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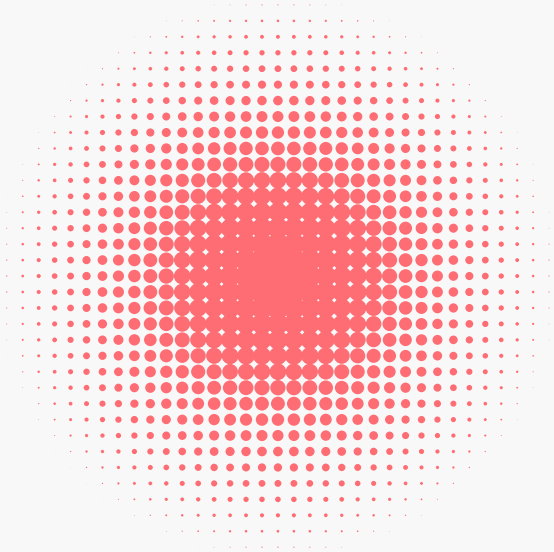
SEEGAS 2025: Unlocking Trans-Balkan

Stakeholder's use cases, barriers to attractiveness and working towards solutions

Georg Fischer

3 April 2025

Agenda



1) Stakeholder Views on Use cases and Barriers
2) Analysis Results for Barriers regarding Capacity Products and Transport Costs
3) Preliminary Solutions raised
4) Determination of the Transport Cost Gap with Benchmarking
5) Wrap-Up

Stakeholders (incl. shippers) see wide range of use cases

More than 15 online meetings with regional stakeholders covering a wide range of expertise:

- **National regulators**
- **Gas TSOs**
- **Ministries**
- **European Commission**
- **ACER**
- **ENTSOG**
- **Energy Traders Europe**
- **Large international shippers active in the region**

CEE supply diversification

- Access to SEE sources (RO, BG, GR and TR)
- Supply of AT, SK, CZ and HU (incl. storage re-filling)
- Using all existing infrastructure possibilities

Regional market integration

- Short-term trading between regional markets
- Increase of liquidity
- Reliable price signals

Romanian production

- Export of domestic production in Romania (onshore and offshore) to CEE markets, UA and MD

Supply of Ukraine

- Security of supply
- Diversification, e.g. LNG imports
- E.g. for seasonal re-filling of UA underground storages

Supply of Moldova

- Diversification, e.g. LNG imports
- Also involves seasonal UA storage usage

Seasonal usage of Ukrainian UGS

- Storage injection in summer from SEE sources (RO, BG, GR and TR)
- Storage withdrawal in winter for SEE/CEE

Additional benefits of increasing TBP usage:

+ Increased contracted volumes improves TSO financial stability & energy affordability for domestic customers
+ Avoidance of time-intensive & costly infrastructure expansions that are not currtently demanded by the market
+ Contribution towards EU integration of UA & MD

High-level Summary of Stakeholder Input

Feedback received from 3 selected stakeholder groups:

Traders/Shippers

- Genuine interest to enable this route as an additional possibility for gas flows
- Use cases are there
- A range of significant barriers currently prevents usage:
  - high transport costs
  - lack of firm capacity
  - uncertainty on market regulation

Regulators

- Future bookings hard to predict since flow situation has changed significantly
- Cautious about approving additional costs that further drive tariffs up
- Have to maneuver within boundaries of TAR NC

TSOs

- Range of network development measures proposed/in progress
- Market not willing to commit
- Open to implementing alternative approaches

Trader's View for usage in a Trial Phase (next 2 Years)

Let's look at the hard Facts of TBP Attractiveness

Grebenyky

Kaushany

Isaccea / Orlovka I

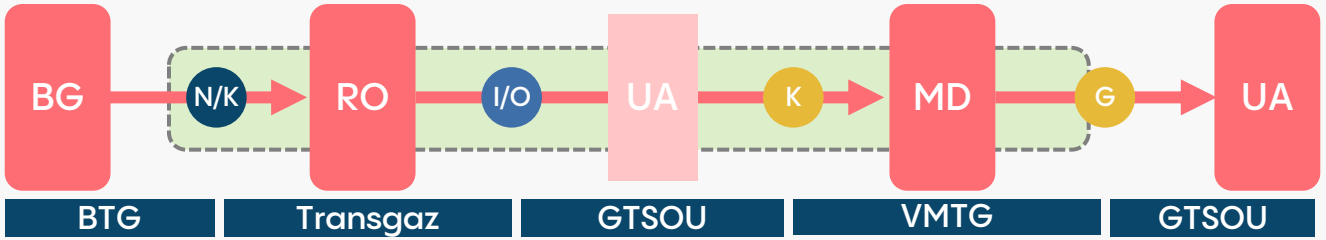
Negru Voda I / Kardam

„Narrow" TBP scope:
Starting point Bulgaria as hub for a multitude of gas sources competing for SEE (and CEE) supply

Analyse attractiveness regarding...

- Capacity products & allocation
- Firm capacity available
- Booking levels
- Physical flows
- Total transport costs

TBP Route Capacity Allocation shows mixed picture



Y/Q/M/D/WD auctions on RBP?	✓	✓	✓[1]	✓	✓	✓	✓	✓
Bundled capacity auctions?	✓		✗	✗	✗	✗	✗	✗
Firm capacity available?	✓	✓	✗	✓[2]	✓[2]	✓[3]	✓[3]	✓[2]

Corresponding capacity usage would be firm theoretically, but not guaranteed under the transport contract

Temporarily not offered (special situation with Transnistria)

Capacity allocation in line with CAM NC framework (for firm/interruptible capacity)

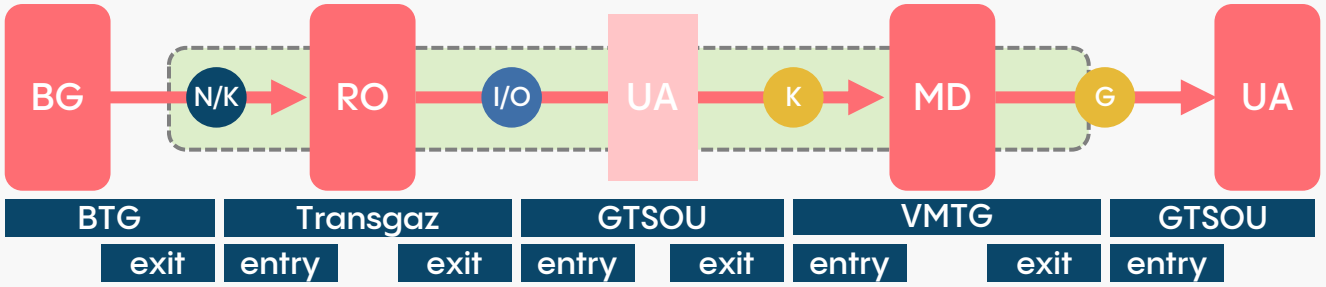
Simultaneous participation in 7 auctions required to acquire route capacity → additional risk

Network users currently can not use this route safely for:

- ✗ continous supply contracts
- ✗ importing LNG cargos
- ✗ transit usage

[1] Capacity subject to booking equal amount of capacity at entry Negru Voda I / Kardam (i.e. point-to-point)
[2] Capacity with restrictions (benefitting from significant tariff discount) is interruptible
[3] Conditional product (benefitting from significant tariff discount) is interruptible

Capacity Offer of TBP Route is limited



	BG exit	RO entry	RO exit	UA entry	UA exit	MD entry	MD exit	UA entry
Firm capacity (Jan25)	158 GWh/d	158 GWh/d	0 GWh/d	122 GWh/d	122 GWh/d	122 GWh/d	74* GWh/d	74 GWh/d
Interruptible capacity (Jan25)			122 GWh/d				Temporarily not offered (special situation with Transnistria)	

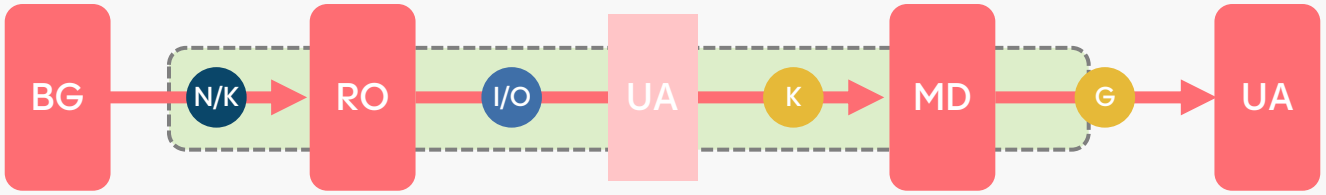
There is no firm transport possibility for shippers

If firm capacity were offered at RO exit then a significant transport possibility would be unlocked

Max. firm TBP usage	to MD	to UA
Now	0 GWh/d	0 GWh/d
Enabling firm T1 exit Romania	122 GWh/d 4,2 bcm/a	74 GWh/d 2,6 bcm/a

* Technical capacity published by VMTG is ~11 GWh/d
Conversion to/from volume units with 10,6 kWh/m³ (20°C)

The TBP Route is not booked



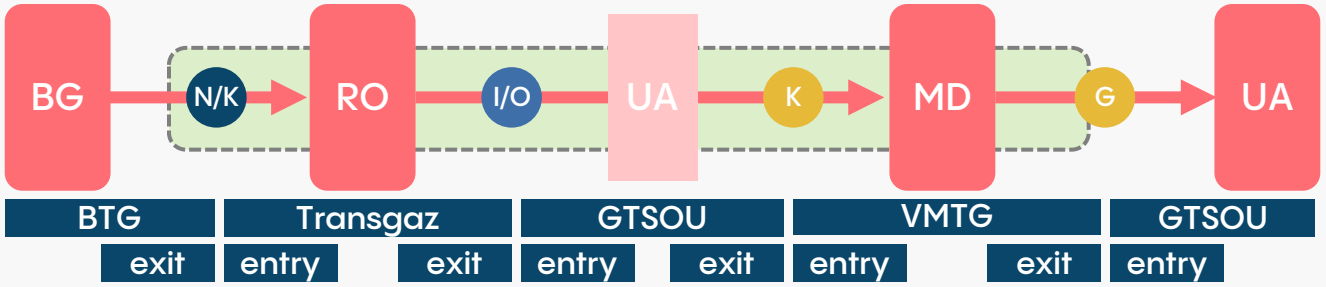
Average Bookings

	BTG	Transgaz	GTSOU		GTSOU	VMTG		GTSOU
	exit	entry	exit	entry	exit	entry	exit	entry
Oct24	54%	54%	0%	0%	0%	n.a.	n.a.	4%
Nov24	50%	50%	0%	0%	0%	n.a.	n.a.	0%
Dec24	40%	40%	0%	0%	0%	n.a.	n.a.	0%
Jan25	43%	41%	0%	0%	0%	n.a.	n.a.	0%
Feb25	75%	72%	12%	10%	10%	n.a.	n.a.	0%

Negru Voda I / Kardam attracted close to 50% average booking level

Almost no booking revenues at all other points

The TBP Route is not used



	BTG	Transgaz	GTSOU		VMTG		GTSOU	
Average Physical Flow	exit	entry	exit	entry	exit	entry	exit	entry
Oct24		51%		0%		0%		0%
Nov24		37%		0%		0%		0%
Dec24		38%		0%		0%		0%
Jan25		41%		0%		0%		0%
Feb25		72%		7%		3%		0%

Negru Voda was used for gas flows*, but more than 50% of capacity remains unused

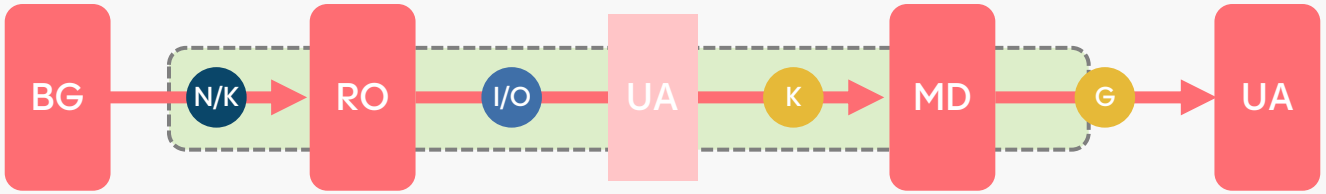
- ~3 TWh in Feb25
- ~24 TWh in CAL24

Only marginal physical flows further North occured in the past

- 0,22 TWh in Feb25
- 0,27 TWh in CAL24

* e.g. towards Hungary via Csanadpalota, for Moldova via Ungheni and potentially for the RO domestic market

Total Transport Costs for Shippers are high



Transport costs

	BTG	Transgaz		GTSOU		VMTG		GTSOU	
	exit	entry	exit	entry*	exit*	entry	exit	entry	
Annual	0,70	1,49	1,31	0,01	0,27	1,77	2,05	1,11	8,7 €/MWh
Quarter (max)	1,02	2,50	2,17	0,01	0,27	1,77	2,05	1,22	11,0 €/MWh
Month (max)	1,16	3,65	3,14	0,01	0,27	1,77	2,05	1,33	13,4 €/MWh
DA (max)	1,54	6,92	5,89	0,01	0,27	1,77	2,05	1,61	20,1 €/MWh
Conditional product MD		Currently under consultation (firmness not ensured)				0,86	0,86		-2,1 €/MWh

Transport costs large compared to current gas price (~42 €/MWh)

- Annual product: ~1/5
- January product: ~1/3
- DA (Jan.) product: ~1/2

Large barrier from high multipliers and seasonal factors

Based on TSO tariff data valid in Q1/25 (either GY24/25 or CAL25), 90% load assumed for conversion to €/MWh

* Applying coeffcients for capacity with restrictions (interruptible) valid from 1 April 2025 (multipliers do not apply)

Example Use Case: Greek LNG to UA

Alternative route (LNG Revithoussa via Sidirokastro) not shown

Values as of 1.1.2025

	Annual capacity tariff €/MWh/d/y	Segment transport costs* €/MWh
UA	365	
MD	673	3,82
	582	
	89	1,39
	4	
RO	304	2,80
	361	
BG	141	1,32
	117	
IGB	503	1,84
	103	
GR	197	0,94
	113	

Under MD conditional product

MD segment €/MWh	Total route €/MWh: Annual Product	Monthly** Products	Daily** Products
283 283 1,72	10,02	15,90	24,48

LNG terminal usage not included

Transports commercially not viable!

	Annual Product	Monthly** Products	Daily** Products
	12,12	18,00	26,58

LNG terminal usage not included

* Total of E/X capacity tariffs (assuming 90% load) and E/X commodity tariffs on the segment

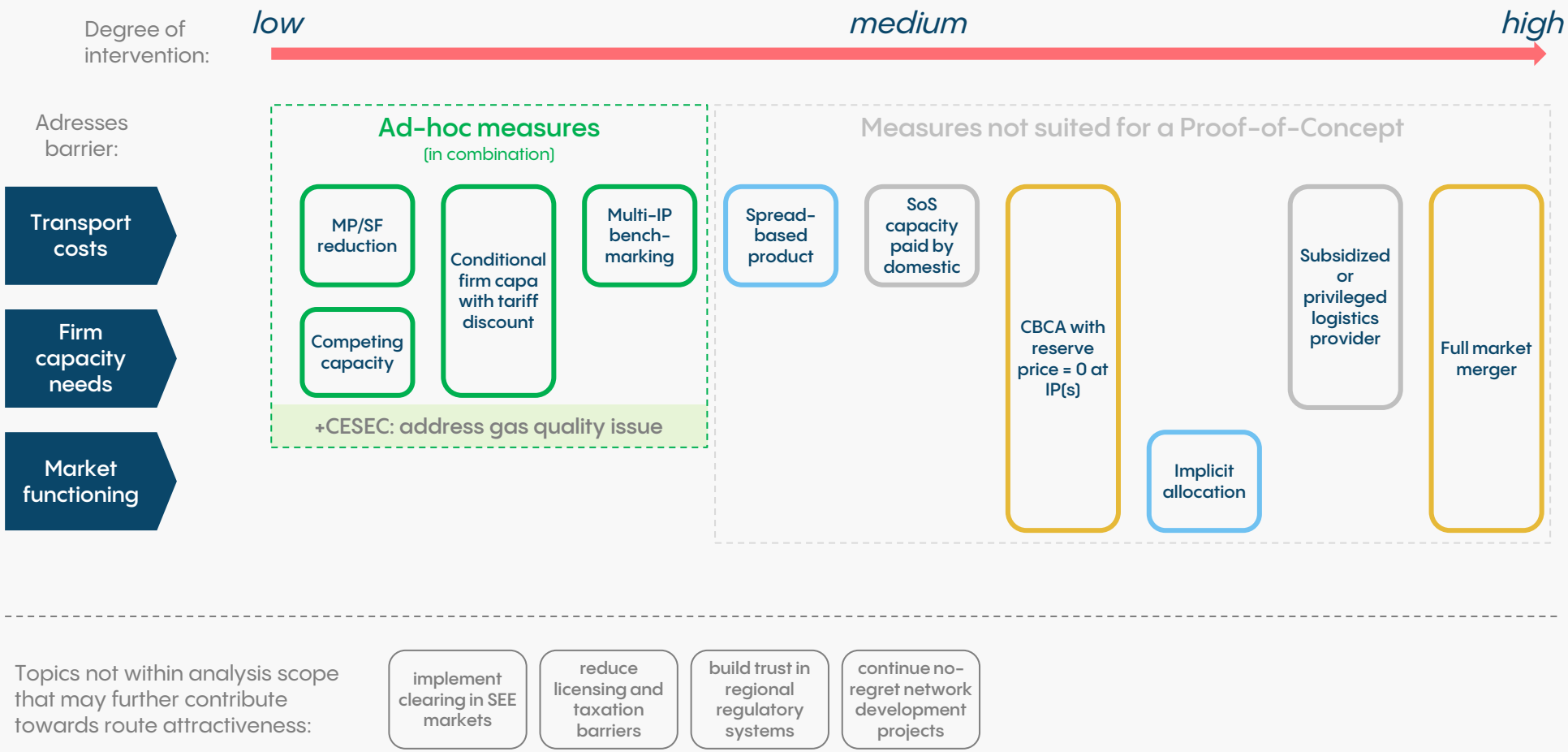
** Maximum seasonal factor (January product)

Consequence: Serious Changes necessary to make the TBP Route attractive → Proof-of-Concept needed

Key Barriers	Next step	Proof-of-Concept elements
⚠ Lack of firm capacity	Introduce Proof-of-Concept to create an attractive offer to the market	▪ Enable firm capacity products under existing infrastructure possibilities ▪ Reduce transport costs significantly with net-positive effect on TSO revenues ▪ Introduce as temporary measure, i.e.: monitor & adjust depending on market interest
⚠ High transport costs		

→ Preliminary solutions

A Range of potential Solutions with varying Degree of Intervention was raised by Stakeholders



Topics not within analysis scope that may further contribute towards route attractiveness:

- implement clearing in SEE markets
- reduce licensing and taxation barriers
- build trust in regional regulatory systems
- continue no-regret network development projects

Route Benchmarking is a Tool to measure market-based Transport Costs

General Approach

- Define a benchmark route that is currently used to connect SEE markets with CEE markets
- Compare its tariffs (total transport costs) with the alternative TBP route involving UA/MD.

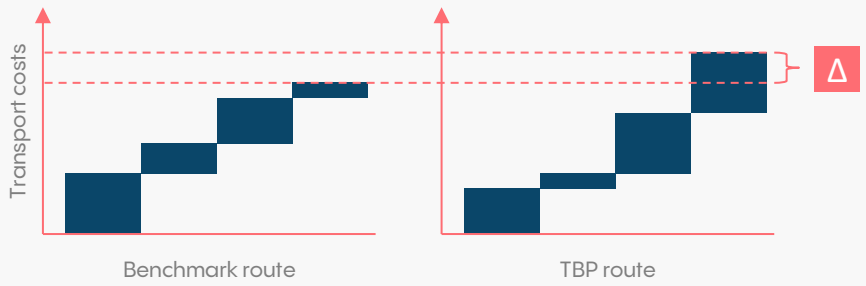
$$\text{Transport costs} = \sum_{p} \text{Capacity tariffs}_{p} \times \text{short-term modifiers}_{p} + \text{Flow-based charges}_{p}$$

Reference prices* | Multipliers & seasonal factors | „Commodity tariff“

Output

Comparison indicates...

- how much the TBP route transport costs **would need to be reduced**
- in order to **obtain the same level** of commercial attractiveness.



* auction premia not considered

Suitable Routes for Comparison

Most robust comparison use case:

Supply Slovakia from Bulgarian market
(incl. from upstream GR/TR markets)

- ✓ **commercially attractive** (because significant flows over past months)
- ✓ **need additional option** (because route congested)

Note: This doesn't mean this use case is the most important one for the TBP, but the most robust for comparison purposes.

benchmarking routes

		max. route capacity
Base Route	via MD/UA	75 GWh/d 2,6 bcm/a
Alternative Route 1	via RS/HU	102 GWh/d 3,5 bcm/a
Alternative Route 2	via RO/HU	79 GWh/d 2,7 bcm/a

Overview of Benchmarking Results

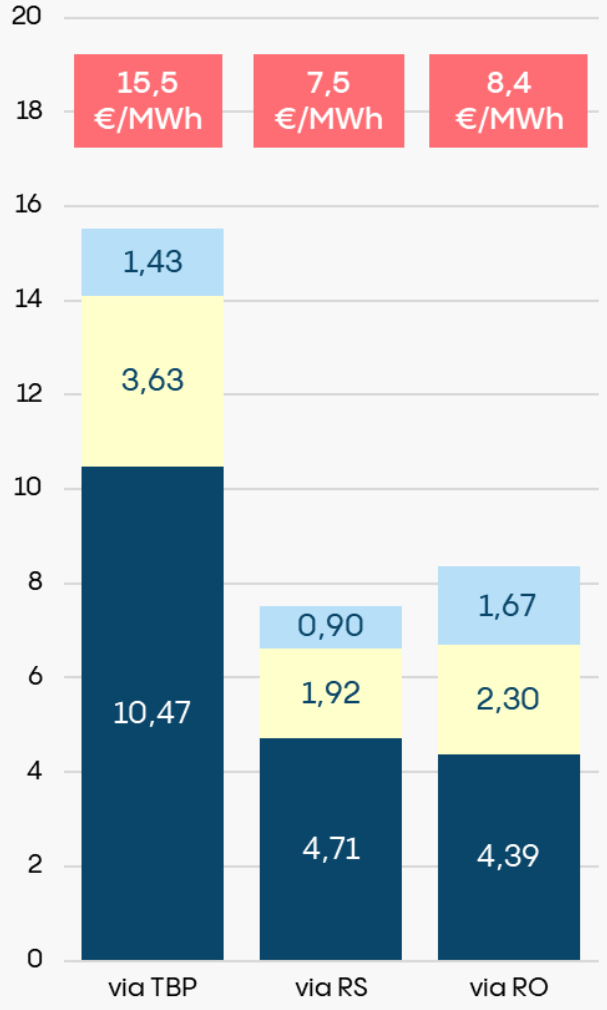
Product with maximum gap (route 1*)

		Annual product	Quarterly product (Q3/25:)	Monthly product (May25:)	Day-ahead product (May25:)
Base Route	via MD/UA	11,9 €/MWh	12,5 €/MWh	14,3 €/MWh	18,1 €/MWh
Alternative Route 1	via RS/HU	5,6 €/MWh	6,3 €/MWh	6,6 €/MWh	10,4 €/MWh
Alternative Route 2	via RO/HU	6,1 €/MWh	6,2 €/MWh	6,7 €/MWh	11,2 €/MWh
Transport cost gap (vs. route 2)	Δ	**+5,8 €/MWh**	**+6,3 €/MWh**	**+7,6 €/MWh**	**+7,0 €/MWh**
(vs. route 1)		+6,3	+6,2	+7,7	+7,8

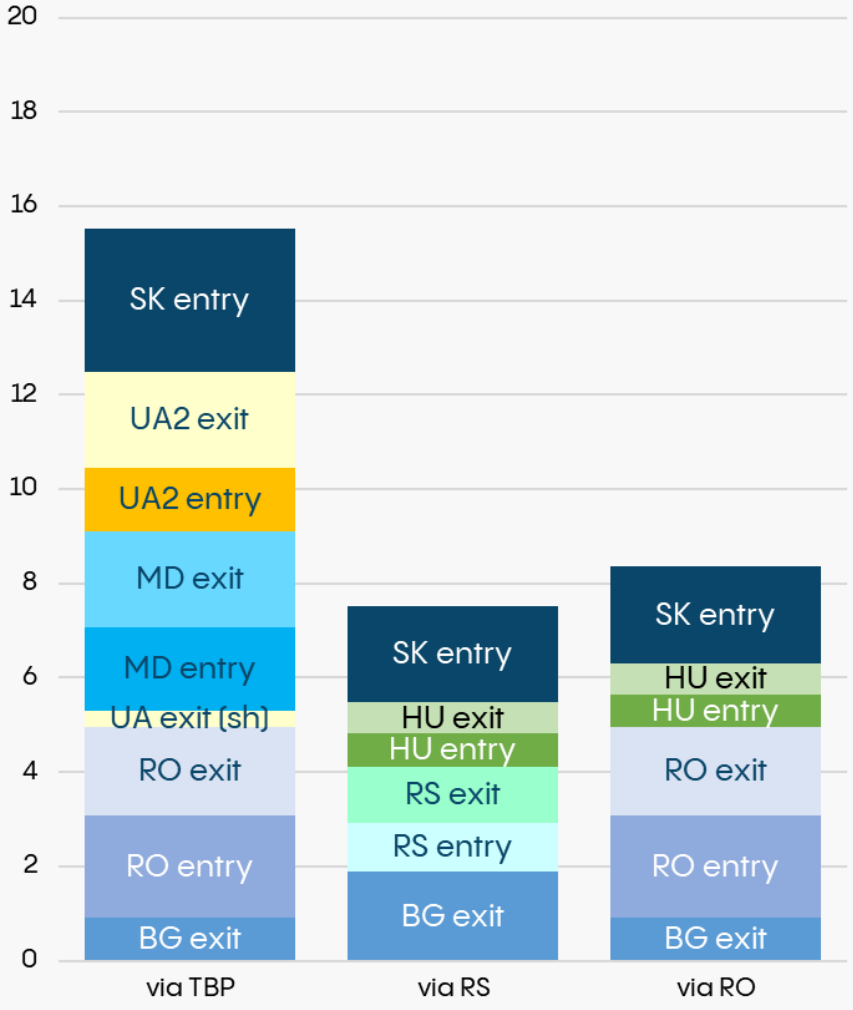
* Maximum gap for route 2 would be Jan25 with +7,5 / +10,0 / +13,2 €/MWh (Q / M / DA)

Benchmarking Details: Example March 2025

Overview



Detailed breakdown per IP



Reference prices Multipliers Seasonal factors

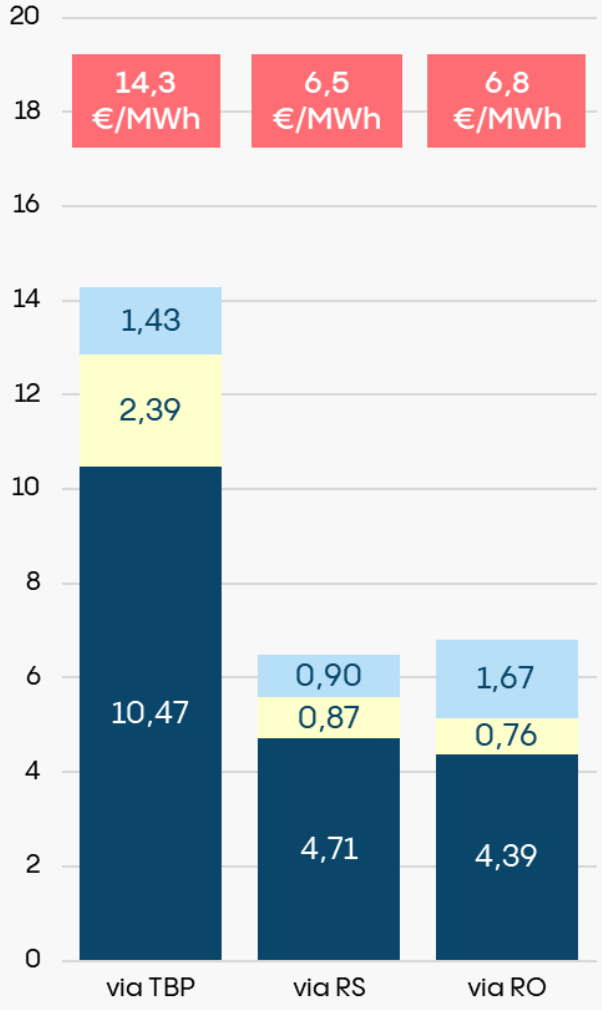
Benchmarking suggests

ca. 7,2-8,0 €/MWh reduction

required along TBP to achieve attractiveness (c.p.) of alternative routes

Benchmarking Details: Example August 2025

Overview



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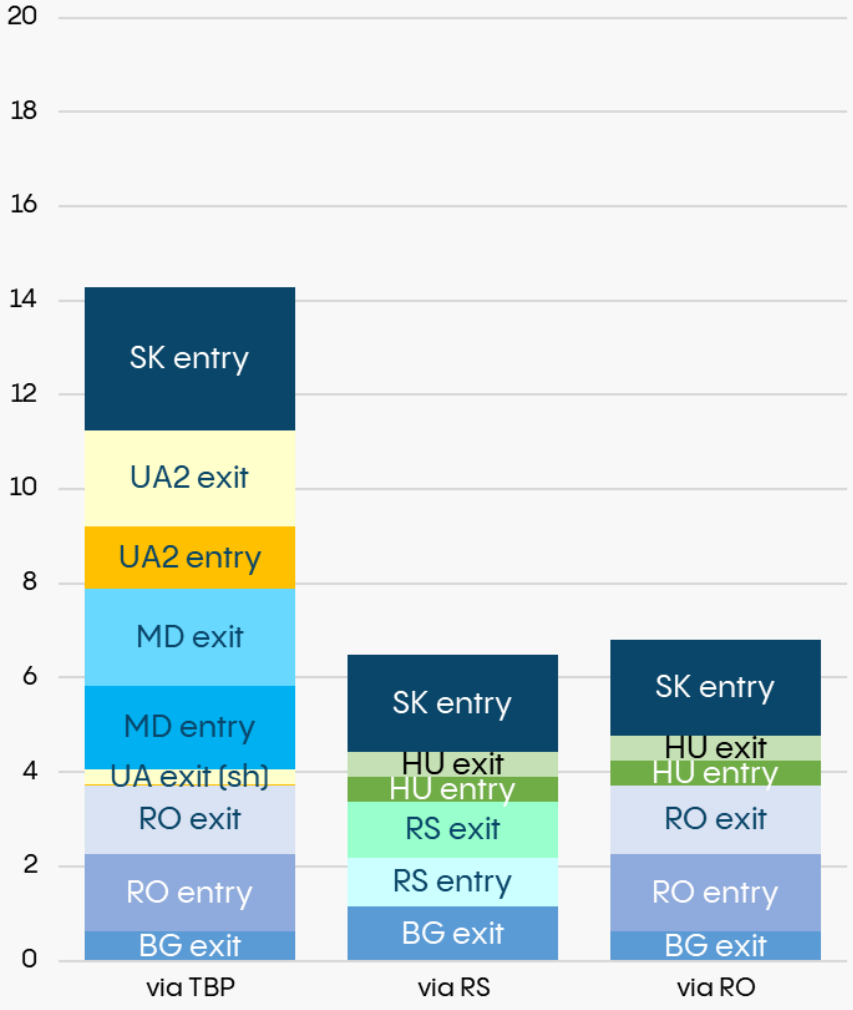


Reference prices | Multipliers | Seasonal factors

Benchmarking suggests

ca. 7,5–7,8 €/MWh reduction

required along TBP to achieve attractiveness (c.p.) of alternative routes

Can be achieved via combination of:

- MP&SF removal
- conditional product discount
- Benchmarking reduction of reference prices

Wrap-Up

EnC/WECOM project

Elaborate ad-hoc measures for Proof-of-Concept

- MP/SF reduction
- Conditional firm capa with tariff discount
- Multi-IP bench-marking
- Competing capacity

Required benchmarking reductions to tariffs can be achieved via combination of:

- MP&SF reduction
- conditional firm product discount
- Benchmarking reduction of reference prices

Capacity products attractiveness can be improved via combination of:

- Conditional firm capacity
- Competing capacity auctions

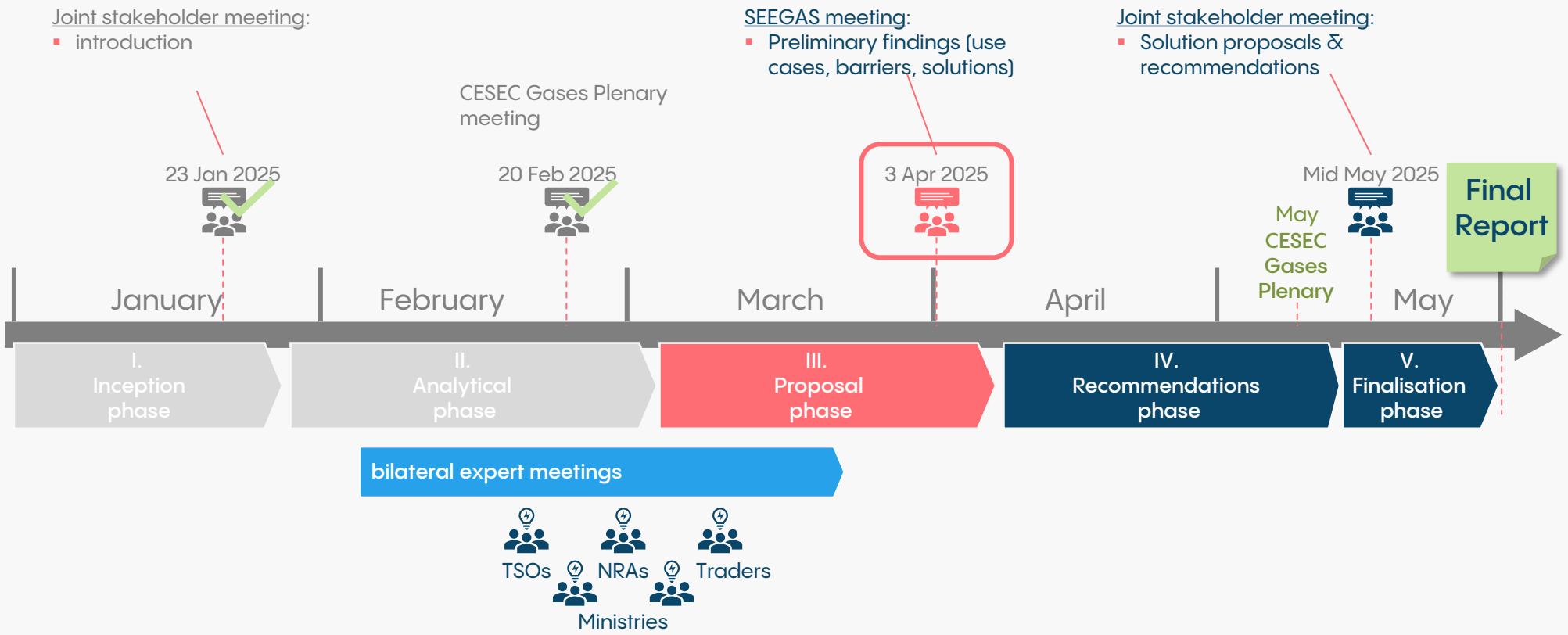
Other initiatives

Address technical issues
(e.g. metering installations)

Address gas quality issues
(to unlock firm exit capacity at Isaccea / Orlvoka)

Address market issues
(e.g. clearing, licensing)

Project Timeline and next Steps



Tuchlauben 8, 1010 Vienna, Austria
+43 664 849 58 00
georg.fischer@wecom.at