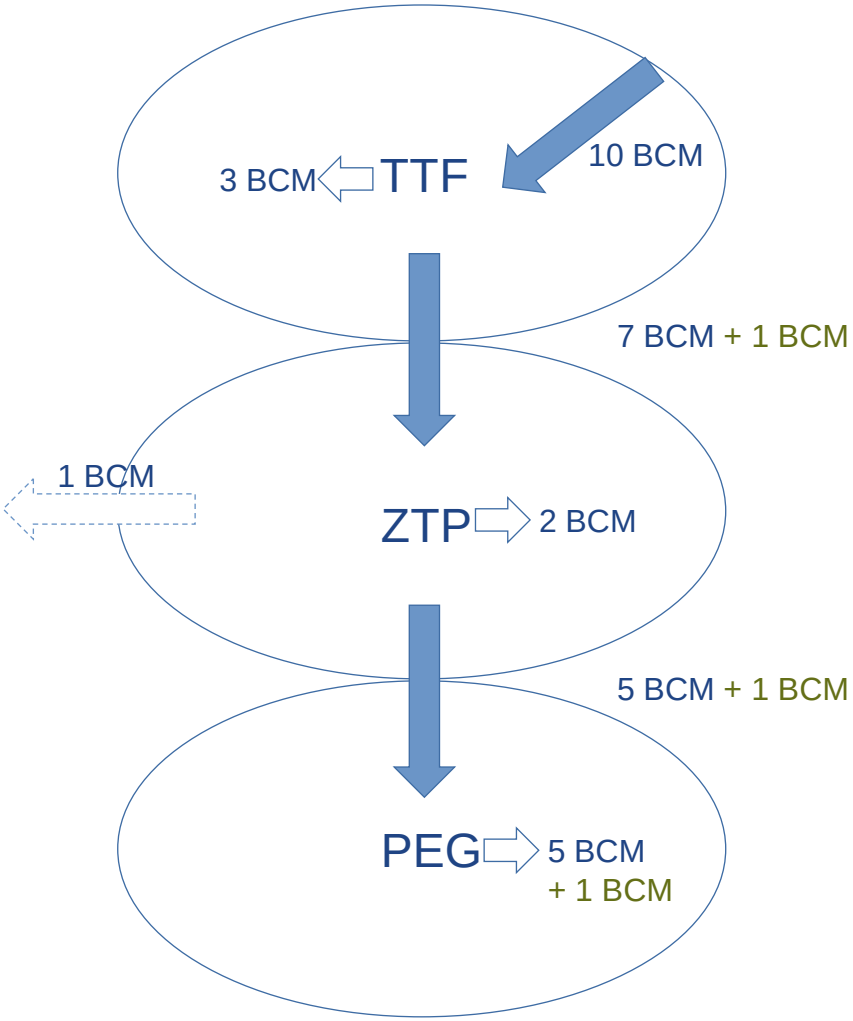
- Demand Assessment – done
- Offer levels and corresponding investments – done

- Economic aspects – work in progress
- Reserve price, f-factor and mandatory premium – work in progress
- Alternative Allocation rule – work in progress

Map with relevant IPs



The (virtual) demand



GCV = 10 kWh/m³(n)
Load Factor = 8000h
1 BCM/y = 10 TWh/y → 1,25 GW

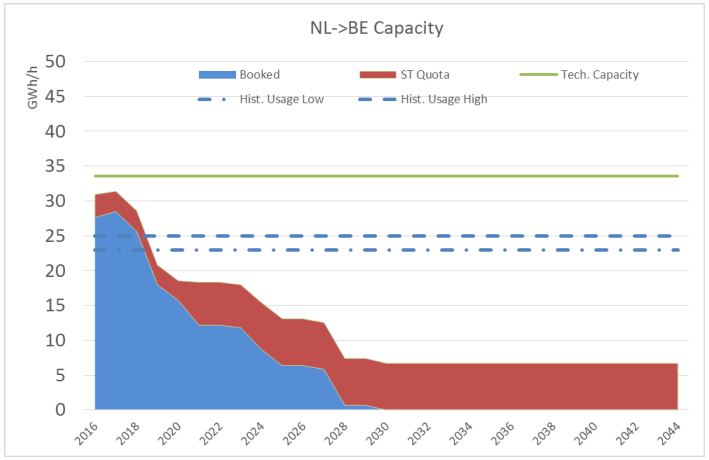
Gazprom

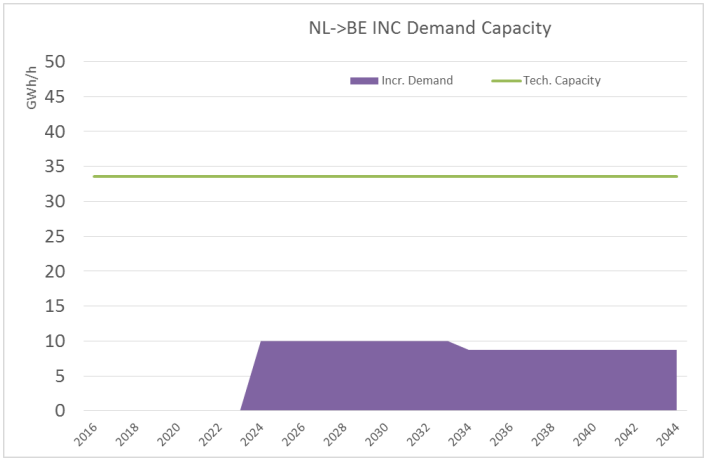
- NL→BE: 7 BCM = 8,75 GW
- BE→FR: 5 BCM = 6,25 GW
- Assumed 20 years, as from 2024
- All or none, over the route and years
- Fixed price option and alt. method

Industrial customer

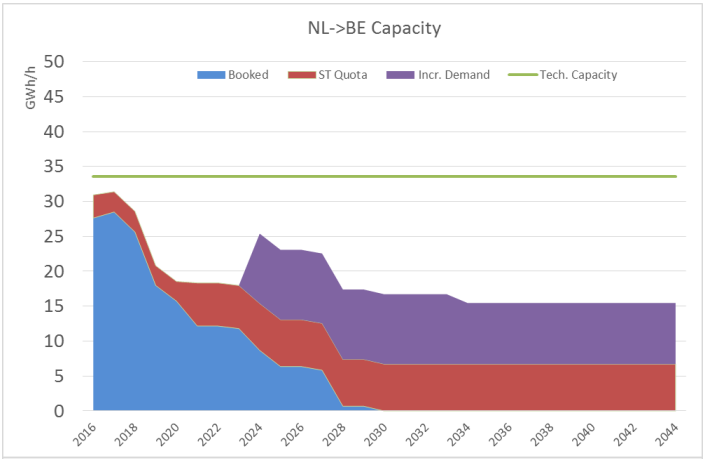
- NL→BE: 1 BCM = 1,25 GW
- BE→FR: 1 BCM = 1,25 GW
- Assumed 10 years*, as from 2024

Incremental Demand vs. Existing Capacity – NL→BE

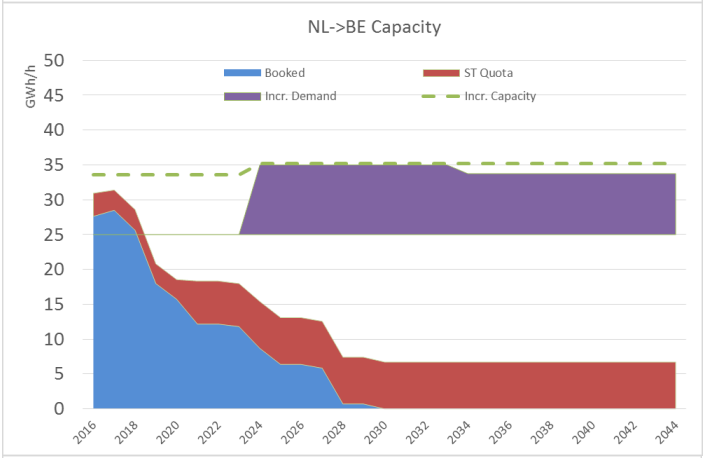




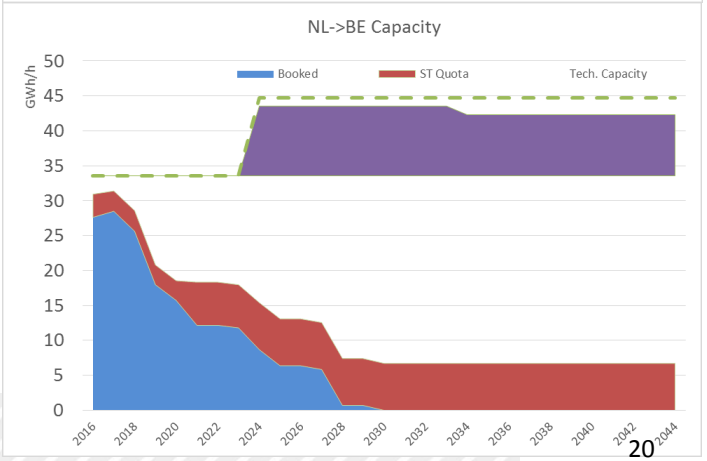
Option 1:
On top of Existing Contracts + Quotas
→ No Incremental capacity



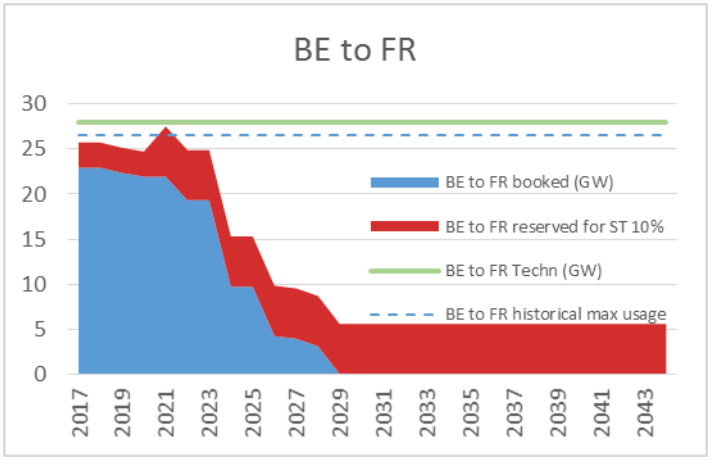
Option 2:
On top of High Hist. Usage
→ +1,6 GW, incl. 10% Quotas

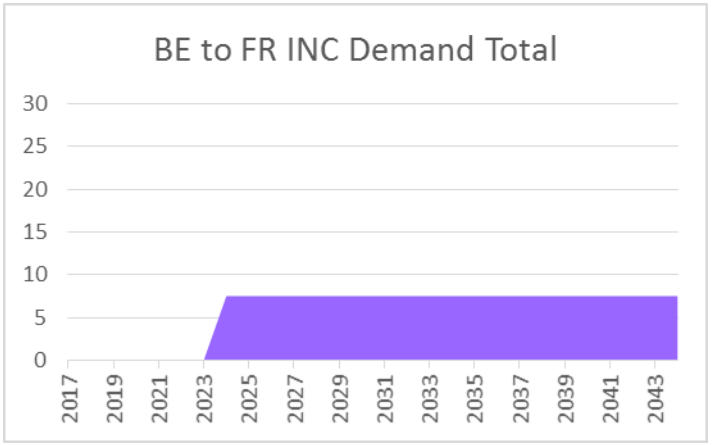


Option 3:
On top of Existing Tech. Capacity
→ +11,1 GW, incl. 10% Quotas

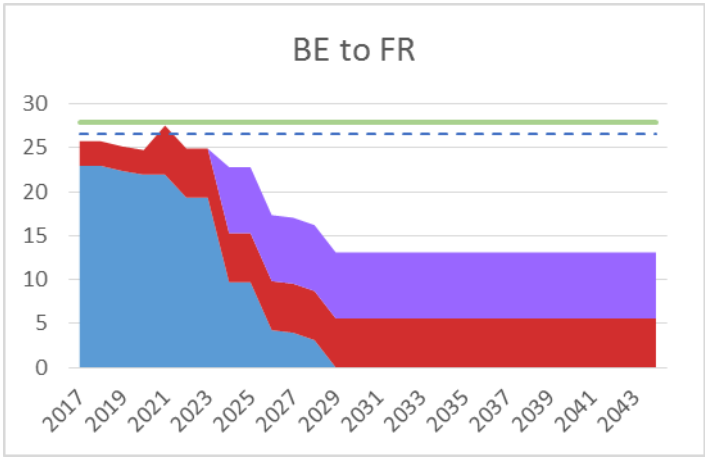


Incremental Demand vs. Existing Capacity – BE→FR

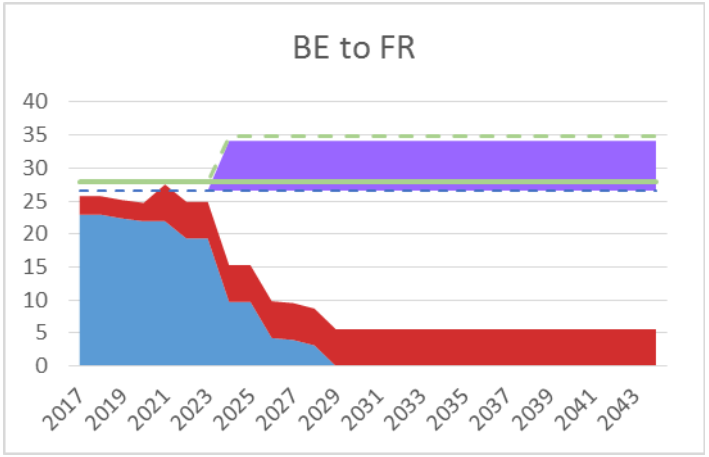




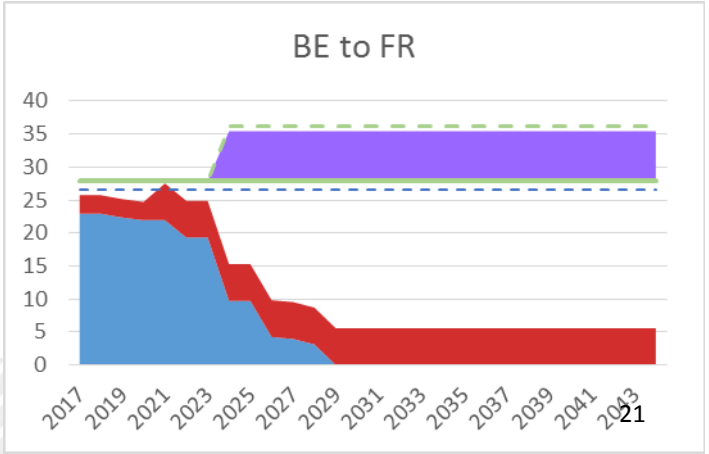
Option 1:
On top of Existing Contracts + Quotas
→ No Incremental capacity



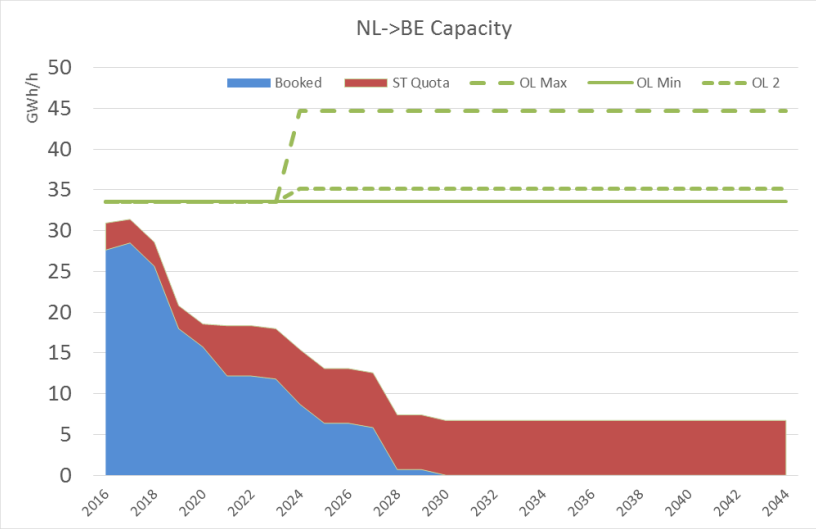
Option 2:
On top of High Hist. Usage
→ +6.9 GW, incl. 10% Quotas

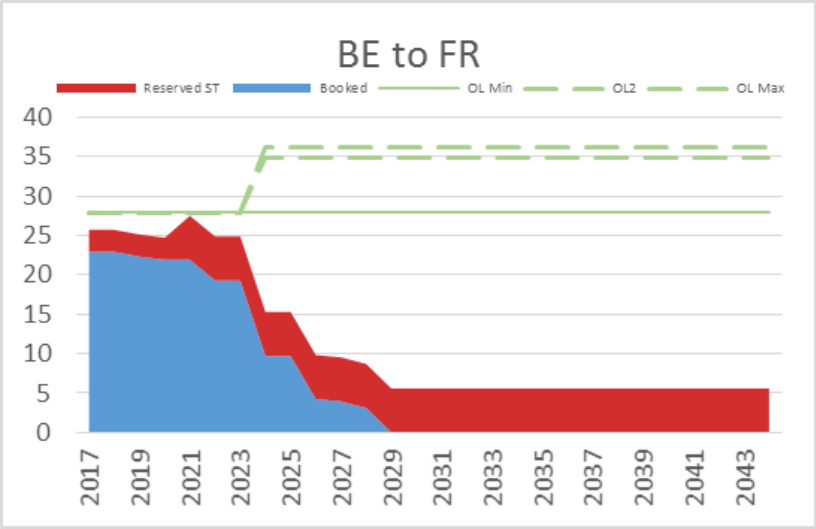


Option 3:
On top of Existing Tech. Capacity
→ +8.3 GW, incl. 10% Quotas



DAR Conclusions => projected offer levels





4 demand scenarios leading to 4 offer levels (OL)

- OL Min = Existing Tech Capacity
- OL Max = INC Demand [+ Quotas fully as INC capacity]
- OL 50% = INC Demand partially met with 50% existing and 50% incremental
- OL 5% = INC Demand met with 95% existing and 5% incremental

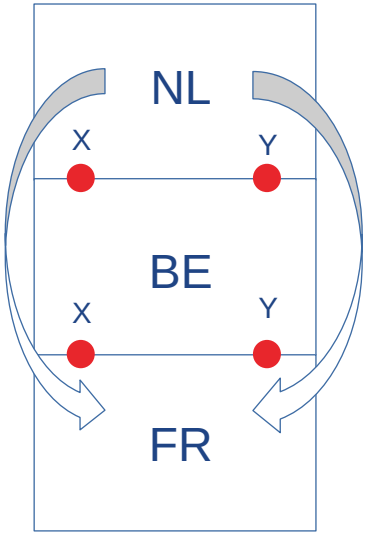
Identified issues:

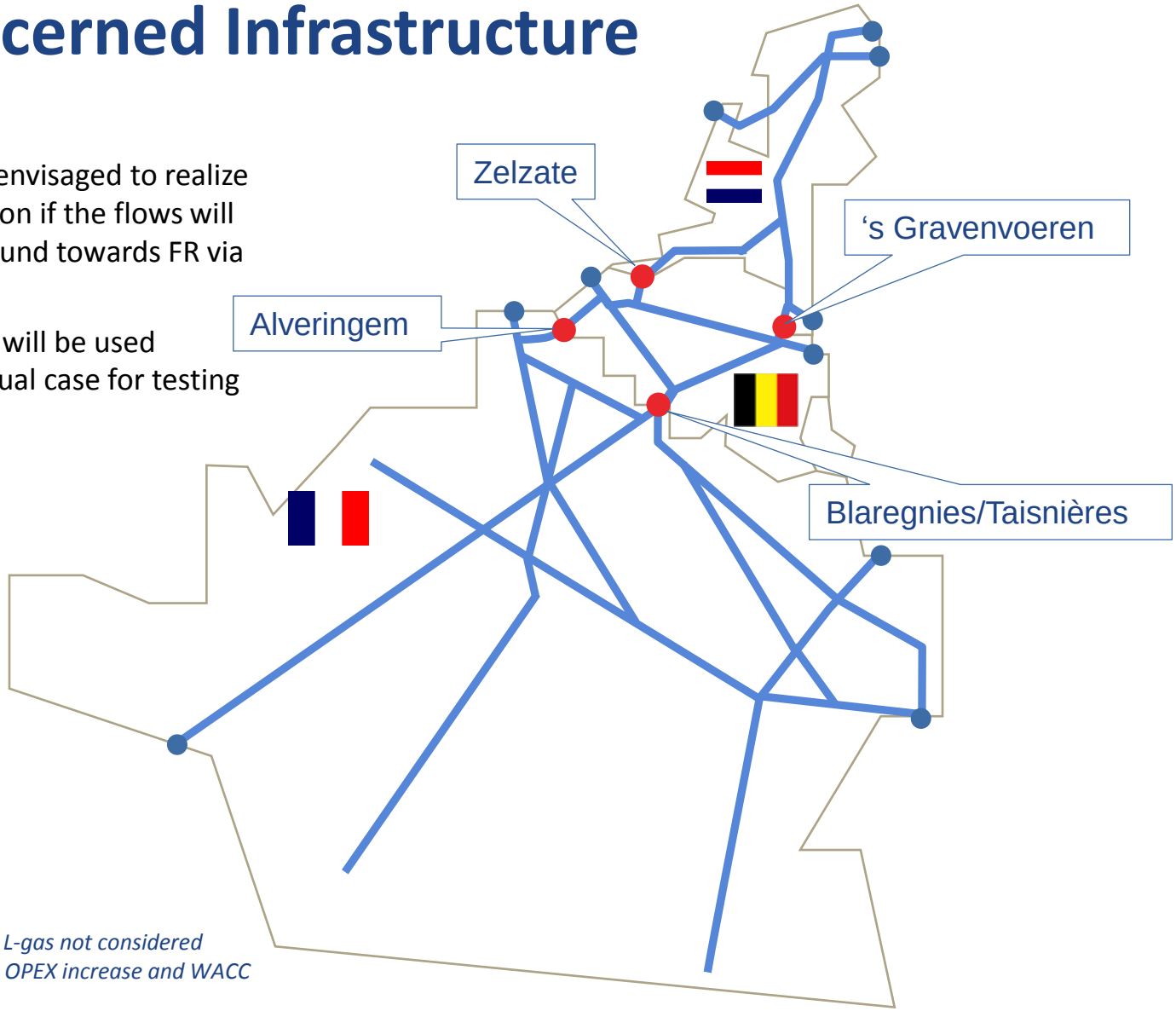
- Commingling issues solved by latest CAM NC changes
- How to manage that existing capacity assessed to partially meet the demand in the odd year (at DAR moment) could get booked out during the yearly auction in the next even year

Considering the existing available capacity, ST quotas on OL Max will not be further considered

Design: Concerned Infrastructure

- Several options can be envisaged to realize offer levels, depending on if the flows will be split east or west-bound towards FR via BE
- Simplified assumptions will be used regarding tariffs (as virtual case for testing of CAM NC)

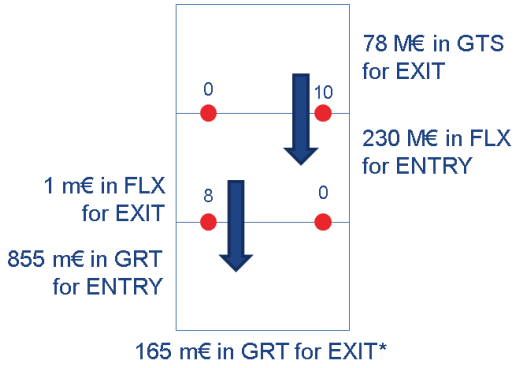


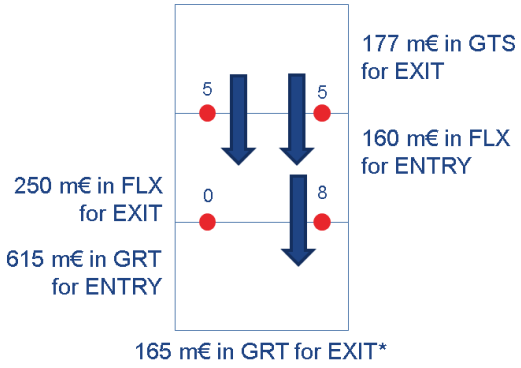


Simplified H-gas infrastructure – L-gas not considered
Investment costs are indicative – OPEX increase and WACC not considered

DESIGN: "OL MAX" → Lowest total cost 1.35 bn€*

- **NRAs and TSOs collaboration is key** to find the solution leading to the lowest total investment cost
  - Several combinations above 1.5 bn€
  - 4 combinations are comparable from a total cost perspective ~1.35 bn€ and are based on different flow repartition East ↔ West
- Relative different investments in respective countries: 100 m€ BE vs NL and 200 m€ BE vs FR
  - Key discussion: project residual risks (quotas) to be borne by the respective domestic market (f-factor vs mandatory premium) → **NRAs and TSOs collaboration is key**





* GRT Exit cost: based on 1 extra CCGT in North and extra BZK transit towards CH. Could be 0 if based on substituted gas (no extra demand)

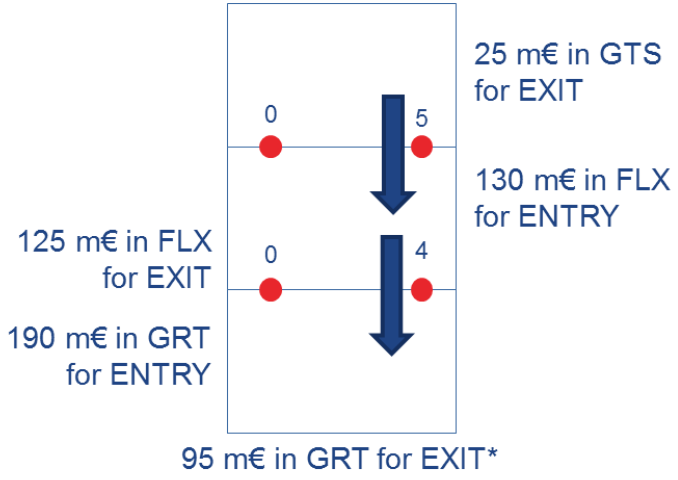
Cooperation between NRAs & TSOs is key to select the most suitable combination (OLMAX)

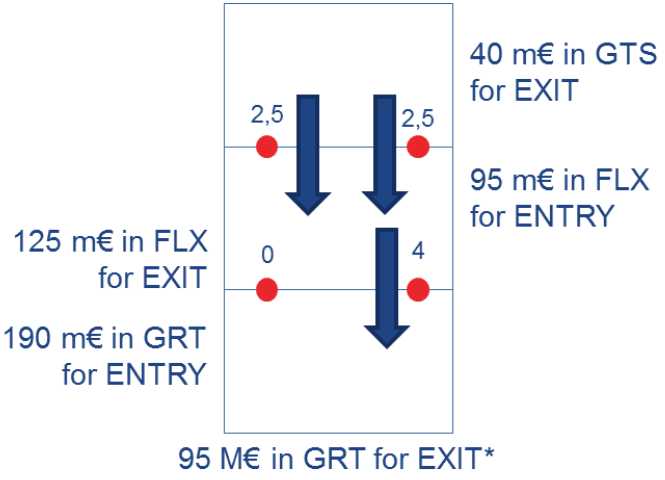
NL-BE	NL	BE	*Sub-total NL-BE*	BE-FR	BE	FR	*Sub-total BE-FR*	FREXIT		**Total**	*TOT NL*	*TOT BE*	*TOT FR*
100%GRA	78	230	*308*	100%BLA	250	615	*865*	CCGT+BZK	165	1338	*78*	*480*	*780*
100%GRA	78	230	*308*	100%ALV	1	855	*856*	CCGT+BZK	165	1329	*78*	*231*	*1020*
100%GRA	78	230	*308*	50%BLA – 50%ALV	125	885	*1010*	CCGT+BZK	95	1413	*78*	*355*	*980*
100%ZZ	247	210	*457*	100%BLA	250	615	*865*	CCGT+BZK	165	1487	*247*	*460*	*780*
100%ZZ	247	210	*457*	100%ALV	1	855	*856*	CCGT+BZK	165	1478	*247*	*211*	*1020*
100%ZZ	247	210	*457*	50%BLA – 50%ALV	125	885	*1010*	CCGT+BZK	95	1562	*247*	*335*	*980*
50%GRA – 50%ZZ	177	160	*337*	100%BLA	250	615	*865*	CCGT+BZK	165	1367	*177*	*410*	*780*
50%GRA – 50%ZZ	177	160	*337*	100%ALV	1	855	*856*	CCGT+BZK	165	1358	*177*	*161*	*1020*
50%GRA – 50%ZZ	177	160	*337*	50%BLA – 50%ALV	125	885	*1010*	CCGT+BZK	95	1442	*177*	*285*	*980*

EXAMPLE: 4 options supporting the same offer level, leading to investments in Belgium in a 1 to 3 ratio (160 m€ vs 480 m€)

DESIGN: "OL 50%" → Lowest total cost ~550 m€*

- **NRAs and TSOs collaboration is key** to find the solution leading to the lowest total investment cost
  - Several combinations above 600 mio€
  - 2 combinations are comparable from a total cost perspective ~550 mio€ and are based on different flow repartition East ↔ West
- **Key discussion:** project residual risks (quotas) to be borne by the respective domestic market (f-factor vs mandatory premium) → **NRAs and TSOs collaboration is key**





* GRT Exit cost: based on 1 extra CCGT in North and extra BZK transit towards CH. Could be 0 if based on substituted gas (no extra demand)

DESIGN: "OL 50%" – Details on possible combinations

NL-BE	NL	BE	*Sub-total NL-BE*	BE-FR	BE	FR	*Sub-total BE-FR*	FREXIT		**Total**	*TOT NL*	*TOT BE*	*TOT FR*
100%GRA	25	130	*155*	100%BLA	125	190	*315*	CCGT+BZK	95	565	*25*	*255*	*285*
100%GRA	25	130	*155*	100%ALV	1	365	*366*	CCGT+BZK	95	616	*25*	*131*	*460*
100%GRA	25	130	*155*	50%BLA – 50%ALV	65	300	*365*	CCGT+BZK	95	615	*25*	*195*	*395*
100%ZZ	152	110	*262*	100%BLA	125	190	*315*	CCGT+BZK	95	672	*152*	*235*	*285*
100%ZZ	152	110	*262*	100%ALV	1	365	*366*	CCGT+BZK	95	723	*152*	*111*	*460*
100%ZZ	152	110	*262*	50%BLA – 50%ALV	65	300	*365*	CCGT+BZK	95	722	*152*	*175*	*395*
50%GRA – 50%ZZ	41	95	*136*	100%BLA	125	190	*315*	CCGT+BZK	95	546	*41*	*220*	*285*
50%GRA – 50%ZZ	41	95	*136*	100%ALV	1	365	*366*	CCGT+BZK	95	597	*41*	*96*	*460*
50%GRA – 50%ZZ	41	95	*136*	50%BLA – 50%ALV	65	300	*365*	CCGT+BZK	95	596	*41*	*160*	*395*

2 options supporting the same offer level, leading to investments in the Netherlands in a 1 to 2 ratio (24 m€ vs 41 m€)

DESIGN: “OL 5%” → Lowest total cost ~30 m€

- Minimum pipe investment and investment in metering stations at all 4 concerned IPs
- Minimum investments in pipe / metering stations at all 4 concerned IPs
  - Yields a marginal increase of the capacity
  - No real “asymmetric” investment nor further findings relevant for the f-factor / short term quota discussion

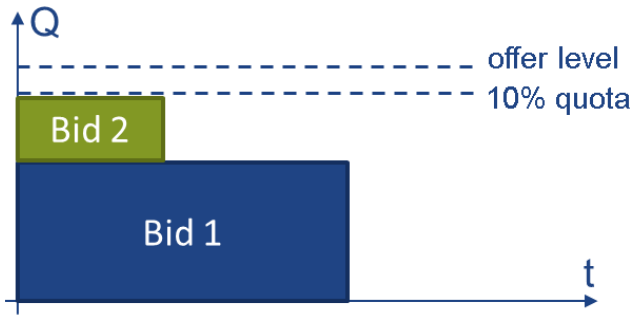
DESIGN: Conclusion on offer levels

- Lowest overall cost options are retained → most beneficial to the market
- Still several options for each offer level remaining
- Each option characterized by different investment profile in each country → this will lead to different views – from different stakeholders – regarding:
  - Quotas
  - F-factor
  - Mandatory premium

- Cooperation between NRAs & TSOs is key to select the most suitable combination for each Offer Level

ECON: Economic test – preliminary findings

- Due to the transit nature of this INC capacity project, expected that NRAs will require high level of upfront commitments -> that requires:
  - F-factor close to 1
  - Mandatory premium to be used
- Mandatory minimum premium has to close the gap between regulatory asset life (40 to 60y) and maximum period of commitments (15 to 20y)
- F-factor needs to be close to 1, otherwise there is a risk that economic test fails due to insufficient coverage of the estimated increase of TSO's revenues based on placed capacity bids by Network Users
- Some bidders (Bidder 2) may have negative impact on Economic test



ALLOC: Allocation mechanism – preliminary findings

- The allocation rule is meant to be used when demand exceeds offer
  - Offer levels are designed to accommodate the expected demand, yet still non-binding

→ **all demand is "expected" to be served**

- If demand exceeds offer, the rule will lead to reduce (partly) some (or all) bids
  - Some form of allocation rules have to be defined to pass the economic test, therefore prioritization of booking duration might be needed. In such a situation the **20% quota** (not min 10% quota as a default rule) would apply according to current version of CAM NC Art 26, leading to additional investment costs => **negative impact on tariffs.**

Next steps

- **ENTSOG and involved TSOs agreed on prolongation of the INC Reality check WG work (up to September/October 2016)**
  - To continue and finalize the process of the NL-BE-FR INC realistic case regarding:
    - Capacity allocation mechanism
    - Economic aspects – Reserve price, f-factor and minimum premium

Thank You for Your Attention

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