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Energy Community Secretariat

Unlocking commercial Attractiveness of the Trans-Balkan Pipeline System

Final Report

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Note that due to the project timeline the data collection had to be completed in April 2025; selected newer developments were reflected on best effort.

Background

Motivation

While the **Trans Balkan pipeline system** (TBP) has historically been a large-volume gas transport route for Russian gas to SEE and Turkey, this role gradually reduced in the past decade due to commissioning of new import infrastructure in SEE (TurkStream) and under the impact of Russia's invasion of Ukraine flows from North to South finally came to an end with the stop of Russian transit flows through Ukraine on 1 January 2025.

At the same time **new realities develop for European gas sourcing**, where the **TBP as an existing and reliable route** has the potential to accommodate new gas flow patterns, thus enhancing diversification options by offering the countries traditionally dependent on Russian gas to exploit new gas sources, such as LNG and Azeri gas.

Benefits of unlocking the potential

In particular this would:

- increase the **security of supply** for EnCS Contracting Parties, as well as for the EU Member States, in particular by allowing imports for both Ukraine and Moldova from available sources in western and central Europe, as well as from Greece, Bulgaria and Romania,
- support **gas market integration** from the Aegean Sea to the Baltic Sea
- and **increase the economic viability** of involved gas transmission system operators.

However, in order to actually make efficient use of the technical potential available it is necessary to improve the regulatory and commercial framework of network access along the TBP, as a range of technical, regulatory and commercial barriers currently impede market adoption of the TBP.

Previous project focussing on Ukraine and Moldova TBP sections

Material issues were identified already for the limited TBP scope (concerning only Ukraine and Moldova) in a previous TBP project, implemented by WECOM for EnCS/EU4Energy during 2024, that concluded with detailed recommendations on the specific UA/MD interconnection situation in fall 2024.

The results of this previous project were very positively received by stakeholders and traders alike. At the same time, the need for taking a broader regional perspective on TBP attractiveness was reiterated by stakeholders.

Scope for this project

Due to this, the Energy Community Secretariat launched a follow-up project with particular focus on the **full TBP scope** (concerning the reverse flow direction, i.e. South-North gas flows), involving the following interconnections:

- Greece-Bulgaria
- Bulgaria-Romania
- Romania-Ukraine
- Romania-Moldova
- Moldova/Ukraine.

The project's objective was to **explore and propose** the **most efficient solutions** in terms of capacity products and tariffs along the Trans Balkan pipeline **to increase attractiveness**. Not part of the project was supporting implementation (e.g. by proposing regulatory provisions or action plans).

Summary of Recommendations

→ for details see sections 4 & 5

Proposed solutions:

Project scope

Stay true to entry/exit principles:
- Individual booking per IP
- Full VTP access (only in case of technical constraints interruptible → FCR)
- Capacities subject to entry/exit tariffs per IP

Required benchmarking reductions to tariffs can be achieved via combination of:
- Multiplier and seasonal factor reduction
- Discount for conditional firm products
- Benchmarking reduction of reference prices

Capacity products attractiveness can be improved via combination of:
- Conditional firm capacity (FCR)
- Competing capacity auctions

Complementary initiatives

Address technical issues
(e.g. metering installations)

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

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

Proposed tariff structure:

Annual products for IPs on benchmarking route (BG>SK):

Interconnection point			Current TTC (€/MWh)	Proposal: FCR discount	Proposal: RP reduct.	Proposal: Adj. TTC (€/MWh)
N/K	Exit	BG	0,70	-	-	0,70
N/K	Entry	RO	1,10	-	-	1,10
I/O	Exit	RO	1,31	-60%	-50%	0,57
I/O	Entry	UA	0,01	-*	-50%	0,01
Ka	Exit	UA	0,27	-*	-50%	0,14
Ka	Entry	MD	1,77	-50%	-50%	0,44
Gr	Exit	MD	2,05	-50%	-50%	0,51
Gr	Entry	UA	1,11	-	-50%	0,56
VK	Exit	UA	1,69	-	-50%	0,84
VK	Entry	SK	1,49	-	-50%	0,94
			11,50		Total:	5,80
					Benchmark:	5,67

flow direction

no adjustments

* already subject to discount

only ~2% markup

Multipliers:

Q	M	DA
1,05	1,15	1,50

Seasonal factors:
- Unchanged for IP N/K
- None at all other IPs

Impact of Tariff Adjustments:

Only reflecting IPs subject to the route BG>SK:

Scenario title	Add. quantity	Revenue change for adj. tariffs
No additional bookings	+0 TWh/a	-4,4 M€/a
Single LNG cargo	+1,5 TWh/a	+2,9 M€/a
Quarterly LNG cargos	+6 TWh/a	+24,9 M€/a
12x LNG cargo (~66% usage)	+18 TWh/a	+83,5 M€/a
Close to full usage (~80%)	+2,1 bcm/a	+96,3 M€/a

Huge upside potential without downside

TTC…total transport costs (capacity tariffs under 90% load assumption and including flow-based charges)
FCR…"firm with combination restrictions" capacity product, RP…reference price

Summary of Conclusions

Proposed solutions address the evidently **prohibitive transport costs** along TBP by **reducing tariffs to a competitive level**

Key Benefits:

- Supports **SEE market development** and **security of supply**

Total transport costs (EUR/MWh, annual product)

LNG Revithoussa	Current	Reduced	Change
→ Ukraine	10,0	5,7	-43%
→ Slovakia	13,2	7,5	-43%

Examples without prejudice to other use cases

- Creates **huge upside potential** for each TSO's revenues & no downside

Additional TSO revenues under adj. tariffs

LNG cargos from LNG Revithoussa to Ukraine	
1x (August 2025)	+3,6 MEUR
12x (monthly products)	+92,3 MEUR

Examples without prejudice to other use cases

- **Compliant** with EU/EnC regulatory framework
  - Gas Regulation (Reg. (EU) 2024/1789*)
  - CAM NC (Reg. (EU) 2017/459)
  - TAR NC (Reg. (EU) 2017/460)

- Straight-forward **implementation** for stakeholders and market participants
  - Include conditional product under national network code
  - Each NRA adjusts tariffs via RPM amendment to
    - reflect benchmarking
    - define discounts for conditional products
    - update multipliers and seasonal factors

Coordination capability of regional TSOs & NRAs demonstrated under recent „super-bundled product" proposal!

* Transposition of Reg. (EC) 2009/715 in the case of Energy Community Acquis

Study Recommendations compared to the Route Product

Background:

- At the end of May 2025 Vertical Corridor TSOs proposed a new monthly route product* (and already offered it for June).
- Since there are **fundamental differences between this proposal and the study recommendations**, an overview comparison was created to inform report readers about the key differences of both approaches.

Comparison Overview:

	Study recommendations: „ad-hoc measures"	Vertical Corridor TSO proposal: "super-bundled route product"
Product logic:	▪ Application of entry/exit capacity principles: ▪ fully decoupled IP bookings, tariffs and nominations ▪ VTP access (interruption possibility only to reflect technical constraints)	▪ "Point-to-point tunnel": ▪ pre-determined set of IPs booked together (from Greece to Ukraine) ▪ VTP access prohibited
Capacity allocation:	▪ Standard CAM NC procedures: ▪ auction calendar (all products) ▪ auction algorithms	▪ Custom allocation procedures: ▪ New auction events not part of CAM NC auction calendar ▪ Uniform price algorithm (instead of ascending clock as required by CAM NC)
Tariffs:	▪ Application of TAR NC instruments ▪ Tariff reductions apply for all auctions and all usages of acquired capacity	▪ Special tariff discount (-25%) that applies only for the special use case and when booked under the respective auction.

Please note that this is a preliminary comparison and not a legal assessment of the route product.

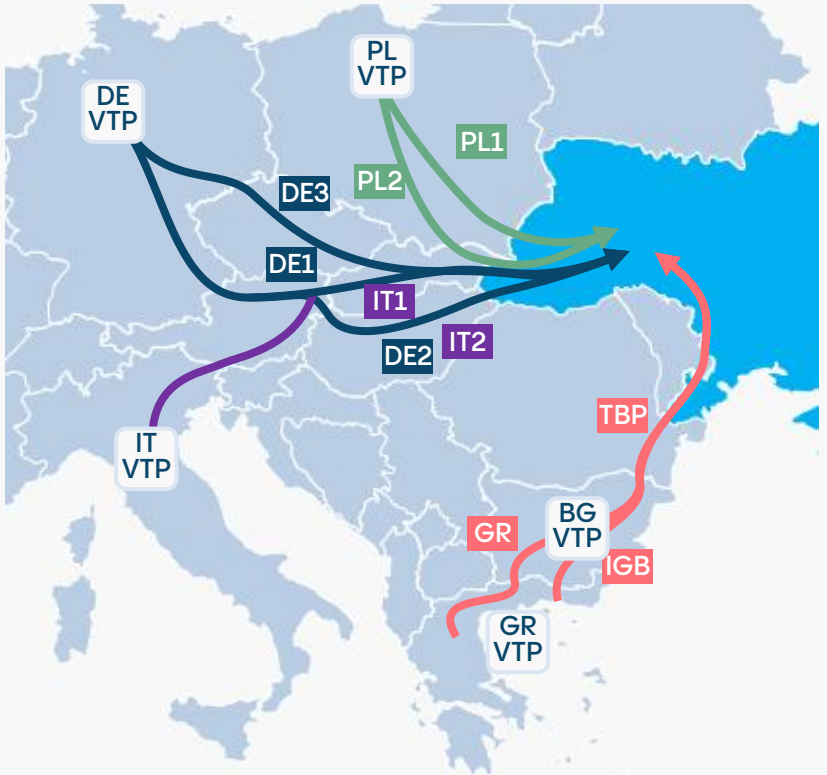
* Specification derived from: https://www.bulgartransgaz.bg/files/useruploads/%D0%BD%D0%BE%D0%B2%D0%B8%D0%BD%D0%B8_%D1%81%D0%B0%D0%B9%D1%82/20250527/Special_Capacity_Product_Route1.pdf

Context of the Tariff Proposal for Ukrainian Supply

Supply Route TTC Methodology:

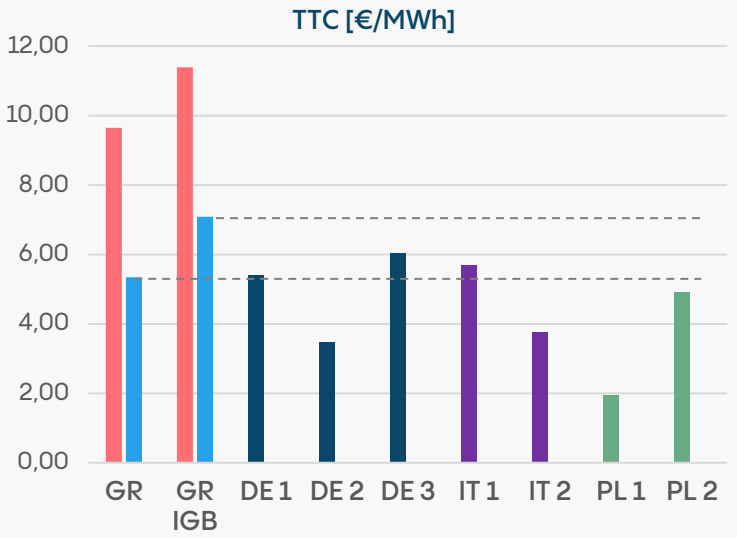
- Analysis illustrates Ukraine supply use cases
- All routes based on current tariffs for annual capacity products incl. flow-based charges.
- Transport costs were calculated from gas hub to target market ("entry-paid" at source market).
- Please note that this analysis doesn't indicate quantities available to Ukraine per route.

		TTC [€/MWh]	
Route	Route	Current	Red.*
Core TBP	BG>RO>UA>MD>UA	8,32	4,02
GR	GR>BG>RO>UA>MD>UA	9,65	5,34
GR IGB	GR>IGB>BG>RO>UA>MD>UA	11,38	7,08
DE 1	DE>AT>SK>UA	5,40	
DE 2	DE>AT>HU>UA	3,48	
DE 3	DE>CZ>SK>UA	6,03	
IT 1	IT>AT>SK>UA	5,69	
IT 2	IT>AT>HU>UA	3,77	
PL 1	PL>UA	1,93	
PL 2	PL>SK>UA	4,92	



Results:

- Current tariff levels show significant gap to transport costs on other routes.
- With the proposed benchmarking reductions TBP will become attractive from transport costs view also compared to alternative supply routes for Ukraine.
- At the same time the reductions lead to a moderate competition without replacing other key source markets or routes.



* Reduced tariffs subject to benchmarking and discounts for conditional capacity products

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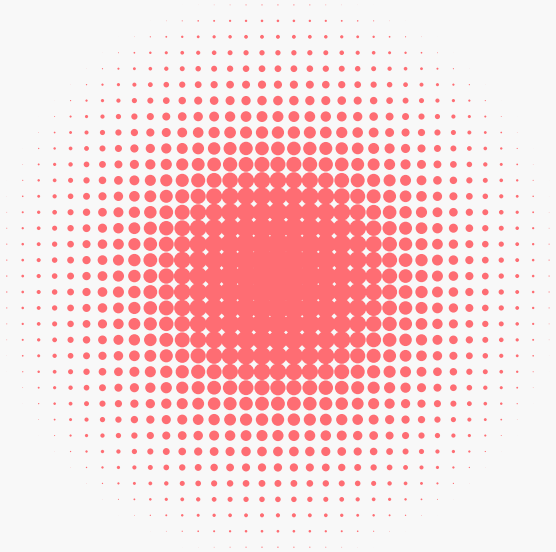


Stakeholders (incl. Shippers) see wide Range of Use Cases

1) Use Cases identified by Stakeholders

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

* Note: Meetings occurred in the time period February to March 2025, reflecting stakeholder views at that time.

Stakeholder Use Cases

Use case: CEE supply diversification

- **Access to South-East European sources**
  Opening up sources available in SEE like Romanian production, Türkiye (e.g. LNG), Greek LNG terminals and Azeri gas (TAP) contributes to diversified supply in CEE, also with a view to eliminate Russian supplies beyond 2027, as envisaged by the *Roadmap towards ending Russian energy imports*[1].

  Having access to many supply sources, inter alia via TBP, contributes to market efficiency, supply resilience and energy affordability (not only gas, but also electricity market prices due to generation from gas-fired power plants and CHPs).

- **Supply of countries most dependent on Russian supply**
  CEE countries traditionally had limited access to non-Russian gas. While the Czech Republic & Austria can rely directly on imports from Germany and Austria & Slovenia also from Italy, the available capacity to these mature gas markets with diversified sources is limited. Slovakia and especially Hungary are still highly dependent on Russian gas (via TurkStream).

  A considerable challenge in this regard is seasonal storage re-filling to achieve safe storage levels before the start of the heating season.

- **Using all existing infrastructure possibilities**
  While certain interconnections are still used in the new situation, other parts of CEE transmission pipelines are now largely unused: Q1 of 2025 showed almost dried-up gas flows between CEE countries.

  This creates tariff setting challenges in the region for infrastructure that was previously benefitting from huge revenues – either directly or indirectly – attributable to Gazprom. When determining capacity-based tariffs, transmission system costs (which are unaffected by actual usage) are divided by much smaller quantities, in effect forcing NRAs into large tariff increases (that increasingly impact domestic gas customers).

  Enabling the TBP could contribute to CEE infrastructure usage, TSO revenues and reduction of tariff burden.

Use case: Regional market integration

- **Short-term trading between regional markets**
  Gas markets in SEE are still in a nascent stage. While trading activity has increased in the last months, Ukraine and Moldova are still insufficiently connected to adjacent SEE markets and their sources.

  By enabling the TBP as a reliable connection with commercially attractive short-term tariffs (especially regarding multipliers for day-ahead capacity products), short-term trading activity between regional SEE markets could increase considerably.

  Attractive short-term trades are a door opener to market development, since traders can gradually build confidence in the market with low-risk exposure.

- **Increase of liquidity**

  Unlocking a new route in the region to increase the connection between sources and markets (circumventing existing bottlenecks) can lead to a rise in market activity and volumes traded on SEE markets.

  Trust of market participants in reliable market interconnection is essential for undertaking trading in larger quantities and over longer time horizons.

- **Reliable price signals**

  Market prices in the SEE region are subject to much stronger volatility than in mature European gas markets. Inefficiency of markets also can be inferred from market spreads, which are much higher in SEE than in Western & central European gas markets.

  In particular clearing of futures products needs reliable price signals, but also long-term supply contracts to the region could benefit from this.

[1] COM/2025/440 final/2

Stakeholder Use Cases

Use case: Supply of Ukraine

- **Security of supply**
  Ukrainian SoS is of course directly connected with gas in storages, since all quantities to be stored in UA UGS will have to be imported during summer/fall but then withdrawals during heating season will relieve pressure on short-term imports (and thus, adjacent gas markets) that would manifest without storage usage.

  Furthermore, by having redundant access to multiple routes, unplanned reductions on one route matter less. This could happen e.g. due to technical failures on infrastructure interconnections (both national and upstream) or European SoS emergencies (that could lead to curtailed exports).

- **Supply diversification**
  Sources along the TBP (connected to BG/GR/RO) can provide significant diversification potential for Ukraine, adding to existing – but limited – import possibilities via Poland (LNG & Norway, but limited to 2,2 bcm/a) and via Austria & Hungary/Slovakia (accessing mature source-connecting like hubs TTF, THE and PSV).

  By using all sourcing corridors available, Ukraine reduces dependency on few suppliers, is able to leverage competition in price negotiations and is overall more flexible to implement supplies.

- **Underground gas storage filling**
  The storage level that will be achieved before winter (typically 1 November is regarded the end of the filling season) directly affects the ability to satisfy winter demands: in case of low filling, storages may only be available to cover incidental demand spikes.

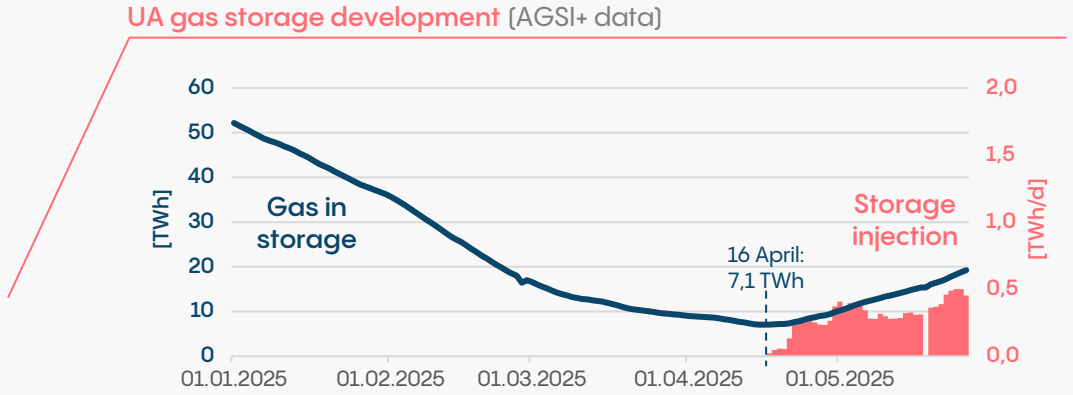
  Ukraine has a real challenge of obtaining sufficient gas and injecting it into domestic gas storages before the next heating season, since storages are quite empty (and may include volumes for non-Ukrainian storage customers) but need to be stocked-up for next winter season. If the same level of working gas volume as last year (~9 bcm) should be reached before 1 November 2025, when considering domestic UA production and current gas in storage, around 5 bcm would have to be imported.

Use case: Supply of Moldova

- **Security of supply**
  Since the beginning of this year and the end of the Gazprom supply contract, Moldova is mainly supplied from Romania via IP Ungheni and to a lower extent from Ukraine (via Oleksiivka for UGS access and Grebenyky). During Q1 of 2025 Ungheni was used almost at full capacity, so having and alternative import direction from the South will improve security of supply for Moldova – also considering the risk of war-related infrastructure unavailabilities in Ukraine.

- **Supply diversification**
  Adding an additional sourcing route via the TBP system could make diversification more cost efficient for Moldova.

- **Underground gas storage filling**
  Since Moldova has no gas storage on its own it has to rely on regional UGS (mainly UA & RO) for winter peak demands. Having an attractive transport offer for the TBP route will contribute to storage filling, in particular regarding Ukrainian UGS.



Stakeholder Use Cases

Use case: Romanian production

- **Export of offshore production**
  Significant gas production volumes will come online in 2027 with the commissioning of the Neptune Deep field. The planned plateau capacity is 8 bcm/a, thus exceeding additional Romanian domestic demands (e.g. due to planned expansion of gas-fired generation/CHPs) by far.

  International producers and offtakers alike are looking for ways to export these gas quantities to other markets, in particular towards Ukraine, Slovakia and further.

- **Export of onshore production**
  Romania has a long history of domestic production fields that are used to cover a significant amount of gas demand in the country. By enabling exports, additional revenues could be created in Romania.

Use case: Seasonal usage of Ukrainian UGS

- **Storage injection in summer with SEE sources**
  Ukrtransgaz, the Ukrainian gas storage operator, offers competitive commercial conditions for non-resident clients (for injection season 2025 the total storage fee is offered at ~1,3 €/MWh) for a storage volume of up to 5 bcm (of the overall available 31 bcm).

  Its client portfolio involves >180 customers from >30 countries with 3,3 bcm injected in 2023 under the customs warehouse regime and currently at 1,07 bcm (1.4.2025).

  Thus, having an attractive transport offer for the TBP route will increase the likelihood that gas volumes from SEE sources (RO, BG, GR and TR) will be injected into UA gas storages by non-resident customers, later to be used by these clients to cover their own supply needs during winter or to sell on regional gas markets.

- **Storage withdrawal in winter**
  While gas withdrawn from UA gas storages could make use of the TBP in North-to-South flow direction (e.g. towards MD, RO or even BG and GR), TBP South-to-North commercial attractiveness for storage filling is key to the overall market proposition.

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

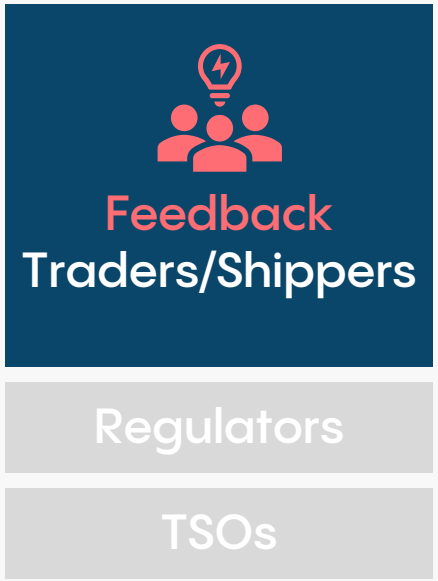
Regulators

- Future bookings hard to predict since flow situation has changed significantly
- Cautious about approving additional costs
- Have to maneuver within boundaries of TAR NC and CAM NC

TSOs

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

Details of Stakeholder Input



- **Genuine interest to enable this route as an additional possibility for gas flows**
  - Traders/shippers are definitely interested to use the route in case commercial conditions would allow this. At the time of the online meetings (Feb/Mar 2025) Traders still saw a chance for resumption of flows from Russia via Ukraine, casting a bit of doubt over long-term importance of TBP transports – since the full destruction of gas metering stations Sudzha towards end of March, this expectation has expired.
- **Use cases are there**
  - This covers e.g. supply of UA/MD and importing to CEE (in particular SK & CZ), but also short-term trading.
  - For sourcing options they mainly consider LNG, imports via Turkey and Romanian production, highlighting Neptun Deep as big opportunity for the region.
  - Long-term bookings (from 3 years upwards) are not regarded as an option in the region at all under current circumstances. There are too many uncertainties over regional gas developments like regulatory instability, potential Russian imports resumption (e.g. as part of the peace negotiations process) and decreasing national demands (decarbonization). This applies even more so to any expensive network development projects → Traders/shippers asked jointly agree, that the market wont commit to such projects.
  - At the time of the online meetings the primary interest was in monthly & quarterly products (day-ahead mainly to optimize their flows).
- **A range of significant barriers currently prevents usage**
  - High transport costs → *covered in more detail in section 2*
  - Lack of firm capacity → *covered in more detail in section 2*
  - Uncertainty on market regulation → *continued on next page*

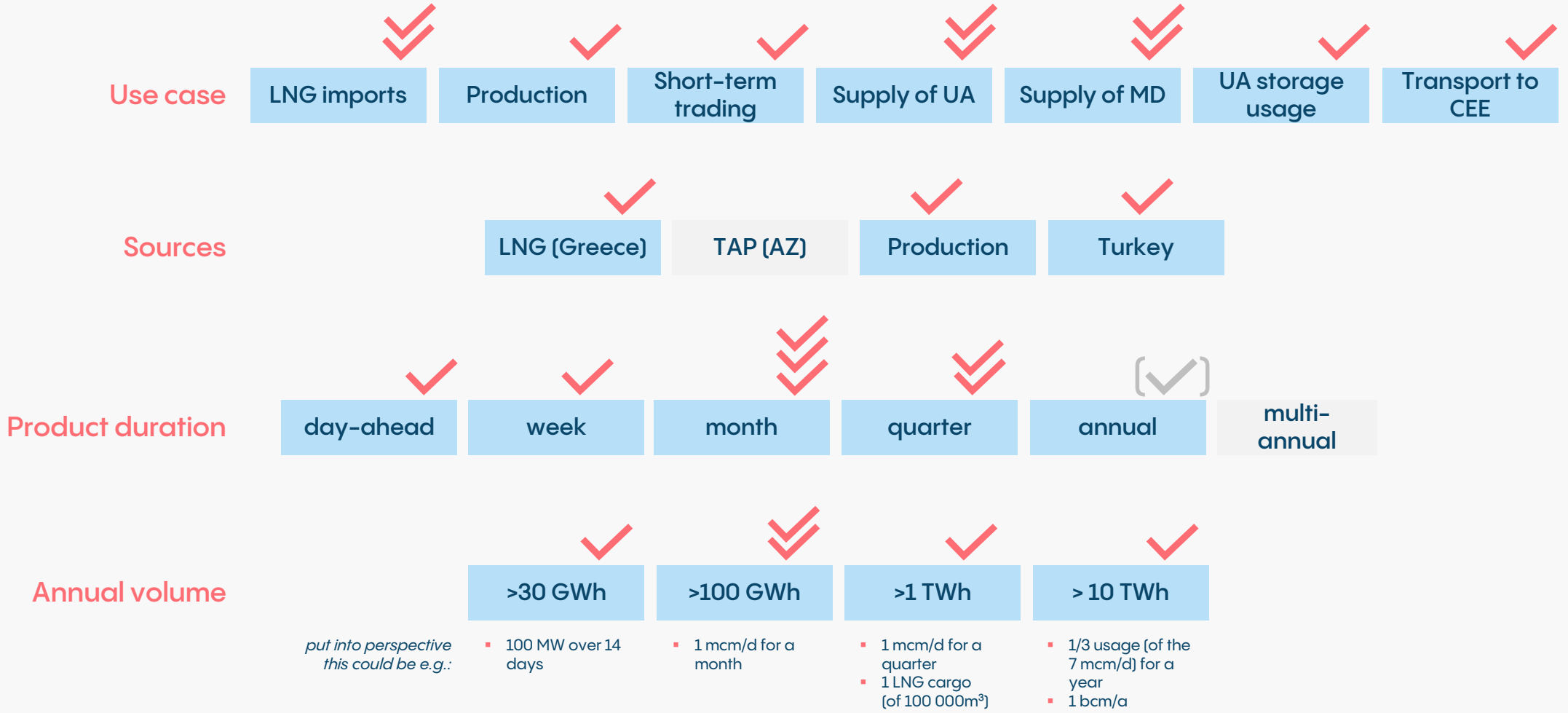
Details of Stakeholder Input

continued

- **Uncertainty on market regulation**
  - In general, regulatory stability / trust is regarded a must and especially needed for longer-term capacity commitments.
  - Bulgaria: The main criticism was that the hub is not set up in a proper structure, since clearing is missing (counterparty-risk: trades concluded can fall apart post-deal) and the gas release programme (contributing to market development) was not continued.
  - Romania: Market participants interviewed stated that Romania in their view continuously creates market barriers via regulation (licensing types, profit clawback, profit tax, application inconsistency). It is also very complex to understand and keep track of, especially whether an entity is affected or not. Procedural peculiarities like putting a consultation up on Friday afternoon with the comments deadline set to the following Monday already do not inspire trust in European market participants.
  - Moldova: Traders/shippers were not happy that Moldova increased tariffs after the annual capacity auction.
- **Feedback on smaller (non-critical) issues**
  - Overall, booking and operational complexity of covering a route involving multiple IPs is seen only as inconvenience, but not an actual barrier to TBP usage.
  - The same holds for e.g. application of volume units in gas transmission (in contrast to energy units as required by the EU/EnCS regulatory framework).
  - Market players don't see particular transmission risks associated with the route. However, de-risking of Ukrainian storages would be needed to enable related use cases, as it is hard to get approval for such activity within their corporations in the war situation.

Overview on Traders' Perspectives for using TBP in a Trial Phase over the next 2 Years

1) Use Cases identified by Stakeholders



Details of Stakeholder Input

- **Future bookings hard to predict since flow situation has changed significantly**
  - Since the start of Russia's invasion of Ukraine in February 2022 European gas flows have passed through a series of tectonic shifts, with the most recent event marking the end of decades of Ukrainian transit at the beginning of 2025.
  - Thus for an increasing number of IPs long-term contracts do not form a volume base anymore on which to build booking forecasts upon, raising uncertainty over the potential of tariffs to be able to reliably meet regulated revenues. Any resulting under-/overrecovery in one tariff period will then have to be compensated in future tariff periods.
- **Cautious about approving additional costs**
  - There are numerous plans for investment projects to increase interconnection capacity in the region.
  - From a regulatory perspective, the main driver for approval are binding long-term bookings under the incremental process (CAM NC) that fulfill the economic test criteria. Without ex-ante economic viability under binding committments, other network users (including domestic consumers) may have to carry the financial risk of stranded costs.
- **Have to maneuver within boundaries of TAR NC and CAM NC**
  - TAR NC puts forward a clear framework as to under what methodology tariffs are to be determined and what requirements have to be fulfilled by the resulting tariffs (e.g. comparison with CWD, cost allocation assessment).
  - CAM NC defines standard capacity products, the respective allocation algorithms and the auction calendar to follow in all capacity allocation procedures.
  - Thus, NRAs can not approve solutions to improving TBP attractiveness that would move beyond the framework of EU network codes. An example of this would be solutions involving route-based products and/or allocation methods involving simultaneous booking at multiple IPs.

Details of Stakeholder Input

1) Use Cases identified by Stakeholders

Traders/Shippers

Regulators

Feedback TSOs

- **Range of network development measures proposed/in progress**
  - Under the Vertical Corridor initiative[1], a substantial increase of TBP reverse-flow capacity is planned by TSOs. Bulgartransgaz in its network development plan considers an increase of the capacity (→ see table).
  - VMTG stated that a network development project at IP Kaushany will further increase TBP reverse flow capacities in MD to ~200 GWh/d before 2026.
  - Desfa is interested in connecting its sources to the TBP, they currently have requests from 3 additional LNG projects (planning stage). For the Kipi border point to Türkiye the interconnection agreement with BOTAS is still missing, this could be a further source in the future.
- **Market not willing to commit**
  - TSOs stated that market participants in the region were not looking for capacity bookings over multiple years. This was confirmed by discussions with traders (see previous pages) and, most importantly, by lack of demand in capacity auctions (including unsuccessful incremental capacity auctions for capacity expansion projects).
  - Additional barriers to longterm commitments of market participants raised by TSOs were
    - 1) decarbonization perspective (reduction of gas demand)
    - 2) geopolitical uncertainties (resumption of Russian imports)
    - 3) high price of commodity itself (in February ~50 €/MWh, in March ~40 €/MWh)
- **Open to implementing alternative approaches**
  - TSOs in general stated they would be willing to consider approaches that go beyond the current standard regulatory toolset for capacity products (e.g. conditional products, coupled booking, discounted product, temporary regimes, …), as long as this does not create profit risks.

Example 1: BTG NDP 2024

IP	Planned increase
Kulata / Sidirokastro (entry from GR)	**67** → **102** GWh/d until 2026
Stara Zagora (entry from GR via IGB)	**122** → **179** GWh/d until 2026
Negru Voda / Kardam (exit to RO)	**158** → **295** GWh/d until 2027

Example 2: Eustream

IP	Planned increase
Veľké Zlievce / Balassagyarmat (entry from HU)	**102** → **127** GWh/d „in 2025"

[1] BTG NDP 2024: Bulgartransgaz' ten-year network development plan 2024-2033

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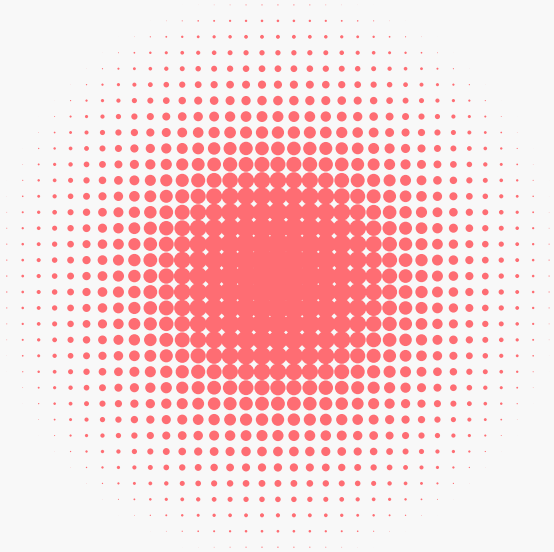
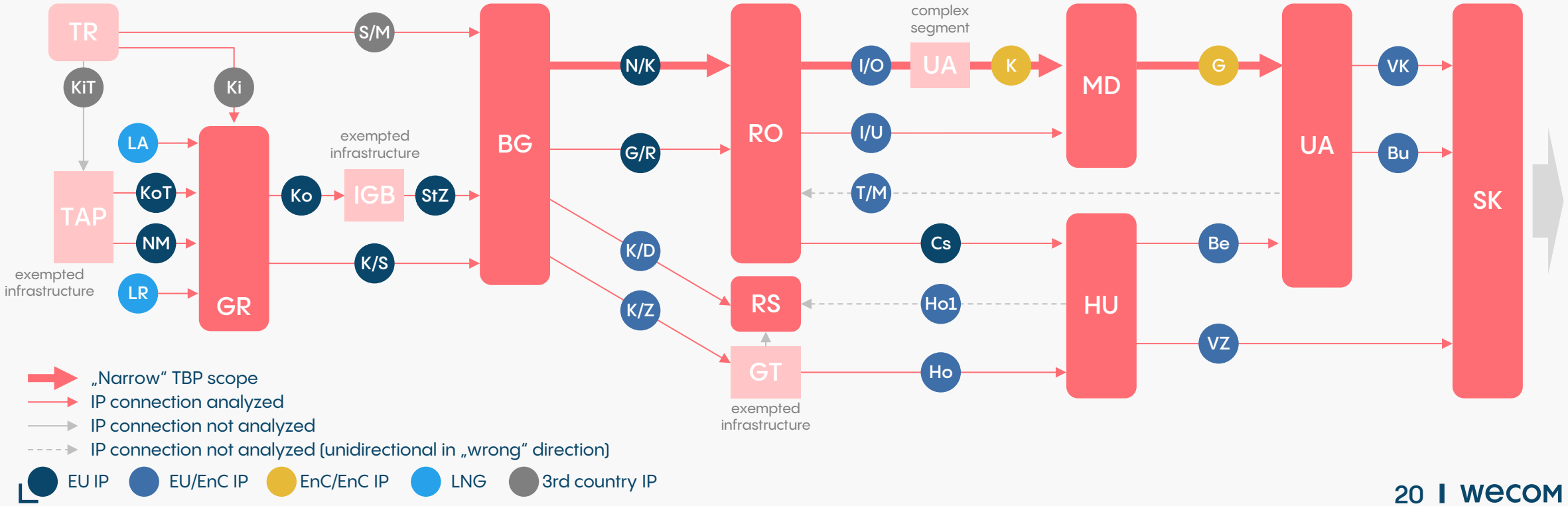


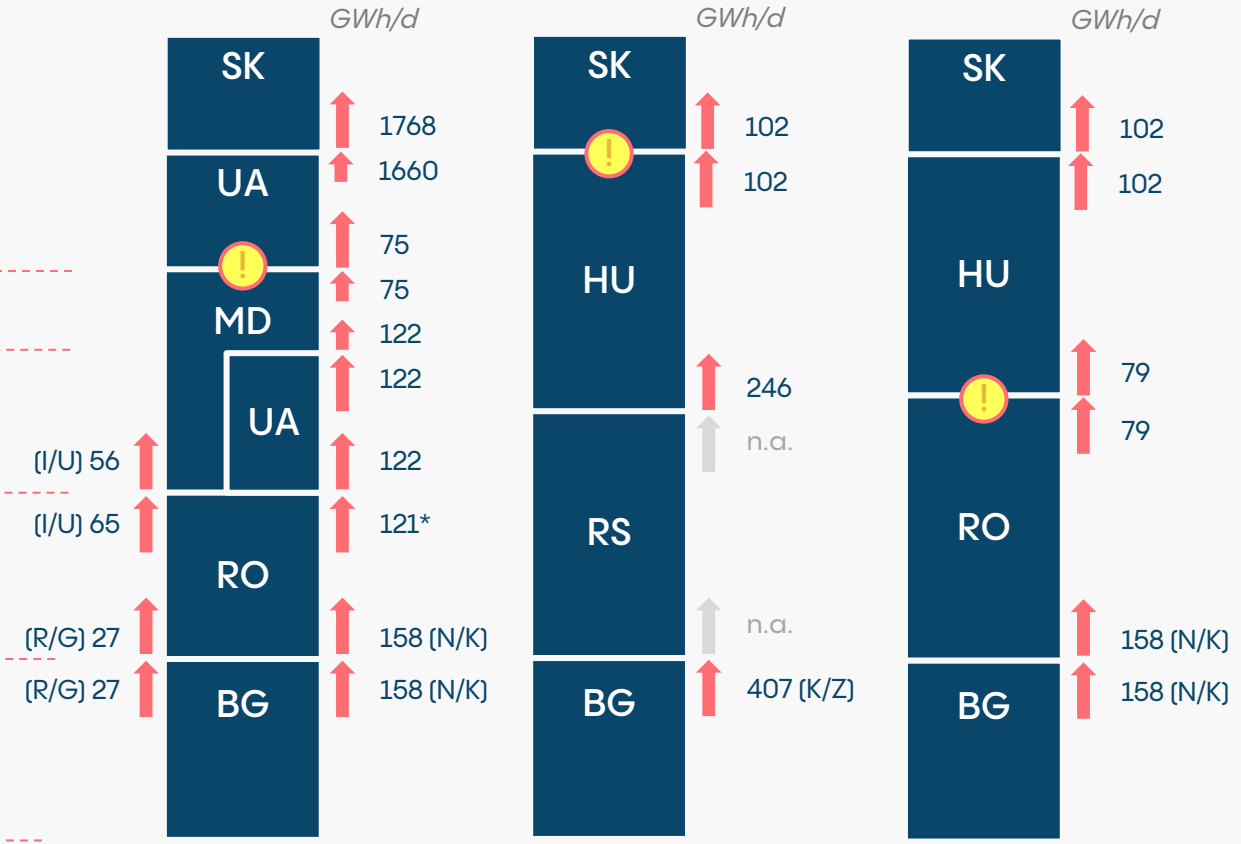
Schematic Graph of selected SEE/CEE Transport Routes

- **Sources**
  - Key external sources of natural gas in the SEE region are LNG import terminals in Greece, TAP for Azeri gas, Turkey (mainly Russian gas, but also LNG, AZ, domestic possible).
  - Additionally domestic production (in particular of Romania) provides sourcing options.
- **Routes**
  - Various possibilities exist to distribute gas from sources in the South in the wider SEE region or transport it onwards towards CEE (e.g. Slovakia and Hungary, but also Austria and Czech Republic)
  - Bulgaria acts as a hub in connecting SEE sources, while Slovakia acts as the gate towards CEE.
- **Markets**
  - According to Energy Trader Europe's 2024 Gas Hub Assessment, the most developed gas market in the region is Hungary (with a score of 15,5 out of a maximum 20 points).
  - Greece (13,5), Slovakia (12) and Ukraine (11,5) are following up with their development.
  - Moldova (5) and Serbia (3,5) are still very much at the beginning of their journey.



Geographical Overview of regional Capacity Potential

2) Analysis Results for Barriers



SK via UA

75 GWh/d
2,6 bcm/a

Route bottleneck

SK via RS/HU

102 GWh/d
3,5 bcm/a

+0,88 bcm/a capacity increase planned for 2025

SK via RO/HU

79 GWh/d
2,7 bcm/a

Conversion: 10,6 kWh/m³(20°C)
* Interruptible capacity

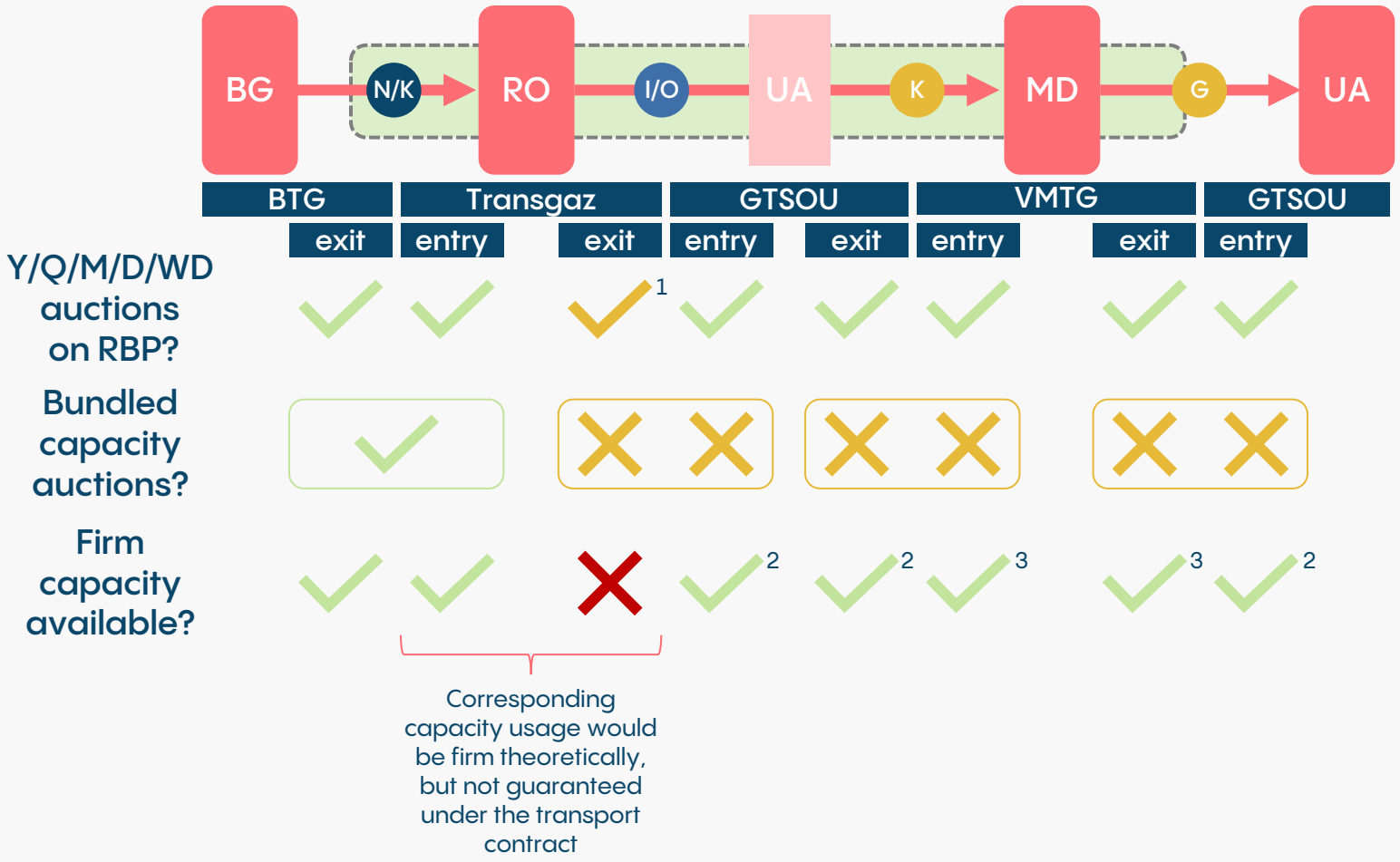
Let's look at the hard Facts of TBP Attractiveness

- **„Narrow" TBP scope**
  - Starting point Bulgaria as hub for a multitude of gas sources competing for SEE (and CEE) supply, most notably gas coming via Turkey and Greece (incl. respective LNG terminals).
- **Illustrates the main issues**
  - This scope covers all use cases that involve TBP reverse flows (however for certain use cases additional IPs are involved).
- **Analysis Period Oct. 2024 – Feb. 2025**
  - Includes transition due to end of Russian transit through Ukraine and also preparatory flows BG>RO>HU>SK (storage filling).

Analyse attractiveness regarding...

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

TBP Route Capacity Allocation shows mixed picture



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

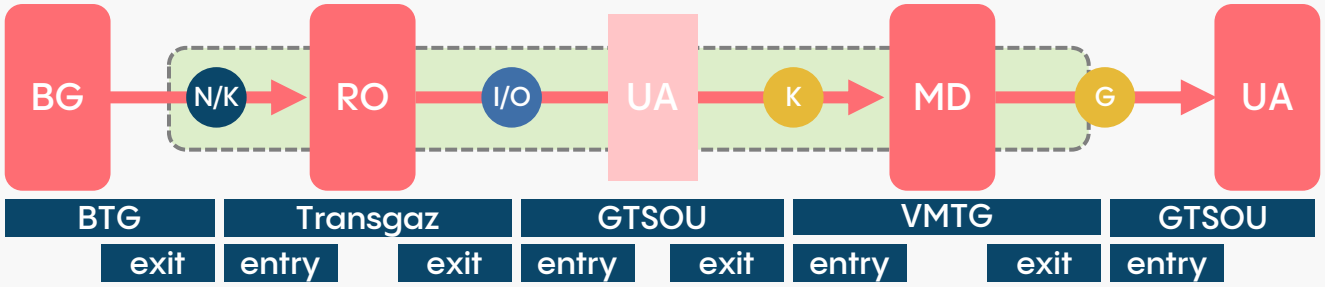
Simultaneous participation in 7 auctions required to acquire route capacity
→ additional risk

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



	BTG exit	Transgaz entry	Transgaz exit	GTSOU entry	GTSOU exit	VMTG entry	VMTG exit	GTSOU 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					

Status update 1 June 2025: Transgaz started offering firm capacity in day-ahead auctions on 31 May 2025.

Status update 1 June 2025: This capacity was temporarily not offered due to the special situation with Transnistria in Q1 of 2025. VMTG resumed day-ahead auctions on 17 May 2025, the first monthly auction (for June) occurred on 19 May.

There was no firm transport possibility for shippers

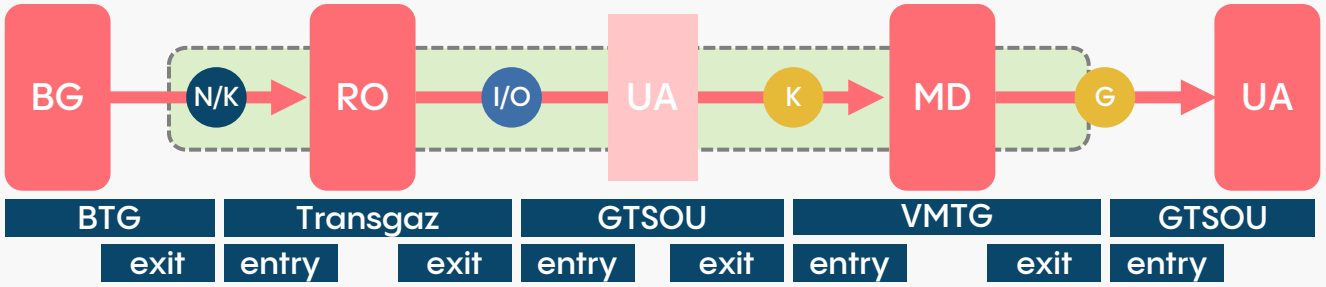
If firm capacity were offered at RO exit then a significant transport possibility would be unlocked

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



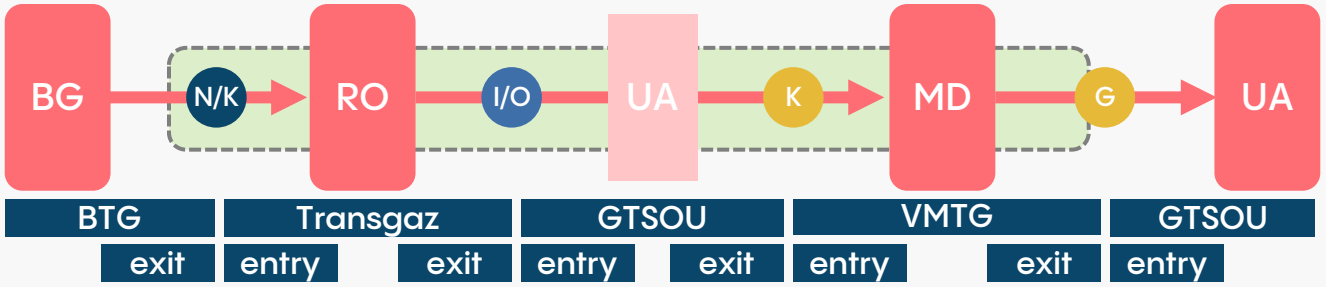
Average Bookings

	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

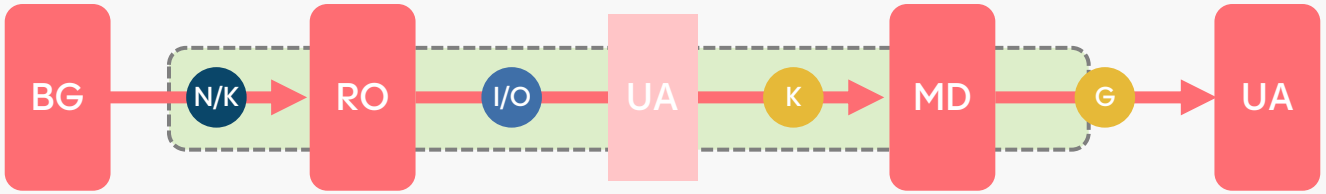
- ~3 TWh in Feb25
- ~24 TWh in CAL24

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 exit	Transgaz entry	Transgaz exit	GTSOU entry*	GTSOU exit*	VMTG entry	VMTG exit	GTSOU entry	Totals:
Annual	0,70	1,10	1,31	0,01	0,27	1,77	2,05	1,11	8,3 €/MWh
Quarter (max)	1,02	2,11	2,17	0,01	0,27	1,77	2,05	1,22	10,6 €/MWh
Month (max)	1,16	3,26	3,14	0,01	0,27	1,77	2,05	1,33	13,0 €/MWh
DA (max)	1,54	6,53	5,89	0,01	0,27	1,77	2,05	1,61	19,7 €/MWh
Conditional product MD		Consulted values 18.3.2025 (firmness not ensured)				0,75	0,75		-2,3 €/MWh

Transport costs large compared to current gas price (~35 €/MWh)
- Annual product: ~1/4
- 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

Variant: LNG Revithoussa via Sidirokastro

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	2,41
	361	
BG	141	1,36
	130	
GR	216	1,04
	127	
	10,03	

Transports commercially not viable!

	Monthly Products	Daily Products
Jul25	10,55	14,63
Aug25	10,90	15,35
Sep25	10,68	14,76
Max**	15,63	24,22

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)

Example Use Case: Greek LNG to UA

Variant: LNG Alexandroupolis via Komotini

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	2,41
	361	
BG	141	1,32
	117	
IGB	503	1,84
	103	
GR	195	0,94
	114	

⚠ Transports commercially not viable!

Monthly** Products	Daily** Products
17,61	26,20

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)

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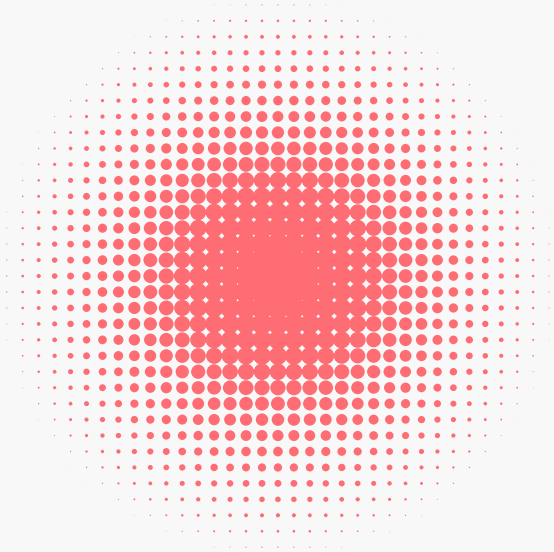


Introduction to Stakeholder Considerations on Solutions

Different considerations were raised with the view to solve commercial issues of TBP usage:

- **Allow alternative capacity products**
  - Transport costs are obviously too high currently to enable usage. Ideally, tariffs for multiple IPs along the route would be reduced for more moderate transport costs. A more comprehensive approach to this would aim for **route products** where all IPs along a predefined route could be booked in a single allocation procedure.
  - Introducing a **temporarily discounted product** (e.g. for a period of several months) could incentivize usage and generate additional income for TSOs, that can be used to further reduce tariffs in future. Initial flows would contribute to creating comfort to the market for substantially higher flows in the future.
  - One idea raised was to tie the capacity tariff to the current market spread, so this **spread-based product** would be more attractive for traders.
- **Reduce time factors**
  - Anything that brings costs down could help, also dropping multipliers and seasonal factors. Since their main purpose is to increase long-term bookings (currently not expected anyways) reducing them for now would not have a negative impact.
- **Set up a logistics service provider**
  - A potential approach could be an institutionally supported entity that shields risks from network users. This entity would book capacity along the route but has an obligation to resell it to interested actual shippers.
- **Enable firm capacity at Isaccea / Orlivka**
  - Establishing firm capacities at I/O (solve gas quality topic) is seen critical – consensus was this can be solved with pragmatic approaches of TSOs involved.
  - Shippers would favour "pure" entry/exit capacities without usage restrictions, else attractiveness reduced (optionality is key). As a transitory solution to the gas quality mismatch*, shippers would also accept firm exit capacity that requires corresponding entry quantities at IP Negru Voda / Kardam.
  - Regulatory requirement for this would be to market exit capacity in competing auctions between IP N/K and IP I/O.
- **Separate treatment of non-market-based capacity expansions**
  - Costs from such projects can create significant effects in tariff setting and thus should be directly attributed to the domestic customers. This would reduce the cross-border impact of such measures.
- **Strengthen market tools**
  - A proper trading place should be established with central counterparty clearing.
  - Locational spread products could be introduced to manage congestions.
  - A mechanism for implicit allocation of transmission capacity could be offered by a market operator.
- **"Big Bang" approach to regional market integration**
  - Since progress in the region was so limited over the past decade, maybe a more comprehensive approach should be followed instead of small incremental improvements. This could be achieved in the form of a large EC / EnC supported market integration project.
  - An alternative to a full market merger (removing IP booking) could be a cross-border allocation approach for transmission system costs (CBCA), similar to the mechanism applying to new infrastructure subject to TEN-E funding. In this case, reserve prices for capacity auctions at IPs would start at 0.
- **Continue implementing recommendations**
  - Bundling of capacity could be implemented stepwise, for example the Moldovan regulator is looking into IP Ungheni as a first step.
  - Implementing the comfort booking option (outlined in the 2024 WECOM TBP report) is seen as a low-hanging fruit to increase attractiveness, as long as firm capacity becomes available.
  - Introduction of a virtual interconnection point for UA/MD interconnections was currently deferred due to the Ukrainian increase of firm capacity offer at IP Grebenyky.

* GTSOU requirements cannot be ensured by Transgaz due to Romanian standards relating to domestic gas production

Refined List of potential Solutions

From the potential solutions proposed by stakeholders the key ingredients were extracted to develop a common list of solutions:

Competing capacity auctions	This addresses current firm exit capacity in Romanian TBP section being exclusively assigned to exit Negru Voda / Kardam, since physical constraints don't allow simultaneous exits from VTP at full capacity for both Negru Voda and Isaccea. CAM NC allows for competing capacity auctions, so network users effectively decide in each auction how much of the total (constraint-based) firm capacity is made available at each point.
Multiplier / seasonal factor reduction	Reduction of time factors to attract short-term capacity bookings as a door opener to increased route usage.
Conditional firm capacity with tariff discount	By offering firm capacity with a combination restriction (FCR) regarding another IP, TSOs can ensure that the gas transported is in line with technical constraints*. This limitation on usage possibilities requires a discounted tariff.
Multi-IP benchmarking	TAR NC allows for secondary adjustments of reference prices via benchmarking. By determining a transport cost level that is acceptable to market participants on competing routes, this transport cost level should also be attractive for the TBP.
Spread-based product	In order to incentivize capacity usage between regional gas markets, the day-ahead capacity tariff could be coupled to market spreads (including a profit margin for traders) and would thus be typically lower than the RPM-based reserve price. TSOs would receive additional revenues through increased IP usage.
Non-market capacity paid by domestic	In the case where infrastructure was not built market-based (i.e. under incremental capacity auctions) but to fulfil domestic objectives (e.g. security of supply or increase of competition) the costs for this infrastructure may create a market barrier through increasing the overall level of cross-border tariffs. Such costs could be charged to domestic users via a separate non-transmission charge.
Implicit allocation mechanism	By implementing an implicit allocation scheme for transmission capacity (market operator) market participants could focus on short-term trading between regional gas markets without having to worry about logistics (capacity booking and nomination).
CBCA with zero reserve price at IP(s)	The cross-border cost allocation mechanism is a best-practise approach applied in over 40 cases all over the EU, both for new gas and electricity infrastructure (and in the future also for hydrogen networks). The principle of enabling cross-border infrastructure with positive socio-economic welfare but lacking market committment could potentially be expanded to allocate costs of existing infrastructure, if there are clear benefits to maintain the capacities for the future.
Subsidized logistics service provider	An appointed entity (possibly under a non-profit structure) creates a „tunnel" for various use cases that can be reserved by interested shippers risk-free as secondary capacity.
Full market merger	Adjacent markets are merged by joint agreement between TSOs and NRAs. IPs previously connecting the markets disappear for network users and there is only one common VTP.

* e.g. jointly agreed gas quality specifications for RO→UA exit point Isaccea / Orlivka

Partial Measures not suited for immediate Implementation

The following potential solutions were not analyzed further – on the one hand implementation would be more complicated and on the other hand the effect of these solutions on TBP attractiveness was not regarded to be sufficiently high enough:

Short description	Advantages	Disadvantages

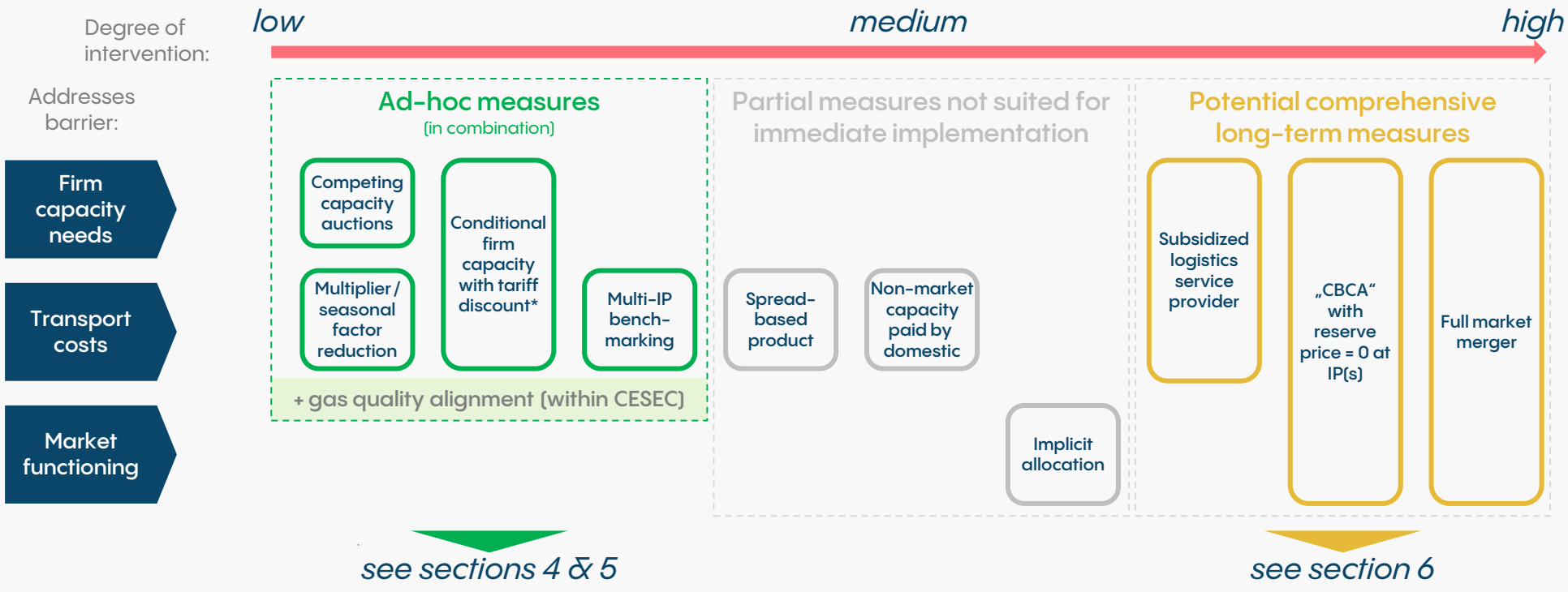
Spread-based DA/WD tariff
▪ Firm capacity product where the day-ahead tariff is connected to the spread between markets:
  ▪ The (total) tariff shall allow shippers to transport gas from the lower priced market to the higher priced market at a profit.
  ▪ There is no upper limit (to allow TSOs to offset underrecovery to some extent), but a lower limit is determined ex-ante.
▪ Implementation could be encapsulated as a day-ahead „benchmark override" based on the market spread.
	▪ Could increase TBP usage by reducing transport costs
	▪ Enables market-based transports
		▪ Only applies between adjacent markets
		▪ Direct effect limited to day-ahead trading
		▪ Requires trustworthy price signals & robust fixing methodology (prevent manipulation)
		▪ Walks the borderline of TAR NC

Non-market capacity paid by domestic users ▪ In the case where infrastructure was not built market-based but to fulfil domestic objectives (e.g. security of supply or increase of competition) the costs for this infrastructure may create a usage barrier through exceptionally high cross-border tariffs. ▪ These costs could be recovered as non-transmission service revenues* under Art. 4 (4) TAR NC via a separate charge from domestic users only (as they are the main beneficiaries of this infrastructure).	▪ Reduction of cross-border transmission tariffs ▪ Costs for non-market-based infrastructure recovered from main beneficiaries	▪ Regulatory challenges of separating such infrastructure costs from transmission service revenues ▪ Limited impact
Implicit allocation model for DA/WD capacity ▪ A dedicated role is established that joins orderbooks for adjacent markets. ▪ Bids/asks of market participants see in the orderbook of one market are mirrored for the adjacent market, with bid price adjusted for transport costs. ▪ The market operator will buy & nominate capacities at adjacent TSOs corresponding to (net) trading results. ▪ Market operator books capacity possibly under incentivized conditions.	▪ Simplifies VTP-to-VTP arbitrage ▪ Improves market integration ▪ Could be expanded to multiple adjacent markets	▪ Requires legal, corporate and operative implementation of dedicated market operator role ▪ High capacity cost (especially through MPs & SFs) may still prevent attractiveness ▪ Does not address mid-term and long-term needs of market ▪ Requires robust market (e.g. liquidity, clearing, trust)

* ENTSOG 2024: 65% of gas TSO apply non-transmission services of various forms

Classification of potential Solutions

Assessing the potential solutions proposed according to barriers addressed and intervention necessary allows for classification:



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

* Note: The „super-bundled" route product proposed by Vertical Corridor TSOs end of May 2025 would be an extreme manifestation of this approach, however it raises serious concerns of compliance with EU/EnC regulatory framework and thus is not proposed in this study.

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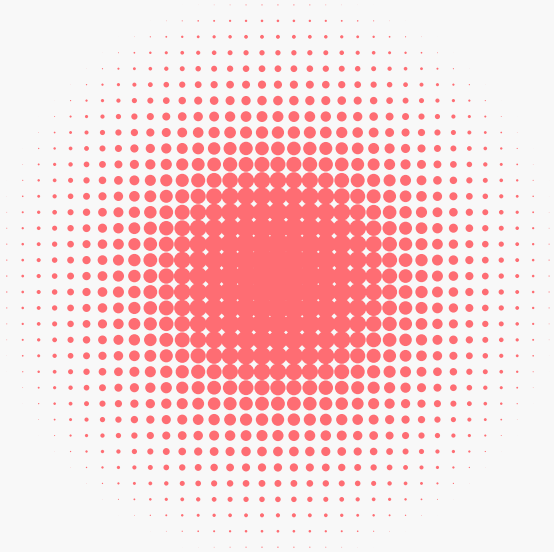

Introduction to Ad-hoc Solutions

Tariff proposal (see next section 5)

Solution element	Regulatory context
Competing capacity auctions ▪ This addresses current firm exit capacity in Romanian TBP section being exclusively assigned to exit Negru Voda / Kardam, since physical constraints do not allow simultaneous exits at full capacity at both Negru Voda and Isaccea. ▪ Network users effectively decide in each auction how much of the total (constraint-based) firm capacity is made available at each point.	*CAM NC Art. 8 (2.)* allows to allocate competing capacity via non-independent auctions
Time factor reduction at selected IPs ▪ For selected IPs along the TBP route seasonal factors would be removed and multipliers would be reduced to increase short-term route attractiveness.	*TAR NC Art. 12 (1.)* allows different levels of multipliers and seasonal factors at IPs
FCR (firm capacity with combination restrictions) ▪ Firm conditional capacity product that requires a corresponding nomination for firm usage. Without corresponding usage, the product can be interrupted by the TSO (e.g. in case of lack of internal network transport capabilities). ▪ Since TSOs are obliged to maximize capacity, such products may only be introduced to reflect actual technical constraints for limiting VTP access. ▪ Tariff discount shall reflect reduced usage possibilities (e.g. reduced transmission system distance used compared to transports from/towards VTP).	*TAR NC Art. 4 (2.)* allows to take into account conditions for firm capacity products in tariff setting
Multi-IP benchmarking ▪ Benchmarking determines the overall competitive level of transport costs. ▪ Reference prices of IPs currently unused (or with low usage) along the route to be reduced, IPs with considerable (forecasted) bookings should remain unaffected to maintain (forecasted) revenues. ▪ Coordinated approach of NRAs to implement same tariff reduction (%) for each IP concerned (where no/low bookings expected).	*TAR NC Art. 6 (4.)a* allows for the NRA to make benchmarking-related adjustments to the application of the RPM

Advantages:

- ✓ Significant impact on **commercial attractiveness** of the TBP route achievable
- ✓ Can be implemented in **compliance** with EU/EnC regulatory framework
- ✓ Low **implementation** complexity for TSOs and market participants
- ✓ Can be finetuned next year based on **evaluation** of first experience

Time Factor Reduction

Regulatory Background

- **Multipliers and seasonal factors according to TAR NC**
  - "multiplier" means the factor applied to the respective proportion of the reference price in order to calculate the reserve price for a non-yearly standard capacity product.
  - "seasonal factor" means the factor reflecting the variation of demand within the year which may be applied in combination with the relevant multiplier.
  - *TAR NC Art. 12 (1.)* allows different levels of multipliers and seasonal factors at IPs, *TAR NC Art. 13* defines admissible levels of multipliers and seasonal factors

Proposal elements

- **Extent of reduction**
  - A full removal of multipliers and seasonal factors would – in the absence of congestion – encourage network users to only book on a day-ahead (or shorter) basis initially. Thus it is proposed to keep a low level of multipliers to incentivize quarterly/monthly products especially for network users that pursue such use cases.
- **Focus on specific IPs**
  - Time factor reductions would only apply to selected IPs along the route – applying the reduction uniformely for each IP involved (across the route covering UA, MD, RO, BG and potentially GR) would not be feasible since some TSOs could miss out on a considerable amount of revenues where IPs are already today used to a notable degree.
- **Temporal scope**
  - The measure can be transitory, e.g. limited to the upcoming GY25/26 and re-evaluated for future GYs. Removal would only apply from 1.10.2025 – while this is not an issue for seasonal factors which are typically low during summer season, until October high short-term multipliers would still persist.

Properties

- **High effect on transport costs**
  - High impact on commercial cross-border transport attractiveness, especially for day-ahead products (where time factors can make up more than 50% of total transport costs), but also for monthly and quarterly products.
- **Net-positive TSO revenues impact**
  - By excluding points with considerable (short-time) usage and maintaining an incentive to book longer product durations, TSO revenues will benefit from time factor reductions through new usage of existing infrastructure.
- **Implementation**
  - Straight-forward for NRAs, TSOs and market participants

→ for details see section 5

Firm Capacity with Combination Restrictions (1/2)

Regulatory Background

- **Obligation to maximize firm capacity**
  - *Gases Regulation Art. 10 (1.)** stipulates, that the maximum capacity at all relevant points shall be made available to market participants, taking into account system integrity and efficient network operation.
  - However, gas transmission systems often are subject to internal bottlenecks (technical limitations) that prevent usage of the system in a fully flexible way on a firm basis. While the clear priority for TSOs is to offer the maximal amount of firm capacity without any conditions, further technical capabilities may remain.
  - Conditional products like FCR offered by TSOs** thus aim to maximize firm usage possibilities for network users under existing technical limitation of the gas transmission system.
- **Permission to offer conditional capacity**
  - *Gases Regulation Recital (17)* notes, that conditional capacity should be offered only where TSOs are not able to offer firm capacity. Network operators should define the conditions for conditional capacity on the basis of operational constraints in a transparent and clear manner. The regulatory authority should approve the conditions and ensure that the number of conditional capacity products is limited to avoid a fragmentation of the market for natural gas and to ensure compliance with the principle of providing efficient third-party access.
  - *Gases Regulation Art. 2 (1.) no. 35 & 36* defines conditional capacity as firm capacity that entails transparent and predefined conditions for either providing access from and to the VTP or limited allocability (the discretionary combination of any entry capacity with any exit capacity or vice versa)
- **Possibility to apply discounts for conditional capacity**
  - *TAR NC Art. 4 (2.)* allows to take into account conditions for firm capacity products in tariff setting.

How does it work?

- **FCR enables firm usage for specific cases**
  - FCR is a capacity product that requires usage of a corresponding point (the combination restriction) to ensure firmness:

Example		IP1 (entry)	VTP	IP2 (exit)	
Network user A	Booked	Firm: 30	-	FCR (IP1): 30	
	Nominated	Firm: 25		FCR (IP1): 25	→ firm usage
	Trades	-	-	-	
Network user B	Booked	Firm: 80	-	FCR (IP1): 100	
	Nominated	Firm: 80		FCR (IP1): 90	→ 80 firm usage
	Trades	-	Buy: 10	-	10 inter. usage

- **FCR is <u>not</u> a point-to-point product**
  - FCR can be booked at entry/exit points independently of booking respective capacity at the combination restriction point(s).
  - The combination restriction can be fulfilled not only with corresponding FCR, but with any other capacity qualities like firm capacity and interruptible capacity. Access to the VTP and other points is possible on interruptible basis with FCR.
  - The discount on the reference price is granted on the FCR entry/exit capacity booked, irrespective of actual usage of the product and/or booking at the corresponding exit/entry point.

* Regulation (EU) 2024/1789 from 13 June 2024 on the internal markets for renewable gas, natural gas and hydrogen

** E.g. in Germany, Greece, Austria and Ireland

Firm Capacity with Combination Restrictions (2/2)

Proposal elements

System	Products	Remarks
RO	▪ **FCR exit Isaccea / Orlivka**: to be combined with entry from Negru Voda / Kardam	▪ By applying this condition, gas quality specifications at Isaccea / Orlivka (and thus firm usage) can be ensured. ▪ Entry capacity at Negru Voda / Kardam doesn't require a condition, since gas can be transported throughout the rest of Transgaz' network on a firm basis. This is also demonstrated by current usage of this IP.
UA	▪ **FCR entry Isaccea / Orlivka**: to be combined with exit via Kaushany* ▪ **FCR exit Kaushany**: to be combined with entry from Isaccea / Orlivka	▪ This short Ukrainian section of the TBP can be used almost exclusively between the two IPs, thus a large share of technical capacity at both IPs requires a usage condition to enable firmness. ▪ * Or to certain domestic exits for supplying the limited amount of UA and MD customers in this section from the South.
MD	▪ **FCR entry Kaushany**: to be combined with exit via Grebenyky ▪ **FCR exit Grebenyky**: to be combined with entry from Kaushany	▪ Exits at Grebenyky can only come from Kaushany due to technical restrictions in VMTG's network. ▪ At Kaushany, not the full technical entry capacity will be subject to FCR (requiring exit at Grebenyky), since this IP can also be used for MD domestic supply.

Properties

- **Enables firm usage along the TBP**
  - Gas quality risks at Isaccea / Orlivka can be avoided as long as the gas comes via Bulgaria.
- **Discount makes overall transport costs more attractive**
  - These discounts reflect reduced usage possibilities for network users. At the same time, for use cases of transporting significant gas quantities along the TBP these discounts play a key role in keeping the overall transport costs at an acceptable level.
  - Ukraine already applies considerable discounts ("coefficients") for its section under the interruptible "capacity with restrictions" product.
- **Implementation**
  - Requires FCR product definitions including transparent conditions on how to ensure firm usage and procedure in case of interruptions.
  - TSOs need to implement determination (non-)fulfilment of usage restrictions in 24/7 dispatching operations and reflect this in automated curtailment processes.
  - Straight-forward for market participants (ensure corresponding nominations in logistics processes).

→ for details see section 5

Multi-IP benchmarking

Regulatory Background

- **Benchmarking can be applied to obtain competitive tariffs**
  - According to TAR NC a reference price methodology (RPM) shall be applied to determine reference prices for recovering the capacity-based transmission services revenue part.
  - *TAR NC Art. 6 (4.)a* allows for each national regulatory authority to make benchmarking-related adjustments to the application of the RPM, whereby reference prices at a given entry or exit point are adjusted so that the resulting values meet the competitive level of reference prices.

Proposal elements

- **Route attractiveness has to be solved in a joint regional effort**
  - The TBP is a joint regional infrastructure spanning multiple countries and thus total transport costs attractiveness cannot be assigned to a single TSO/NRA alone.
  - By following a joint approach (ultimately to be agreed between regulators) to benchmarking-based tariff reductions all regional markets can benefit from increased sourcing options, trading liquidity and competition.
- **Route alternatives with past usage indicate competitive level of tariffs**
  - By selecting alternative routes where usage has been demonstrated in the past under the respective total transport costs, network user willingness to pay is derived.
- **Consistently apply existing products and capacity allocation rules**
  - Through application of benchmarking no new products are created that would be subject to distinct terms & conditions regarding capacity allocation or usage. Benchmarking tariffs provide the reference prices from which all product periods are constructed (e.g. by applying multipliers and seasonal factors) in line with TAR NC and CAM NC.

[proposal elements continued]

- **Benchmarking as ultima ratio**
  - Other approaches that reduce transport costs, like reduction of time factors and application of discounts for conditional capacity, shall be prioritized. Benchmarking only to resolve the remaining difference towards competitive tariffs.
- **Reduced tariffs shall avoid negative effects on TSO revenues**
  - At IPs with considerable usage the application of benchmarking reductions shall be avoided (or considered with lowest priority).

→ for details see section 5

Properties

- **Significant effect on transport costs**
  - High impact on total transport costs along the TBP and increased attractiveness for all product durations.
- **Net-positive TSO revenues impact**
  - By excluding points with considerable usage TSO revenues will benefit from benchmarking through increased usage of existing infrastructure.
- **Implementation**
  - NRAs to take a coordinated approach, supported by TSOs.
  - Straight-forward application of adjusted reference prices for TSOs and market participants

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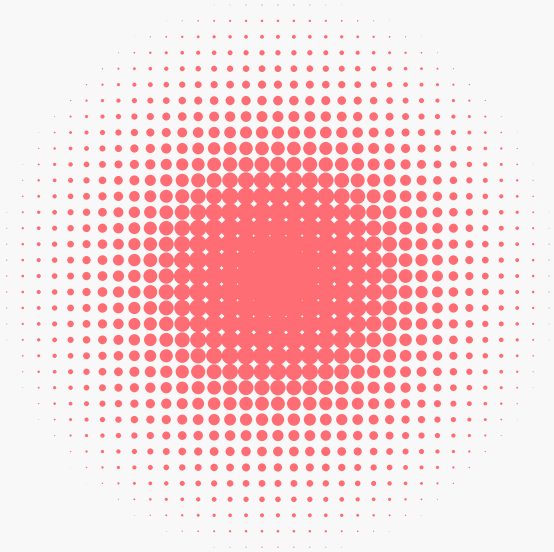


General Logic to develop the Tariff Proposal

Key Principles:

"Competitive level of tariffs is demonstrated by existing usage"

"Avoid tariff reductions where tariffs have proven to be competitive"

Approach:

1. Benchmarking

1.1. Define benchmarking routes

1.2. Calculate total transport costs (TTC) per route

1.3. Determine competitive level of total transport costs

2. Tariff Proposal

2.1. Define IPs subject to adjustment

2.2. Determine tariff adjustments

2.3 Analyse impact of tariff adjustments (volume scenarios)

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.

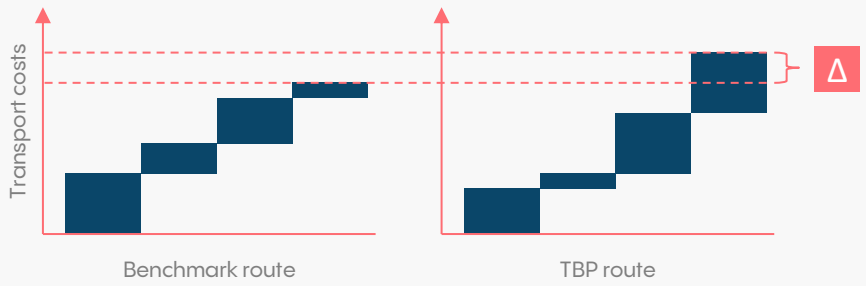
$$\text{Transport costs} = \sum_{p} \text{Capacity tariffs}_{p} \times \text{short-term modifiers}_{p} + \text{Flow-based charges}_{p}$$

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 „umbrella use case" for the benchmarking comparison:

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

- ✓ **commercially attractive** (because significant bookings & flows over past months)
- ✓ **needs additional option** (because route congested)
- ✓ **contains many other use cases** (supply of Ukraine, vertical LNG transports, UGS filling)

benchmarking routes

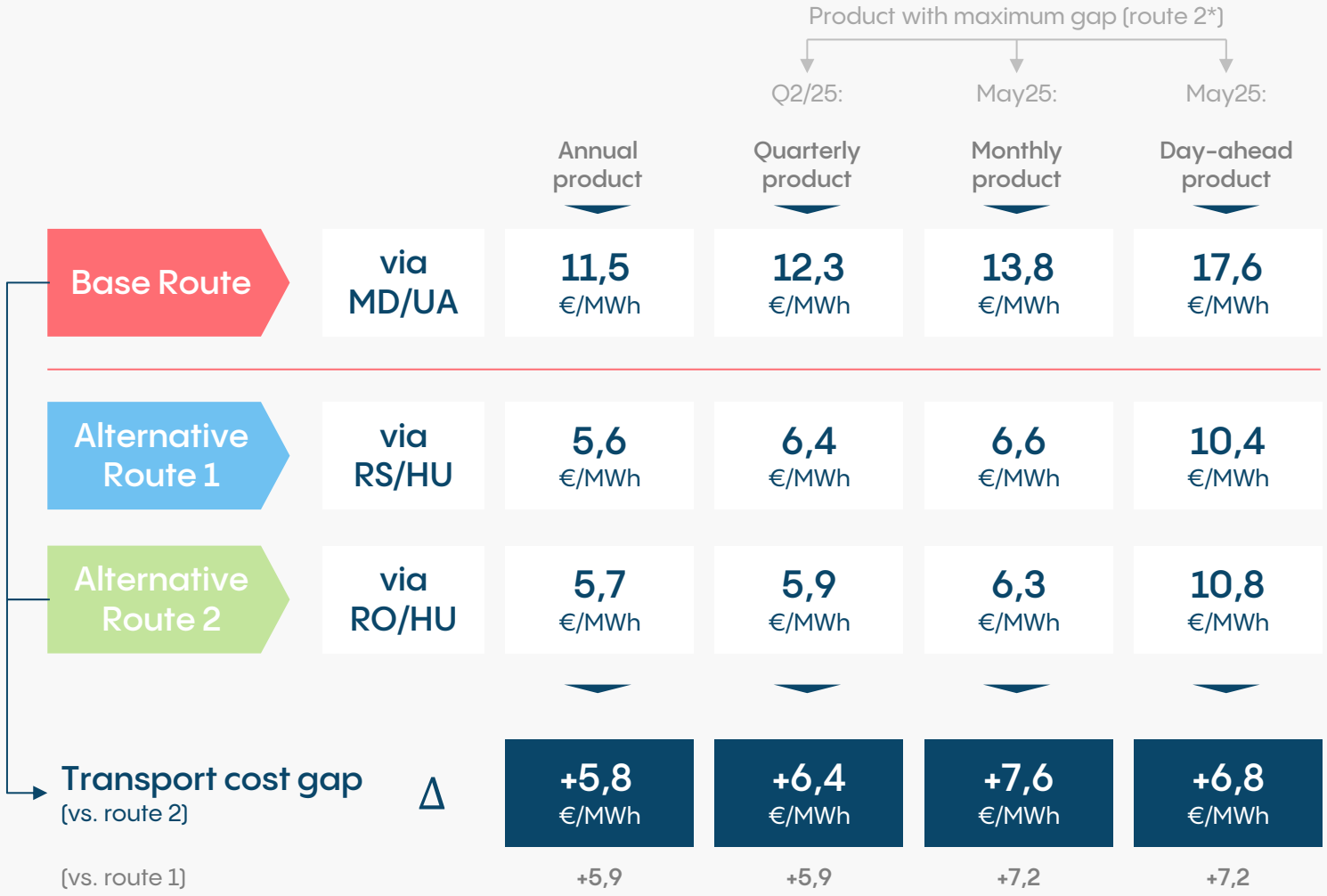
		max. route capacity
Base Route	via MD/UA	75 GWh/d 2,6 bcm/a
Alternative Route 1	via RS/HU	102 GWh/d 3,5 bcm/a
Alternative Route 2	via RO/HU	79 GWh/d 2,7 bcm/a

Supporting notes:

- Selection of Bulgaria as starting point instead of Greece: Starting the cost comparison further South would simply increase the transport costs for all routes by the same value, thus no additional insights would be gained for identifying the transport cost gap to be closed.
- Selection of Slovakia as end point instead of Ukraine: This would be a more narrow-focussed benchmarking, that would only provide limited indications on how to unlock the TBP's full potential as an existing infrastructure that technically reduces the South-North bottleneck in the broader CEE supply perspective (UA of course, but also SK, AT, CZ, HU). The reduced tariffs resulting from the tariff proposal developed under BG→SK route competition show that the TBP will also become attractive for Ukrainian supply considering alternative sourcing options via e.g. Germany, Poland or Italy.
- The benchmarking comparison case itself doesn't need to coincide with the most important / most likely use case, as long as other important use cases are also enabled and the comparison case is justified by market demand along alternative routes* and the need for an alternative sourcing option.

Overview of Benchmarking Results

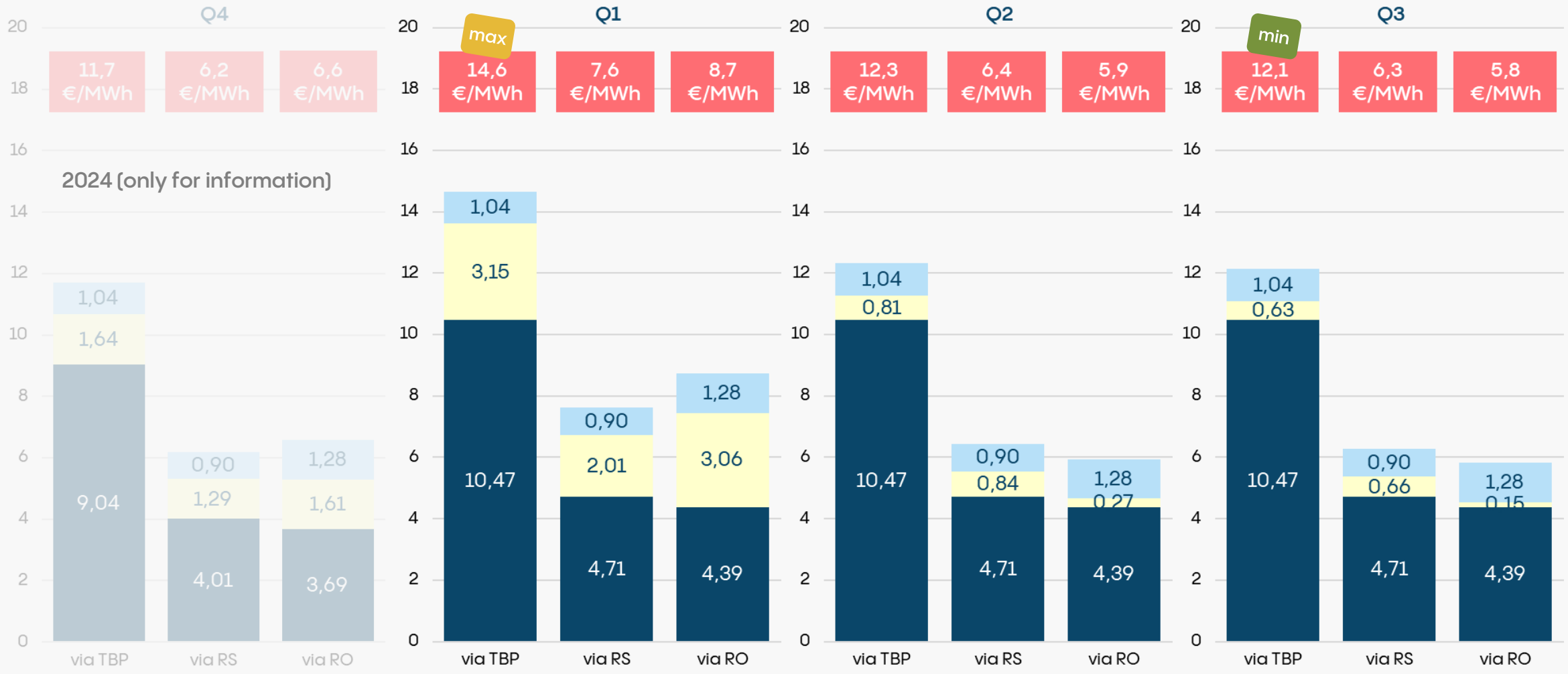
Current Tariffs (GY24/25 and CAL25)



* Maximum gap for route 1 would be Jan25 with +7,0 / +9,6 / +12,7 €/MWh (Q / M / DA)

Transport Cost Overview: Quarterly Product

Current Tariffs (GY24/25 and CAL25)



123 reference prices 123 multipliers & seasonal factors 123 flow-based charges

Transport Cost Overview: Monthly Product

Current Tariffs (GY24/25 and CAL25)

123 reference prices 123 multipliers & seasonal factors 123 flow-based charges

Summary observations:

- Time-factors along the route accumulate into huge transport cost part (& reserve prices are high already!)
- Effect lower in April-September period
- Flow-based charges make up rather small part of transport costs

Transport Cost Overview: Daily Product

Current Tariffs (GY24/25 and CAL25)

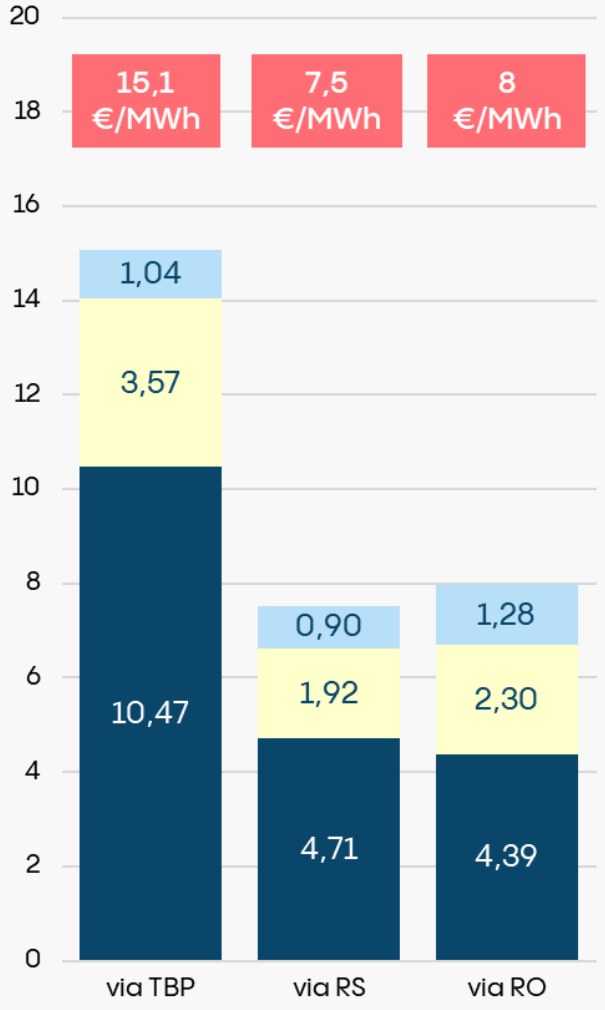
123 reference prices 123 multipliers & seasonal factors 123 flow-based charges

Summary observations:

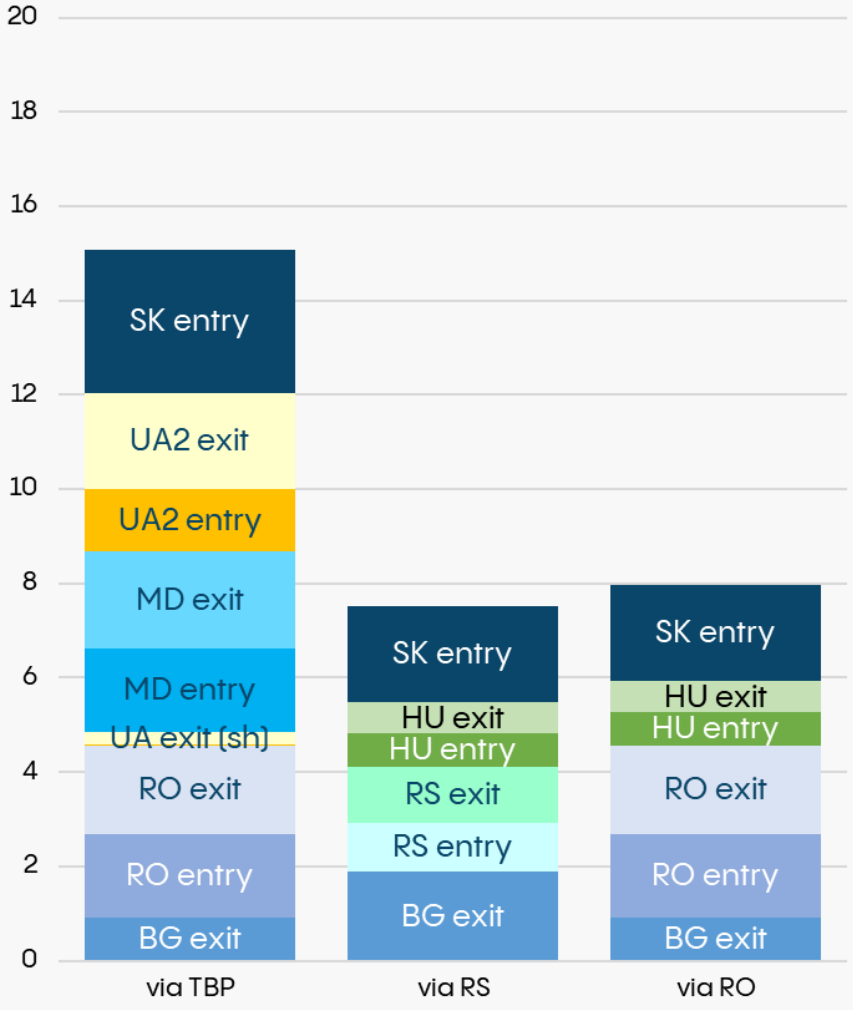
- Huge transport costs along the route mainly from aggregation of high day-ahead multipliers (note rescaled axis compared to monthly product)

Transport Cost Breakdown: Example March 2025

Overview



Detailed breakdown per IP



Benchmarking suggests

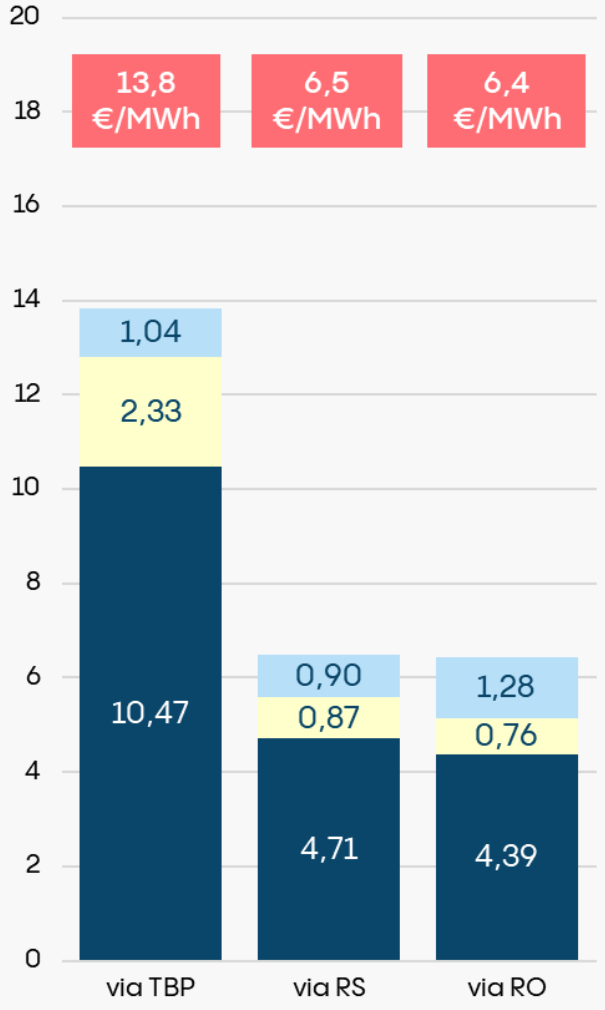
ca. 7,1-7,6 €/MWh reduction

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

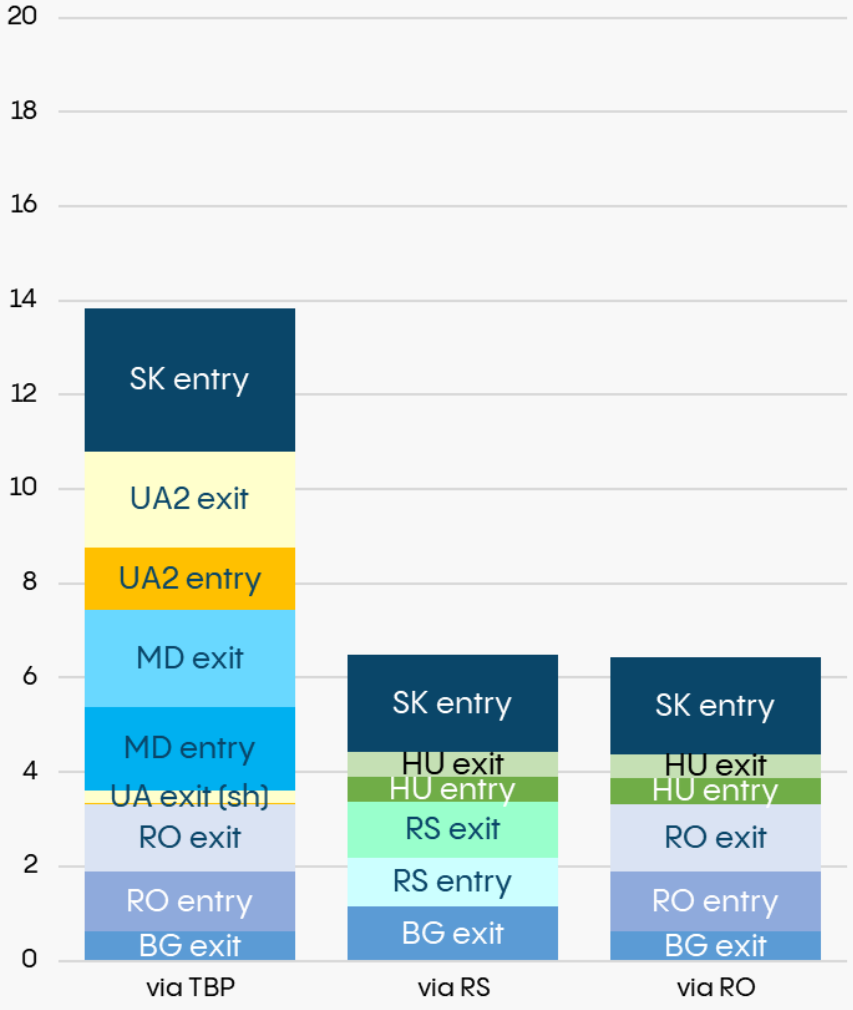
123 reference prices | 123 multipliers & seasonal factors | 123 flow-based charges

Transport Cost Breakdown: Example August 2025

Overview



Detailed breakdown per IP



Benchmarking suggests

ca. 7,4 €/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

123 reference prices 123 multipliers & seasonal factors 123 flow-based charges

Benchmark Values per Product

- Applying the benchmarking methodology leads to the following results, demonstrating that TTC for the TBP route are much higher in all cases.
- Furthermore, there is not a clear result between alternative routes – sometimes RS/HU route is more expensive than the RO/HU route, sometimes vice versa. However if the RO/HU route is more expensive, the markup versus the RS/HU route is often more pronounced.

TTC (total transport costs) [€/MWh]

Product	TBP route	RS/HU route	RO/HU route
Annual	11,50	5,61	5,67

TTC (total transport costs) [€/MWh]

Product	TBP route	RS/HU route	RO/HU route
Monthly (January)	18,07	8,44	11,30
Monthly (February)	16,27	8,13	9,20
Monthly (March)	15,08	7,52	7,97
Monthly (April)	14,46	7,38	7,13
Monthly (May)	13,85	6,62	6,30
Monthly (June)	13,11	6,33	5,57
Monthly (July)	13,48	6,49	6,05
Monthly (August)	13,84	6,48	6,43
Monthly (September)	13,50	6,78	6,10
Monthly (October)	14,22	7,12	6,93
Monthly (November)	15,01	7,52	7,84
Monthly (December)	16,74	8,30	9,96

TTC (total transport costs) [€/MWh]

Product	TBP route	RS/HU route	RO/HU route
Quarterly (Jan-Mar)	14,65	7,62	8,73
Quarterly (Apr-Jun)	12,31	6,44	5,95
Quarterly (Jul-Sep)	12,13	6,27	5,82
Quarterly (Oct-Dec)	13,64	7,25	7,63

TTC (total transport costs) [€/MWh]

Product	TBP route	RS/HU route	RO/HU route
Daily (January)	25,83	13,15	20,26
Daily (February)	22,23	12,65	16,18
Daily (March)	19,97	11,77	13,86
Daily (April)	18,72	11,51	12,24
Daily (May)	17,62	10,39	10,78
Daily (June)	16,22	9,97	9,40
Daily (July)	16,93	10,23	10,30
Daily (August)	17,66	10,22	11,06
Daily (September)	16,92	10,65	10,33
Daily (October)	18,31	11,15	11,89
Daily (November)	19,83	11,75	13,61
Daily (December)	23,20	12,94	17,62

benchmark value (higher value of both alternative routes)

Detailed Examples to demonstrate Benchmark Calculation

Monthly (January 2025)

Main TBP Route

IP	Dir	Country	Annual cap. tariff	Time factor part*	Flow-based charge	IPTC
			€/kWh/h/a	€/kWh/h/a	€/MWh	€/MWh
N/K	Exit	BG	3,40	3,64	0,27	**1,16**
N/K	Entry	RO	8,65	17,08	0,00	**3,26**
I/O	Exit	RO	7,30	14,40	0,39	**3,14**
I/O	Entry	UA	0,09	0,00	0,00	**0,01**
Ka	Exit	UA	2,13	0,00	0,00	**0,27**
Ka	Entry	MD	13,98	0,00	0,00	**1,77**
Gr	Exit	MD	16,16	0,00	0,00	**2,05**
Gr	Entry	UA	8,77	1,75	0,00	**1,33**
VK	Exit	UA	13,29	2,66	0,00	**2,02**
VK	Entry	SK	8,76	12,26	0,38	**3,05**
		Total BG→SK:	**82,52**	**51,80**	**1,04**	TTC = 18,07

Benchmarking Route via RS

IP	Dir	Country	Annual cap. tariff	Time factor part*	Flow-based charge	IPTC
K/Z	Exit	BG	8,42	9,02	0,27	**2,48**
K/Z	Entry	RS	6,30	1,89	0,00	**1,04**
H/K	Exit	RS	7,19	2,16	0,00	**1,19**
H/K	Entry	HU	3,33	2,52	0,12	**0,86**
VZ	Exit	HU	3,16	2,38	0,12	**0,83**
VZ	Entry	SK	8,76	4,38	0,38	**2,05**
		Total BG→SK:	**37,16**	**22,35**	**0,90**	TTC = 8,44

Δ=9,63

Δ=6,67

Benchmarking Route via RO

IP	Dir	Country	Annual cap. tariff	Time factor part*	Flow-based charge	IPTC
N/K	Exit	BG	3,40	3,64	0,27	**1,16**
N/K	Entry	RO	8,65	17,08	0,00	**3,26**
CS	Exit	RO	7,30	14,40	0,39	**3,14**
CS	Entry	HU	3,33	2,52	0,12	**0,86**
VZ	Exit	HU	3,16	2,38	0,12	**0,83**
VZ	Entry	SK	8,76	4,38	0,38	**2,05**
		Total BG→SK:	**34,60**	**44,40**	**1,28**	TTC = 11,30

Benchmark

Monthly (June 2025)

Main TBP Route

IP	Dir	Country	Annual cap. tariff	Time factor part*	Flow-based charge	IPTC
			€/kWh/h/a	€/kWh/h/a	€/MWh	€/MWh
N/K	Exit	BG	3,40	-0,64	0,27	**0,62**
N/K	Entry	RO	8,65	-1,82	0,00	**0,87**
I/O	Exit	RO	7,30	-1,53	0,39	**1,12**
I/O	Entry	UA	0,09	0,00	0,00	**0,01**
Ka	Exit	UA	2,13	0,00	0,00	**0,27**
Ka	Entry	MD	13,98	0,00	0,00	**1,77**
Gr	Exit	MD	16,16	0,00	0,00	**2,05**
Gr	Entry	UA	8,77	1,75	0,00	**1,33**
VK	Exit	UA	13,29	2,66	0,00	**2,02**
VK	Entry	SK	8,76	12,26	0,38	**3,05**
		Total BG→SK:	**82,52**	**12,68**	**1,04**	TTC = 13,11

Benchmarking Route via RS

IP	Dir	Country	Annual cap. tariff	Time factor part*	Flow-based charge	IPTC
K/Z	Exit	BG	8,42	-1,58	0,27	**1,13**
K/Z	Entry	RS	6,30	1,89	0,00	**1,04**
H/K	Exit	RS	7,19	2,16	0,00	**1,19**
H/K	Entry	HU	3,33	-0,61	0,12	**0,47**
VZ	Exit	HU	3,16	-0,58	0,12	**0,45**
VZ	Entry	SK	8,76	4,38	0,38	**2,05**
		Total BG→SK:	**37,16**	**5,65**	**0,90**	TTC = 6,33

Benchmark

Δ=6,79

Δ=7,54

Benchmarking Route via RO

IP	Dir	Country	Annual cap. tariff	Time factor part*	Flow-based charge	IPTC
N/K	Exit	BG	3,40	-0,64	0,27	**0,62**
N/K	Entry	RO	8,65	-1,82	0,00	**0,87**
CS	Exit	RO	7,30	-1,53	0,39	**1,12**
CS	Entry	HU	3,33	-0,61	0,12	**0,47**
VZ	Exit	HU	3,16	-0,58	0,12	**0,45**
VZ	Entry	SK	8,76	4,38	0,38	**2,05**
		Total BG→SK:	**34,60**	**-0,80**	**1,28**	TTC = 5,57

Note that time factor part can be negative in summer months.

* Part of capacity tariff stemming from time factors = annual cap. tariff * MP * SF - annual cap. tariff

General Logic to develop a Tariff Proposal

Key Principles:

"Competitive level of tariffs is demonstrated by existing usage"

"Avoid tariff reductions where tariffs have proven to be competitive"

Approach:

1. Benchmarking

see previous pages

2. Tariff Proposal

2.1. Define IPs subject to adjustment

2.2. Determine tariff adjustments

2.3 Analyse impact of tariff adjustments (volume scenarios)

Points subject to adjustments:

- Points where forecasted usage (demonstrated by past usage) is significant (i.e. >10% of technical capacity) should continue to provide revenues → avoid tariff reductions at these IPs.
- Reducing tariffs at points without expected usage under current tariffs can only increase revenues (through more attractive tariffs).
- Tariffs at points with low usage expectations may be reduced, the effects per TSO shall be analysed under conservative additional booking scenario, compensating the effects of tariff reductions with more attractive tariffs.

Tariff adjustments:

- There are different types of adjustments: Reference price reductions, conditional firm product discounts and modifying time factors (multipliers and seasonal factors).
- Adjustments shall lead to total transport costs along the TBP that are on a competitive level (as identified before). This means inter alia that all product periods have to to be analyzed.

Analyse impact of tariff adjustments:

- In order to obtain a view on the impact, different volume scenarios are analyzed that characterize different extents of TBP usage under more favourable conditions.

Details

Define IPs subject to Adjustment for the Tariff Proposal

Methodology:

- Points **where forecasted usage** (demonstrated by past usage) **is significant** (i.e. >10% of technical capacity) should continue to provide revenues → **avoid tariff reductions** at these IPs.
- Reducing tariffs at points without expected usage under current tariffs can only increase revenues (through more attractive tariffs).
- Tariffs at points with low usage expectations may be reduced, the effects per TSO shall be analysed under conservative additional booking scenario, compensating the effects of tariff reductions with more attractive tariffs.

Findings:

- Only IP Negru Voda I / Kardam (N/K) is currently expected to have **significant usage**, this is demonstrated inter alia by:
  - average usage of ~50% in the past months
  - request for all capacity product durations and even occurrence of auction premia
  - bookings extend only until 1.10.2025, however point will remain important for CEE/SEE gas sourcing in the future
  - Romanian side tariff consultation* forecasts bookings of ~141 GWh/d, distributed
- At IP Isaccea / Orlivka I, on the Romanian exit side ~4 GWh/d are expected (only monthly products) → below 10% of technical capacity.
- For all other IPs in the benchmarking scope, there are no forecasted bookings published and there are also no long-term bookings in place.
- Note: For Uzhorod / Velké Kapušany, transparency data still shows Gazprom long-term bookings, however they 1) are expected to be unpaid and 2) are subject to a different tariff regime (thus would not be affected by a benchmarking adjustment anyway).

Forecasted bookings for IP Negru Voda I / Kardam:

Product	Booking forecast	*Share*
Annual	87 GWh/d	*62%*
Quarterly	4 GWh/d	*3%*
Monthly	50 GWh/d	*35%*
Daily	0 GWh/d	*0%*
Total	141 GWh/d	~90% of techn. capacity

IP	Subject to adjustment?
Negru Voda I / Kardam	✗
Isaccea / Orlivka I	✓
Kaushany	✓
Grebenyky	✓
Veľké Kapušany	✓

* TAR NC Art. 26 consultation from 10 October 2024

Determine Tariff Adjustments

Methodology:

- There are different **types of adjustments**:
  - Conditional firm product (FCR) discounts
  - Reduction of time factors (multipliers and seasonal factors)
  - Reference price reductions
- Adjustments shall lead to total transport costs along the TBP that are on a competitive level (as identified before). This means inter alia that all product periods have to to be analyzed.
- FCR discounts shall take into account the reduced network usage compared to unrestricted firm capacity (e.g. distance-based) and shall be at least 10% (best practice in EU).

Findings:

- First of all the **FCR discounts** are determined*:
  - For exit Isaccea / Orlivka the assumed distance ratio is ca. 180 km (from Negru Voda) vs. ca. 450 km (coming from "center" of Romania)
    → discount of -60%
  - For Moldovan IPs the assumed distance ratio is ca. 65 km (Kaushany-Grebenyky) vs. ca. 130 km (from/to "center" of Moldova)
    → discount of -50%
- For the IPs to be adjusted, time factors are adjusted in the following way:
  - **Multipliers** are harmonized to lower values that shall still provide sufficient incentives for longer-period bookings while also making short-term usage attractive at the same time.
  - **Seasonal factors** (only concerns exit I/O) are not applied to simplify benchmarking adjustments calculation.
- To close the remaining gap to achieve the benchmark TTC (total transport costs) the **annual reserve price** for all IPs subject to adjustment is reduced by 50%.

Proposed tariff structure:

annual product

Interconnection point			Current TTC (€/MWh)	Proposal FCR discount	Proposal RP reduct.	Proposal Adj. TTC (€/MWh)
N/K	Exit	BG	0,70	-	-	0,70
N/K	Entry	RO	1,10	-	-	1,10
I/O	Exit	RO	1,31	-60%	-50%	0,57
I/O	Entry	UA	0,01	-**	-50%	0,01
Ka	Exit	UA	0,27	-**	-50%	0,14
Ka	Entry	MD	1,77	-50%	-50%	0,44
Gr	Exit	MD	2,05	-50%	-50%	0,51
Gr	Entry	UA	1,11	-	-50%	0,56
VK	Exit	UA	1,69	-	-50%	0,84
VK	Entry	SK	1,49	-	-50%	0,94
			11,50		Total:	5,80
					Benchmark:	5,67

no adjustments

only ~2% markup

Proposed multipliers:

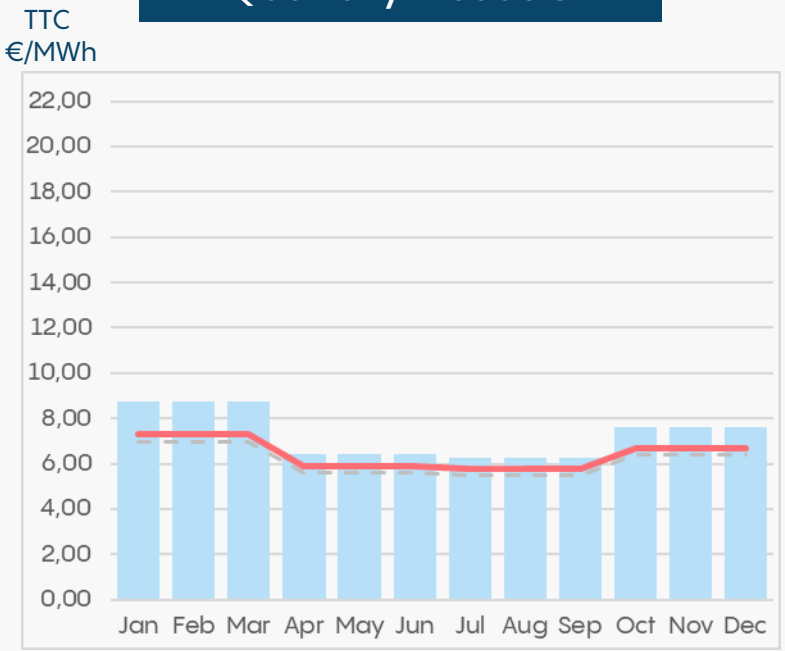
Q	M	DA
1,05	1,15	1,50

* Note that increasing the accuracy of figures will not change the overall picture for the TBP by much

** These Ukrainian IPs are already subject to discounted tariffs (see UA tariff annex)

Tariff Adjustments: Results per Product Period

Quarterly Products

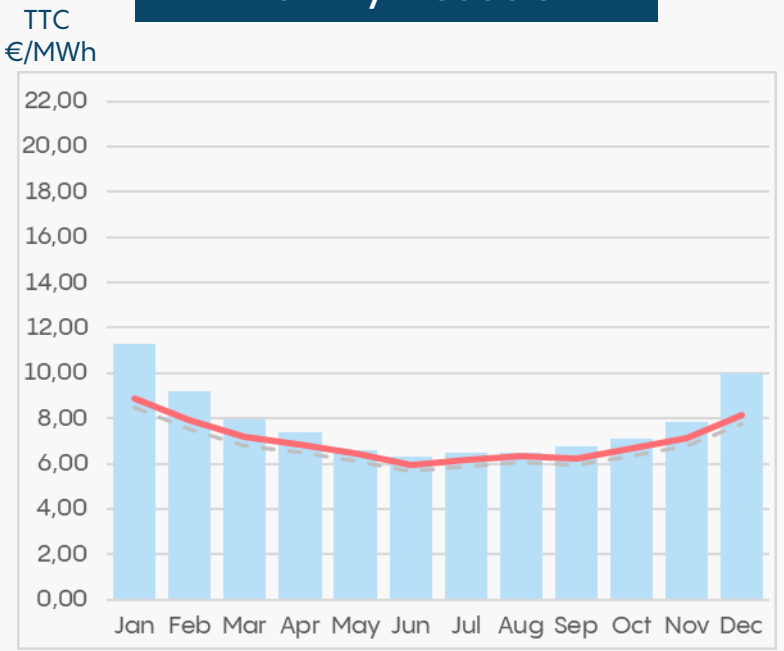


Benchmark reached for all products ✓

Multiplier for adjusted IPs: 1,05

→ could be increased further to 1,10 (would however reduce attractiveness for market uptake)

Monthly Products

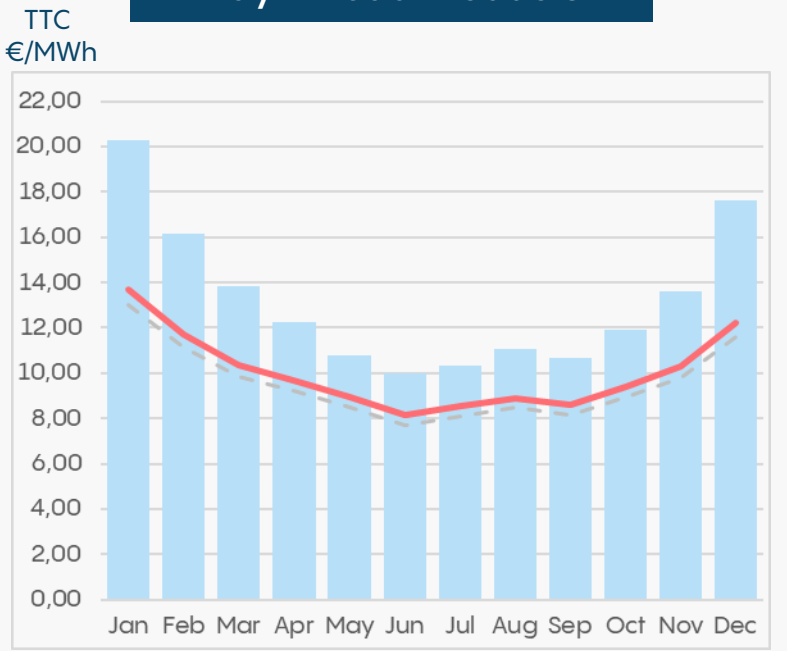


Benchmark reached for all products ✓

Multiplier for adjusted IPs: 1,15

→ could be increased further to 1,20 (would however reduce attractiveness for market uptake)

Day-Ahead Products



Benchmark reached for all products ✓

Multiplier for adjusted IPs: 1,50

→ could be increased further to 2,00 (would however reduce attractiveness for market uptake)

benchmark values — adjusted TTC - - - 5%-margin

Analyse Impact of Tariff Adjustments

Methodology to determine forecasted bookings:

- **Ukraine**: Data not available (due to martial law rules) → zero forecasted bookings assumed (Isaccea, Kaushany, Grebenyky, Uzhhorod)
- **Moldova**: Booking forecast not differentiated per point, thus assigned to domestic supply via Ungheni (current main import IP) → zero forecasted bookings assumed for Kaushany and Grebenyky
- **Romania**: Forecasted capacities for entry Negru Voda (~140 GWh/d) and exit Isaccea (~4,3 GWh/d) as per tariff consultation
- **Bulgaria**: For exit Negru Voda the Romanian forecast is applied for consistency (also no forecast available for IP in different capacity product categories).
- **Slovakia**: Based on approved price decision ca. 15 GWh/d non-legacy bookings are forecasted for entry VK.

Findings:

Scenario title		No additional bookings	Single LNG cargo	Quarterly LNG cargos	Monthly LNG cargos	Close to full usage (~80%)
Additional quantity		+0 TWh/a	+1,5 TWh/a	+6,0 TWh/a	+18 TWh/a	+2,1 bcm/a
Capacity products		-	1x monthly	4x monthly	12x monthly	4x quarterly
TSO	**Current forecasted TBP revenues* (M€/a)**	**Revenue change for adjusted tariffs (M€/a)**				
BTG	** 19,7	+/- 0	+0,6	+2,3	+6,9	+8,3
Transgaz	59,3	-1,7	+0,3	+6,4	+22,5	+27,7
GTSOU	0	+/- 0	+2,4	+9,6	+28,7	+31,8
VMTG	0	+/- 0	+1,5	+5,9	+17,8	+19,7
Eustream	5,5	-2,7	-1,9	+0,7	+7,6	+8,7
Total (BG → SK)			**+2,9**	**+24,9**	**+83,5**	**+96,3**
Total (GR LNG (Revithoussa) → UA)		-4,4	**+3,6**	**+27,8**	**+92,3**	**+104,1**
Total (GR LNG (Revithoussa) → SK)			**+5,8**	**+36,5**	**+118,4**	**+133,0**

Potential for significant additional revenues through higher usage!

* For the IPs within scope of the benchmarking

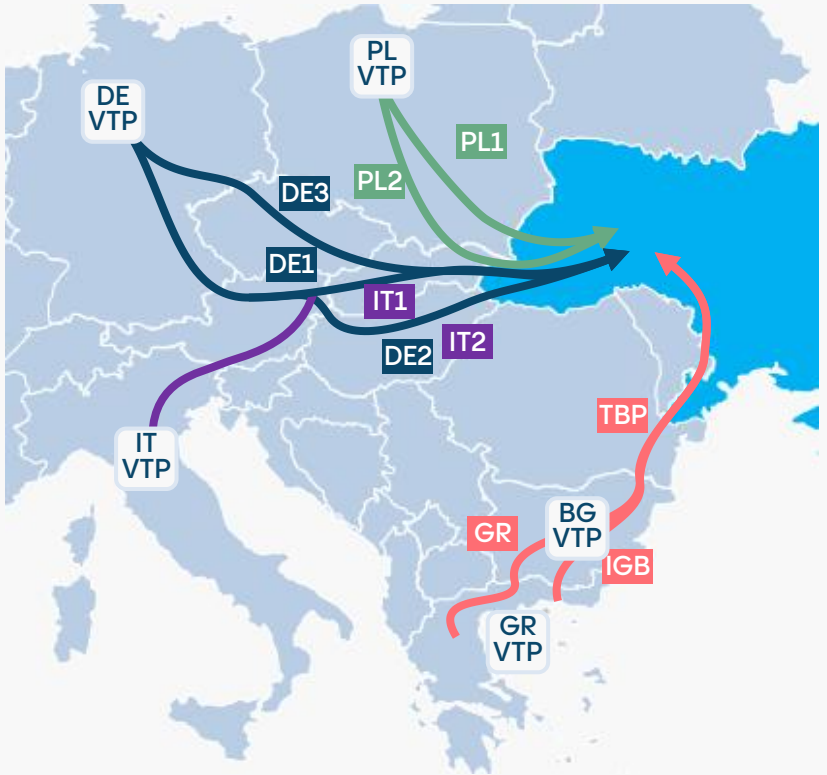
** Since no Bulgartransgaz booking forecast was available, the Transgaz booking forecast was applied at Negru Voda I / Kardam

Context of the Tariff Proposal for Ukrainian Supply

Supply Route TTC Methodology:

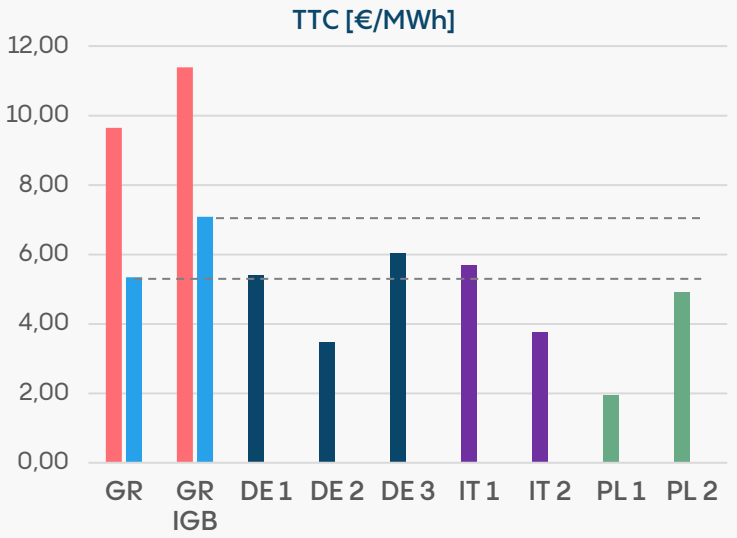
- Analysis illustrates Ukraine supply use cases
- All routes based on current tariffs for annual capacity products incl. flow-based charges.
- Transport costs were calculated from gas hub to target market ("entry-paid" at source market).
- Please note that this analysis doesn't indicate quantities available to Ukraine per route.

		TTC [€/MWh]	
Route	Route	Current	Red.*
Core TBP	BG>RO>UA>MD>UA	8,32	4,02
GR	GR>BG>RO>UA>MD>UA	9,65	5,34
GR IGB	GR>IGB>BG>RO>UA>MD>UA	11,38	7,08
DE 1	DE>AT>SK>UA	5,40	
DE 2	DE>AT>HU>UA	3,48	
DE 3	DE>CZ>SK>UA	6,03	
IT 1	IT>AT>SK>UA	5,69	
IT 2	IT>AT>HU>UA	3,77	
PL 1	PL>UA	1,93	
PL 2	PL>SK>UA	4,92	



Results:

- Current tariff levels show significant gap to transport costs on other routes.
- With the proposed benchmarking reductions TBP will become attractive from transport costs view also compared to alternative supply routes for Ukraine.
- At the same time the reductions lead to a moderate competition without replacing other key source markets or routes.



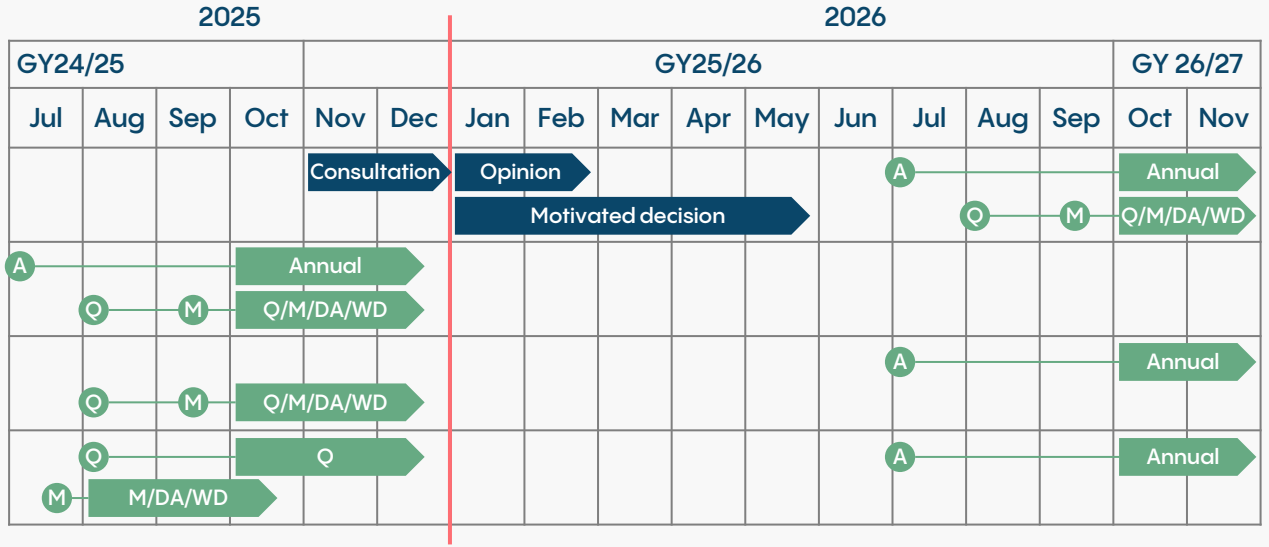
* Reduced tariffs subject to benchmarking and discounts for conditional capacity products

Implementation Timeline

Theoretical approaches to implementing the tariff proposal:

Formal compliance

- ✓ a) „By the books approach" (RPM amendment process)
- ✗ b) Fully implement tariffs before the annual auction
- ✗ c) Implement tariffs at least for GY25/26 non-annual products
- ✗ d) Implement current GY24/25 tariffs for non-annual products



Significant upcoming auction dates:

- 16 June → Jul25
- 7 July → GY25/26
- 21 July → Aug25
- 4 August → Q of GY25/26
- 18 August → Sep25
- 15 September → Oct25

Formal TAR NC requirements for amending the RPM:

Periodic consultation requirements under Art. 26(1):

- At least 2 months final consultation
- ACER/ECRB (as applicable) to provide opinion
- Motivated decision within 5 months of end of final consultation
- Publication of tariffs at least 1 month before the annual auction

Decision on implementation timeline with large impact on next +1 year

- SEE gas market integration
- Adding new sources
- Security of supply
- Contribution to end Russian gas imports
- Affordable energy prices in Europe

https://www.entsog.eu/capacity-allocation-mechanisms-nc#cam-nc-early-implementation-documents-and-auction-calendar

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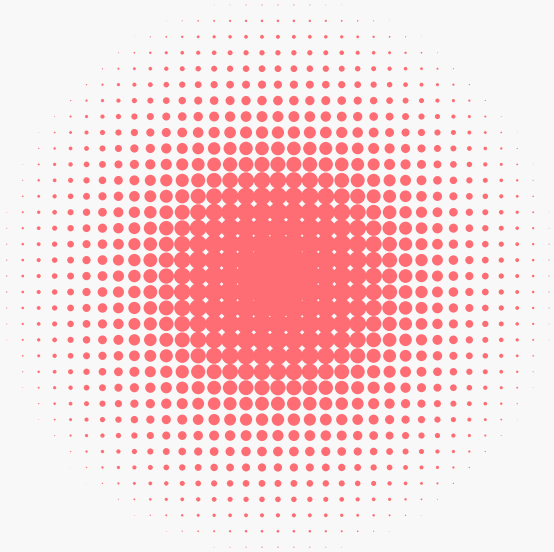


Outlook on regional Gas Market Measures

- **Trial phase to assess effectiveness of ad-hoc measures**
  - Over the course of next months/year, regional gas market development shall be closely monitored to determine effects on e.g. bookings, flows, trading liquidity and market spreads.
  - Since the proposed ad-hoc measures shall be complemented with other improvements like implementing clearing in SEE markets, reducing licensing and taxation barriers, increasing reliability of national regulation and implementing no-regret network development projects, development and integration of the SEE gas markets could progress considerably.
- **Prepare for more comprehensive solutions**
  - However, at a certain stage, evaluation may still show that there is simply too much market fragmentation and regional coordination is not strong enough. For this scenario more comprehensive solutions may be necessary.
  - Such comprehensive solutions will take more time to develop, coordinate and implement, Thus preparations should start right away so these solutions have already been described, analyzed and preferences have been clarified by the end of this year.
  - In the following, three distinct approaches to measures are presented that can also be potentially combined. Note that these were collected in stakeholder discussions and are described herein only broadly to serve as a starting point.

Measure:	*Main proposition:*
Ad-hoc measures	Commercial attractiveness of TBP increased through tariffs and conditional capacity products
Subsidized logistics service provider	Complexities, risks and costs of regional multi-IP gas logistics are managed by a separate entity
„CBCA" with zero IP tariffs	Costs of regional gas transmission system infrastructure are allocated between national markets
Full market merger	Single gas market for the SEE region

Please note that these measures have to be investigated in more detail in order to assess their commercial and regulatory feasibility.

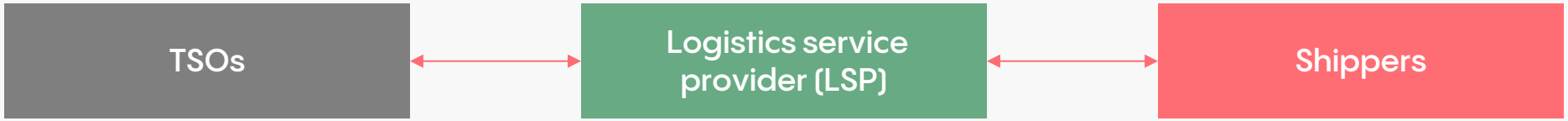
Subsidized Logistics Service Provider: Core Proposition

Disclaimer: Commercial and regulatory feasibility needs to be investigated in more detail.

Key requirements:
- Capacity revenues **cover regulated costs**
- Capacity offer under standard CAM NC / CMP rules and at regulated tariffs → for **individual IPs**

Proposition:
- Catalyst between **IP-based capacity supply** and **route-based capacity demand**
- **Risk shield** against route gaps
- SPV for potential tariff subsidies & operational comfort enhancements

Key requirements:
- **Commercially attractive** transport costs
- **Simplifications** to book & use capacity along routes → spanning **multiple IPs**
- **Risk mitigation** against route gaps



Subsidized Logistics Service Provider

Disclaimer: Commercial and regulatory feasibility needs to be investigated in more detail.

Approach Elements

- **Logistics service provider as demand aggregator**
  - An appointed entity (possibly under non-profit structure) creates a „tunnel" for various use cases that can be reserved by shippers on request.
  - The logistics serviceprovider would participate in respective TSO auctions to acquire the capacity required (demand assessed beforehand). Robust demand assessment (e.g. subject to binding requests with opt-out) keeps the service extent efficient.
- **Customers can acquire capacity for a full multi-IP route**
  - Interested participants could receive all the capacity needed for their use case in one go and thus not be subject to the risk of auction congestion along their desired route obstructing their case.
- **Full application of standard third-party access rules**
  - LSP acts as a standard market participant from view of regulators, TSOs and other market participants. Capacity booking, capacity rights obtained and tariffs paid are the same as for any other market participant. Depending on secondary capacity usage model the LSP is either subject to nominations & balancing or this is done by the acquiring participants (fully in line with standard network code rules).
  - Acquired capacity that is not accepted by scheme participants („stranded capacity") is surrendered to TSOs (standard CAM/CMP processes apply).
- **Financial stability of LSP to be ensured by subsidization**
  - Subsidization would be necessary to shield the LSP entity from commercial risks of stranded capacity.
  - Additional subsidization could be applied to enable (otherwise unattractive) use cases below regulated transmission tariffs, i.e. the LSP re-sells capacity acquired at a calculated loss to be covered by external funding.

Properties

- **Significant complexity reduction in the region**
  - Could solve the coordination problem across a larger number of IPs (e.g. Greece to Ukraine: 5-6 IPs)
- **Flexible configuration options**
  - Use cases: Service may be limited to predefined use cases, e.g. to recreate the "Route 1" product currently proposed by Vertical Corridor TSOs.
  - Extent: Can be limited e.g. in terms of max. capacity under this approach, also connected to the subsidy amount available per timeframe
  - Commitment level for customers: Can range from 1:1 mapping of binding demands to reserving forecasted demand
  - Temporal: Can be implemented in a pilot project with expiry date
  - Service depth: Can range from secondary capacity transfer only up to full handling of licensing/nominations/balancing in covered markets
  - Limiting the service offer can also be in view of minimizing market distortions.
- **No negative impact on gas TSOs and regulatory framework**
  - Full compliance with EU/EnC regulatory framework
  - Upside effects on TSO revenues due to increased market activity
- **Requires an appointed entity**
  - Entity selection and funding source to be defined
  - Governance structure can be designed to control implementation in line with regulatory principles and to avoid market distortions.

Subsidized Logistics Service Provider: Potential Setup

Disclaimer: Commercial and regulatory feasibility needs to be investigated in more detail.

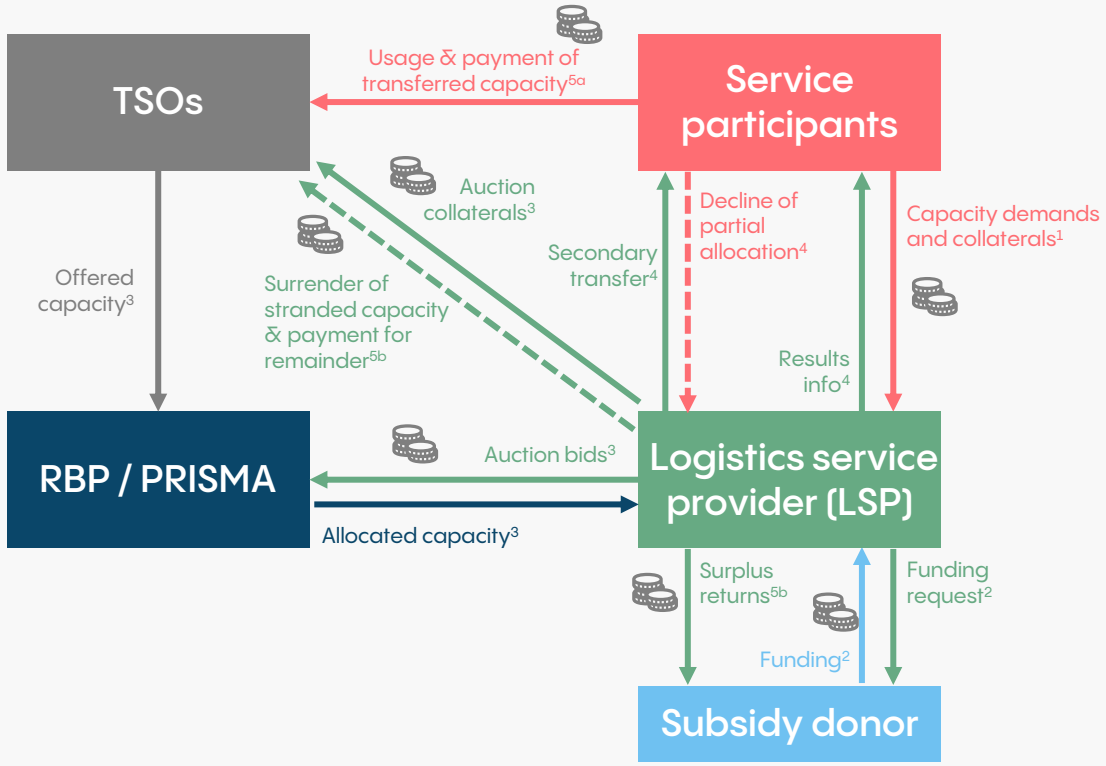
Basic configuration:

- 1:1 mapping to binding demand
- Regulated IP tariffs
- No transport services

Extension options:

- Primary capacity procured for forecasted demand
- Subsidized capacity below regulated tariffs
- Start-to-end transport services (shipper licenses, nominations, balancing)

Schematic interactions (simplified)



Process elements

Step	Description
1. Capacity demand aggregation	▪ LSP collects binding commitments and collaterals from interested parties (have to be valid network user for all TSOs on requested route)
2. Risk coverage	▪ LSP determines funding requirements to cover worst-case, provided by donor
3. Auction participation	▪ LSP bids in individual auctions and receives primary capacity, where successful
4. Capacity transfer	▪ LSP informs participants about results. Participants may reject incompletely fulfilled demands. Non-rejected capacities are transferred (via capacity platform, subject to TSO and receiving party acceptance)
5a. Standard usage of secondary capacity	▪ Service participants use secondary capacity received under standard TSO terms & conditions (e.g. nomination, allocation, payment).
5b. Management of stranded capacity	▪ LSP to surrender capacity remainders – if TSO would be able to sell (e.g. in day-ahead auctions), LSP's payment obligation ceases, else LSP to fulfil payments with risk funds. Unused risk funds to be returned to donor or earmarked for subsequent procedures.

Cross-border Cost Allocation oriented Approach

Disclaimer: Commercial and regulatory feasibility needs to be investigated in more detail.

Regulatory Background

- **CBCA is a widely used approach for new energy infrastructure**
  - *Regulation (EU) 2022/869 in Art. 16* stipulates, that (as soon as a project of common interest has reached sufficient maturity) project promoters shall submit to their NRAs an investment request including a request for a cross-border cost allocation.
  - The CBCA mechanism is a best-practise approach applied in over 40 cases all over the EU, both for gas and electricity infrastructure (and in the future also for hydrogen networks). It is meant to facilitate financing of new cross-border infrastructure with positive socio-economic welfare where lacking market committment doesn't allow for market-based financing of this infrastructure.

Approach Elements

- **Apply CBCA-oriented approach for selected existing gas transit infrastructures**
  - Where cross-border infrastructure is expected to significantly and consistently under-recover its costs through network user bookings (in particular, due to high tariffs), NRAs may decide to shift cost recovery (full or partial) towards CBCA.
  - Involved NRAs would decide to allocate costs of the cross-border infrastructure to their respective national gas networks user base according to benefits calculated consistent with the methodologies developed by ENTSOs under TEN-E regulation (EU) 2022/869.
- **Remove (or significantly reduce) auction reserve prices**
  - Similar as for electricity interconnectors reserve prices for auctions could be set to zero, only in case of congestion market participants would pay capacity-based tariffs (→ auction premia). Flow-based charges would remain to recover costs based on actual usage. If non-zero reserve prices would be set, their effects on cost/benefit allocation would need to be taken into account.

Properties

- **Facilitates market integration**
  - Enables market integration by eliminating (or reducing) commercial barriers for cross-border infrastructure subject to a CBCA.
  - Single market from traders' point of view as long as there is no congestion.
- **Infrastructure costs are allocated where the benefits are expected**
  - Infrastructure where there is currently no commercial demand (demonstrated by long-term bookings) can still have a role for market functioning (e.g. additional route in case of congestion) and security of supply (to enable reverse-flows or compensate for infrastructure outages).
  - Costs of the infrastructure is borne by the beneficiaries (incl. those not directly hosting the infrastructure) identified via a joint CBA methodology.
- **Cross-border alignment needs limited to infrastructure cost allocation**
  - Compared to a full market merger there is less regulatory and transmission system dispatching complexity involved since markets remain separate.
  - From TSO dispatching point of view – including balancing – nothing changes, as IPs would still be subject to booking and nominations while balancing would continue on a national level.
- **Current TEN-E revision ("Grids Package") as window of opportunity**
  - A CBCA approach for existing infrastructure is not in line with current regulation. However, on 13 May 2025 the Commission launched a call for evidence and open public consultation related to the legal framework on European grids. The feedback received will feed into the Commission's work on the European Grids Package, foreseen for publication before the end of 2025.

Full Market Merger

Disclaimer: Commercial and regulatory feasibility needs to be investigated in more detail.

Regulatory Background

- **New Gases Regulation* recognizes positive role of market mergers**
  - *Recital (15)* states inter alia that it should be possible for partial regional integration to encompass various balancing zones as an important step towards integrating fragmented gas markets and improving the functioning of the internal gas market.
  - Under *Art. 17 (4)* regulatory authorities are allowed to merge adjacent entry-exit systems, following public consultations.

Approach Elements

- **Merger of national market areas into one market area**
  - IPs previously connecting the markets disappear for network users, flows at these points are planned by TSOs jointly, subject to a cooperation agreement. IPs in the merged market area are not bookable anymore, tariff revenues shall be recovered from remaining points. Balancing to be performed jointly, implying the need for a coordinating role (market area manager).
  - There would only be one VTP, notwithstanding the possibility for multiple gas exchanges to provide their services at this VTP.
- **Application scope**
  - Various possibilities exist from merging only two adjacent markets (e.g. Ukraine and Moldova) up to a comprehensive merger from Greece to Ukraine or even integrating further towards Hungary/Slovakia. A different approach could also be to merge only parts of national transmission systems along an infrastructure corridor.
  - The most suitable application scope would need to be assessed and defined separately, taking into account costs/benefits (e.g. through larger market size and increased gas market functioning) of a merger and constraints (e.g. interconnection capacity).

Properties

- **Most comprehensive market integration tool**
  - All directly connected gas sources (depending on scope this could be LNG, production, AZ, TR, RU) compete on level playing field.
  - Single market price and aggregated market liquidity (sources & demands)
  - Highest abstraction for traders/shippers, since no interconnection points need to be booked/nominated.
- **Provides opportunity to remove many issues in one "Big Bang"**
  - SEE gas markets have been stricken with a multitude of market-related issues over the past. By following a comprehensive joint approach, many things can be corrected or set up on a new footing, including disposal of legacies.
- **Largest implementation complexity**
  - Requires complex cooperation mechanism between TSOs (determination of firm capacity amounts, balancing, flow scheduling, ...) and NRAs (inter-TSO compensation, oversight, market rules, ...).
  - Requires comprehensive change management in TSOs to implement redesigned processes into organization and IT systems, as well as amendment of existing capacity contracts and TSO terms & conditions.
  - This complexity implies a long implementation lead time in the range of 3 years upwards.
- **Role models exist in various forms and show that it is possible**
  - Intra-national market mergers (involving multiple TSOs in the same jurisdiction) are more common (e.g. Germany, Austria, France and Italy).
  - Cross-border market area mergers have been established e.g. in the Baltics (Finland, Estonia, Latvia and Lithuania) and BeLux (Belgium-Luxembourg).

* Regulation (EU) 2024/1789 from 13 June 2024 on the internal markets for renewable gas, natural gas and hydrogen

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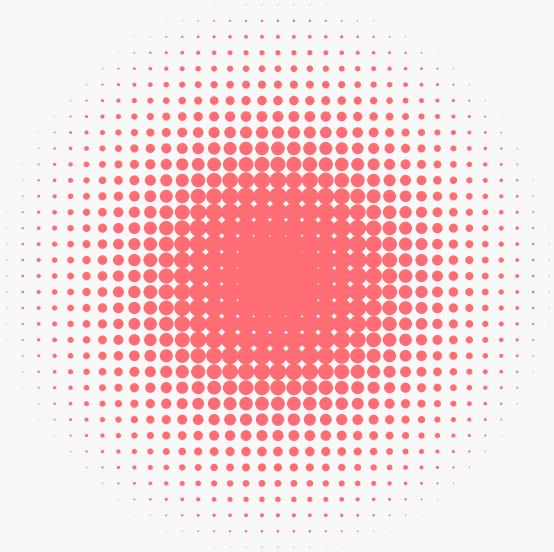


List of Abbreviations

Abbrev.	Meaning
BTG	Bulgartransgaz
CAM NC	Network code on capacity allocation mechanisms
CBCA	Cross-border cost allocation
CEE	Central-Eastern Europe
CMP	Congestion management principles
CWD	Capacity-weighted distance RPM
DA	Day-ahead
E/X	Entry/exit
FCR	Firm capacity with combination restrictions
GTSOU	Gas transmission system operator of Ukraine
GY	Gas year
ICGB	Interconnector Greece-Bulgaria company
IGB	Interconnector Greece-Bulgaria
IP	Interconnection point
IPTC	IP-based transport costs
LNG	Liquefied natural gas
LSP	Logistics service provider

Abbrev.	Meaning
MP	Multiplier
NRA	National regulatory authority
RBP	Regional booking platform
RPM	Reference price methodology
SEE	South-East Erope
SF	Seasonal factor
TAP	Trans Adriatic Pipeline
TAR NC	Network code on tariff setting methodologies
TBP	Trans Balkan Pipeline system
TEN-E	Trans-European networks for energy
TSO	Transmission system operator
TTC	Total transport costs
UGS	Underground gas storage
VMTG	Vestmoldtransgaz
VTP	Virtual trading point
WD	Within-day

List of Interconnection Points considered

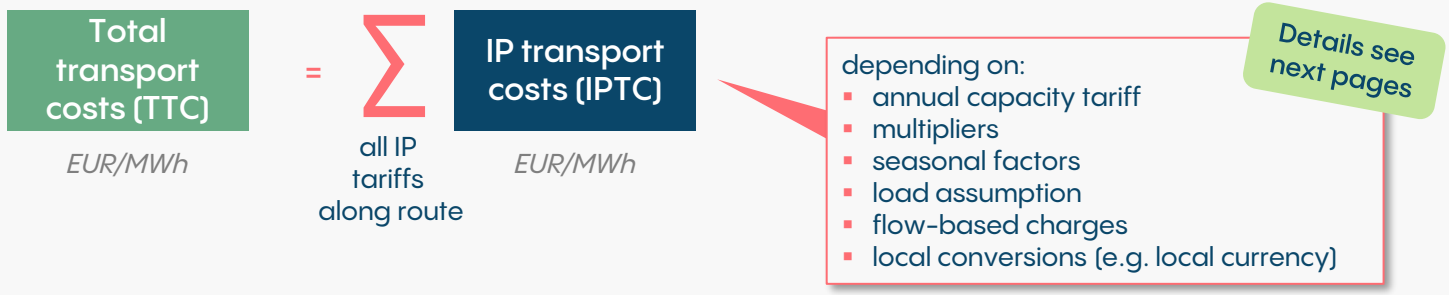
Annex: Abbreviations

ID	Interconnection Point	from		to
Be	Beregdaroc / Beregovo	FGSZ	→	GTSOU
Cs	Csanadpalota	Transgaz	→	FGSZ
G/R	Giurgiu / Ruse	Bulgartransgaz	→	Transgaz
Gr	Grebenyky	VMTG	→	GTSOU
Ho	Horgos / Kizkundorozsma 2	Gastrans	→	FGSZ
I/O	Isaccea / Orlivka	Transgaz	→	GTSOU
I/U	Iasi / Ungheni	Transgaz	→	VMTG
K/D	Kalotina / Dimitrovgrad	Bulgartransgaz	→	TransportSrbija
K/S	Kulata / Sidirokastro	DESFA	→	Bulgartransgaz
K/Z	Kireevo / Zaychar	Bulgartransgaz	→	Gastrans
Ka	Kaushany	GTSOU	→	VMTG
Ki	Kipi	BOTAŞ	→	DESFA
Ko	Komotini (DESFA)	DESFA	→	ICGB
LA	Amfitriti (LNG Alexandroupolis)	Gastrade	→	DESFA
LR	Agia Triada (LNG Revythoussa)	DESFA	→	DESFA
N/K	Negru Voda / Kardam	BTG	→	Transgaz
NM	Nea Messimvria	TAP	→	DESFA
S/M	Strandzha 2 / Malcoclar	TAGTAS	→	Bulgartransgaz
StZ	Stara Zagora	ICGB	→	Bulgartransgaz
T/M	Tekovo / Mediesu Aurit	Transgaz	→	GTSOU
VK	Veľké Kapušany & Budince	GTSOU	→	Eustream
VZ	Veľké Zlievce	FGSZ	→	Eustream

Calculation of Total Transport Costs for a selected Route

Introduction:

- **Transport costs approach**
  - For shippers & traders the transport costs are a key metric to determine whether transporting gas between adjacent regional markets could be commercially attractive (under given market conditions) or not.
  - In this regard it is not sufficient to only take annual capacity tariffs (i.e. neglecting multipliers, seasonal factors and flow-based charges) because in some cases they don't even show half the picture.
- **Calculating total ransport costs for a route**
  - To cover use cases involving a route that spans multiple IPs, individual IP transport costs (IPTC) have to be added up for the whole route.
  - These total transport costs (TTC) then indicate the transmission-related costs for a market participant of transporting one energy unit (MWh) along the chosen route.
- **Configuration parameters**
  - Period: For calculating the TTC in a certain time period (e.g. M=1, 2 or 3 for Q1/2025, M=10 for October 2024* or M=3 for day-ahead capacity of 23 March 2025)
    - * For this study, tariff data for the upcoming GY25/26 was not available in full. Most TSOs apply the gas year but some (UA, GR, SK) apply the calendar year, so for results covering transports in Oct-Dec their CAL2024 values were applied.
  - Route: The list of IPs considered for a selected route.
  - Location: The specific IP name (e.g. Grebenyky), the direction (e.g. entry) for which the tariff is determined and the TSO system* (e.g. Ukraine)

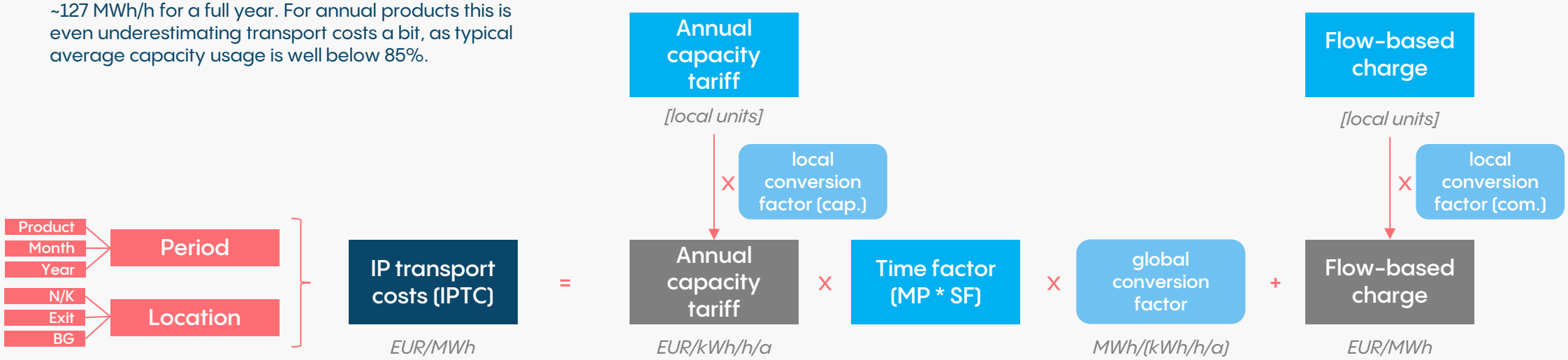


* For Bulgaria there are two TSOs (Bulgartransgaz and ICGB), in all other cases the TSO system is corresponding to the country itself.

Calculation of Transport Costs per IP

To determine transport costs at IPs multiple tariff elements have to be considered:

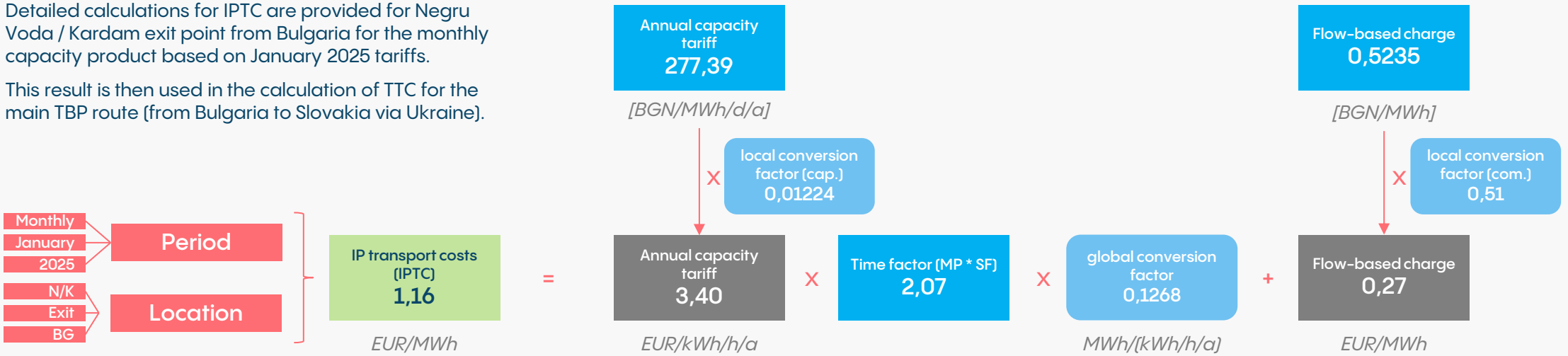
- **Annual capacity tariffs**
  - Reference price: Annual capacity tariffs are set/approved by national regulatory authorities based on a reference price methodology (RPM) that has to follow TAR NC.
  - Local conversions: To take into account different local currencies and capacity tariff units (e.g. Bulgartransgaz: BGN/MWh/d/a), which also may include volume conversions (e.g. Ukraine CAL25: EUR/1000m³(20°C)/d)
  - Global conversion factor of ~0,1268=1000/8760/LF for an assumed LF (load factor) of 90% → i.e. a network user intending to flow 1 TWh/a would book ~127 MWh/h for a full year. For annual products this is even underestimating transport costs a bit, as typical average capacity usage is well below 85%.
- **Time factors (Art. 13 TAR NC)**
  - Multipliers (MP): For non-yearly standard capacity products TSOs may apply factors to make short-term bookings relatively more expensive with the objective to increase long-term bookings instead. Multipliers for Q/M products may be up to 1,5 and for DA/WD products up to 3.
  - Seasonal factors (SF): These factors can be introduced to incentivize a shift of bookings to periods with less seasonal load expected. They shall be balanced (arithmetic mean) over the course of the gas year and obey the same range as the respective multipliers. Currently applied by BG, RO and HU.
- **Flow-based charge (Art. 4 para3. (a) TAR NC)**
  - Some countries (e.g. BG, RO, HU, SK) apply flow-based charges to cover variable costs of gas transport (i.e. costs mainly driven by the quantity of the gas flow).
  - Local conversions: Mainly local currency conversion, in case of SK instead of a fixed fee per MWh a percentage of 0,85% applies to all entry/exit quantities, here an assumption on the gas price was applied.



Example Calculation

Example setting

- Detailed calculations for IPTC are provided for Negru Voda / Kardam exit point from Bulgaria for the monthly capacity product based on January 2025 tariffs.
- This result is then used in the calculation of TTC for the main TBP route (from Bulgaria to Slovakia via Ukraine).



Main TBP Route

IP	Dir	Country	Annual cap. tariff (€/kWh/h/a)	Time factor part* (€/kWh/h/a)	Flow-based charge (€/MWh)	IPTC (€/MWh)
N/K	Exit	BG	3,40	3,64	0,27	**1,16**
N/K	Entry	RO	8,65	17,08	0,00	**3,26**
I/O	Exit	RO	7,30	14,40	0,39	**3,14**
I/O	Entry	UA	0,09	0,00	0,00	**0,01**
Ka	Exit	UA	2,13	0,00	0,00	**0,27**
Ka	Entry	MD	13,98	0,00	0,00	**1,77**
Gr	Exit	MD	16,16	0,00	0,00	**2,05**
Gr	Entry	UA	8,77	1,75	0,00	**1,33**
VK	Exit	UA	13,29	2,66	0,00	**2,02**
VK	Entry	SK	8,76	12,26	0,38	**3,05**
		Total BG→SK:	**82,52**	**51,80**	**1,04**	**TTC = 18,07**

* Part of capacity tariff stemming from time factors = annual cap. tariff * MP * SF - annual cap. tariff

Tariff Structure Overview

Transmission system (TSO)	Current tariff period	Flow-based charges applied?	Multipliers applied?	Seasonal factors applied?
Greece (DESFA)	CAL25	✗	✓	✗
Bulgaria (BTG)	GY24/25	✓ (fixed tariff)	✓	✓
Bulgaria (ICGB)	CAL25	✗	✓	✗
Romania (Transgaz)	GY24/25	✓ (fixed tariff)	✓	✓
Moldova (VMTG)	GY24/25	✗	✗ *	✗
Ukraine (GTSOU)	CAL25	✗	✓	✗
Serbia (Gastrans)	GY24/25	✗	✓	✗
Hungary (FGSZ)	GY24/25	✗ *	✓	✓
Slovakia (Eustream)	CAL25	✓ (variable tariff)	✓	✗

* But planned for GY25/26

Greece: DESFA selected Tariff Information

Tariffs for annual capacity products

Interconnection Point	Direction (DESFA)	Adjacent	Annual tariff	
			CAL24	CAL25
			€/kWh/h/a	€/kWh/h/a
Amfitriti	entry	Alexandroupolis LNG (Gastrade)	2,626	2,737
Agia Triada	entry	Revithoussa LNG (DESFA)	2,918	3,041
Nea Messimvria	entry	TAP	2,918	3,041
Kipi	entry	BOTAŞ	2,918	3,041
Komotini	exit	ICGB	3,870	4,668
Kulata / Sidirokastro	exit	Bulgartransgaz	4,300	5,187

Reference price methodology

- **Current tariff period:** Calendar year 2025
- **Methodology**: Postage stamp (previously CWD)
- **Entry/exit-split**: 50/50
- A 10% discount is offered on the Amfitriti – Komotini (Desfa/IGB) route product BZK for each point of the route. For entry point Amfitriti also a bFZK product is offered (same 10% discount).*

Multipliers

Quarterly	Monthly	Daily
1,3795	1,4799	2,9714

Conversions applied

- None

Seasonal factors

- None

Flow-based charges

- None

* Article 36 of the 6th Amendment of the Tariff Regulation (RAEWW's Decision E-59/2023, Government Gazette, B 4192/29.06.2023)

Bulgaria: Bulgartransgaz selected Tariff Information

Tariffs for annual capacity products

Interconnection Point	Direction (BTG)	Adjacent	Annual tariff GY24/25 €/kWh/h/a	Annual tariff GY25/26 €/kWh/h/a
Kulata / Sidirokastro	entry	DESFA	3,117	n.a.
Stara Zagora	entry	ICGB	2,804	n.a.
Strandzha 2 / Malkoclar	entry	TAGTAS	5,834	n.a.
Kalotina / Dimitrovgrad	exit	Srbijagas	3,742	n.a.
Kireevo / Zaychar	exit	Gastrans	8,418	n.a.
Negru Voda / Kardam	exit	Transgaz	3,395	n.a.
Ruse/Giurgiu	exit	Transgaz	3,493	n.a.

Multipliers

	Quarterly	Monthly	Daily
GY24/25	1,3	1,4	2,0
GY25/26	1,3	1,4	2,0

Flow-based charges*

	Entry €/MWh	Exit €/MWh
GY24/25	0,267	0,267
GY25/26	n.a.	n.a.

Seasonal factors

	GY24/25 Q	GY24/25 M/D	GY25/26 Q	GY25/26 M/D
Oct	115%	94%	111%	95%
Nov		113%		112%
Dec		139%		126%
Jan	135%	148%	134%	144%
Feb		147%		139%
Mar		109%		118%
Apr	83%	114%	88%	115%
May		78%		85%
Jun		58%		62%
Jul	66%	61%	68%	62%
Aug		59%		59%
Sep		79%		82%

Reference price methodology

- **Current tariff period:** Gas year 2024/2025
- **Methodology**: Matrix model
  - Reference prices are determined in such a way that the tariff sum of each pair of entry and exit points comes closest to total unit costs of network elements connecting them, while recovering regulated revenues from forecasted bookings.
  - This leads to individual tariffs for each entry/exit point.
- **Entry/exit-split**: 50/50
- **GY25/26 preliminary information**:
  - Multipliers and seasonal factors based on consultation from 16 April 2025

Conversions applied

- Conversion from published units [BGN/MWh/d/a]
- 1 BGN = 0,51 EUR
- → conversion factor for capacity-based tariffs = BGN/1000*24 ~ 0,012

* Consisting of a transmission component (0,2438 BGN/MWh) and a technological component (0,2797 BGN/MWh)

Bulgaria: ICGB selected Tariff Information

Tariffs for annual capacity products

Interconnection Point	Direction (ICGB)	Adjacent	Annual tariff	
			CAL24	CAL25
			€/kWh/h/a	€/kWh/h/a
Komotini	entry	DESFA	2,470	2,470
Stara Zagora	exit	Bulgartransgaz	12,062	12,062

Multipliers

Quarterly	Monthly	Daily
1,1	1,2	1,3

Seasonal factors

- None

Flow-based charges

- None

Conversions applied

- Conversion from published units [EUR/kWh/d/a]
- → conversion factor for capacity-based tariffs = 24

Reference price methodology

- **Current tariff period:** Calendar year 2025
- ICGB is exempted from Articles 41.6, 41.8, 41.10 of the Gas Directive (Dir. (EC) 2009/73/EC) for a period of 25 years.
- Tariffs are determined based on a published transmission tariff code and were initially fixed at start of commercial operation based on a long-term cost scenario and long-term capacity bookings. This also means that ICGB's business model is already fully* covered** from initial long-term capacity bookings.
  - * A tariff adjustment component covers deviations between actual and predicted operating expenditures.
  - ** For revenues from capacity bookings that would increase ICGB's internal rate of return above a certain (non-disclosed) value, a profit-sharing mechanism with all network users is in place.

Romania: Transgaz selected Tariff Information

Tariffs for annual capacity products

Interconnection Point	Direction (Transgaz)	Adjacent	Annual tariff	
			GY24/25	GY25/26
			€/kWh/h/a	€/kWh/h/a
Negru Voda / Kardam	entry	Bulgartransgaz	8,654	8,769
Ruse / Giurgiu	entry	Bulgartransgaz		
Csanadpalota	exit	FGSZ	7,297	7,325
Isaccea / Orlivka (interruptible)	exit	GTSOU		
Ungheni	exit	VMTG		

Multipliers

	Quarterly	Monthly	Daily
GY24/25	1,249	1,441	2,882
GY25/26	1,283	1,480	2,961

Flow-based charges

	Entry €/MWh	Exit €/MWh
GY24/25	-	0,388
GY25/26	-	0,360

Seasonal factors

	GY24/25		GY25/26	
	Q	M/D	Q	M/D
Oct	119%	85%	105%	73%
Nov		109%		109%
Dec		163%		133%
Jan	154%	206%	126%	158%
Feb		145%		117%
Mar		112%		102%
Apr	73%	89%	90%	100%
May		76%		95%
Jun		55%		76%
Jul	70%	67%	84%	82%
Aug		79%		93%
Sep		64%		77%

Reference price methodology

- **Current tariff period:** Gas year 2024/2025
- **Methodology**: Postage stamp
- **Entry/exit-split**: 50/50
- **GY25/26 preliminary information**:
  - Reference prices based on consultation from 10 October 2024
  - Multipliers and seasonal factors based on consultation from 29 April 2025

Conversions applied

- Conversion from published units [RON/MWh/h]
- 1 RON = 0,20 EUR
- → conversion factor for capacity-based tariffs = RON/1000*8760 ~ 1,7608

Moldova: VMTG selected Tariff Information

Tariffs for annual capacity products

Interconnection Point	Direction (VMTG)	Adjacent	Annual tariff	
			GY24/25	GY25/26
			€/kWh/h/a	€/kWh/h/a
IP entry	entry	GTSOU, Transgaz	13,976	11,599
IP exit	exit	GTSOU, Transgaz	16,160	14,964

Multipliers

	Quarterly	Monthly	Daily
GY24/25	1	1	1
GY25/26	1,05	1,10	1,15

Seasonal factors

- None

Flow-based charges

- None

Conditional product

- In the past a conditional product was consulted that should incentivize transit bookings thorugh a discounted tariff.
- At this stage (first half of May 2025) a decision on if and when to introduce this product has not been made yet.
- The values below are provided for reference to :

Cost assigned to T_{cond}	25,8 mio. MDL
Forecasted T_{cond} quantity	0,95 TWh
T_{cond} entry tariff	0,68 EUR/MWh
T_{cond} exit tariff	0,68 EUR/MWh

Reference price methodology

- **Current tariff period:** Gas year 2024/2025
- **Methodology**: CWD (capacity-weighted distance)
  - The RPM calculates three types of tariffs (IP entries, IP exits and domestic exits), thus for transmission purposes it looks like a postage stamp.
  - For transit, a volume of 4,7 GWh/d was assumed and for domestic supply 50,6 GWh/d.
- **GY25/26 preliminary information**:
  - Reference prices based on consultation from 5 May 2025
  - Multipliers and seasonal factors based on consultation from 5 May 2025

Conversions applied

- Conversion from published units [MDL/MWh/d/a]
- 1 MDL = 0,052 EUR
- → conversion factor for capacity-based tariffs = MDL/1000*24 ~ 0,00125

Ukraine: GTSOU selected Tariff Information

Tariffs for annual capacity products

Interconnection Point	Direction (GTSOU)	Adjacent	Annual tariff CAL24 €/kWh/h/a	Annual tariff CAL25 €/kWh/h/a
Grebenyky	entry	VMTG	* 0,000	8,768
(V)IPs to Hungary	entry	FGSZ	3,420	8,768
Isaccea / Orlivka	entry	Transgaz	3,420	8,768
CWR („shorthaul")			n.a.	0,088
Kaushany	exit	VMTG	0,868	2,132
(V)IPs to Slovakia	exit	Eustream	7,780	13,289

Multipliers

	Quarterly	Monthly	Daily
CAL24	1,1	1,2	1,45
CAL25	1,1	1,2	1,45

Seasonal factors

- None

Flow-based charges

- None

Reference price methodology

- **Current tariff period:** Calendar years 2025-2029
- **Methodology**: CWD (capacity-weighted distance)
  - Large tariff increase on 1.1.2025 due to end of Russian transit contract.
- **Capacity with restrictions (CWR)**:
  - Reduction multiplier for CWR for entry Isaccea / Orlivka: 0,01
  - Access to CWR of entry Isaccea / Orlivka requires booking of at least the same amount of capacity at entry Grebenyky.
  - For CWR multipliers are not applied.
  - CWR can only be booked for monthly products and shorter duration.
  - CWR is granted on interruptible basis only.

Conversions applied

- Conversion from published units [EUR/1000m³/d]
- 1 USD = 0,93 EUR for CAL24
- 1 m³(20°C) = 10,60 kWh/m³(20°C)
- → conversion factor for capacity-based tariffs = 365*24/1000/10,6 ~ 0,8264

* Required booking no less amount of capacity at entry point Isaccea 1 / Orlivka and exit point Kaushany in the respective period.

Hungary: FGSZ selected Tariff Information

Tariffs for annual capacity products

Interconnection Point	Direction (FGSZ)	Adjacent	Annual tariff GY24/25 €/kWh/h/a	Annual tariff GY25/26 €/kWh/h/a
Csanadpalota	entry	Transgaz	3,331	4,195
Horgos / Kizkundorozsma 2	entry	Gastrans		
Beregdaroc / Beregovo	exit	GTSOU	3,158	3,173
Veľké Zlievce	exit	Eustream		

Multipliers

	Quarterly	Monthly	Daily
GY24/25	1,07	1,17	1,90
GY25/26	n.a.	n.a.	n.a.

Flow-based charges

- None*

Seasonal factors

GY24/25

	Q	M/D
Oct	118%	96%
Nov		108%
Dec		149%
Jan	128%	150%
Feb		119%
Mar		115%
Apr	77%	92%
May		69%
Jun		70%
Jul	84%	82%
Aug		84%
Sep		85%

Reference price methodology

- **Current tariff period:** Gas year 2024/2025
- **Methodology**: Postage stamp
- **Entry/exit-split**: 50/50
- **GY25/26 preliminary information**:
  - Reference prices based on consultation from 9 November 2024

Conversions applied

- Conversion from published units [HUF/kWh/h/a]
- 1 HUF = 0,0025 EUR
- → conversion factor for capacity-based tariffs = 0,0025

* The consultation document from 9 November 2024 proposed an in-kind flow-based charge. However, MEKH notified to the Agency the intent to replace this charge with a monetary flow-based charge, following the stakeholder responses to the consultation.

Slovakia: Eustream selected Tariff Information

Tariffs for annual capacity products

Interconnection Point	Direction (Eustream)	Adjacent	Annual tariff CAL24 €/kWh/h/a	Annual tariff CAL25 €/kWh/h/a
Veľké Zlievce	entry	FGSZ	3,231	8,760
Veľké Kapušany / Budince	entry	GTSOU	6,369	8,760

Multipliers

	Quarterly	Monthly	Daily
to HU	1,5	1,5	2,993
to UA	1,6	2,4	

Seasonal factors

- None

Flow-based charges

- To be provided in-kind
- Alternatively settled financially (price for relevant day: CEGHIX + 0,25 €/MWh)

Entry €/MWh	Exit €/MWh
0,85%	0,85%

Reference price methodology

- **Current tariff period:** Calendar years 2025-2027
- **Methodology**: Postage stamp with benchmarking
  - A benchmarking adjustment is applied that de facto replaces the reference prices derived using the RPM at all points of the network:
    - IP postage stamp tariffs: 584,9 EUR/(MWh/d)/a
    - IP benchmarked tariffs: 365,0 EUR/(MWh/d)/a
  - This leads to systematic underrecovery, as stated by ACER in its analysis report (22 July 2024).
- **Entry/exit-split**: 37,5%/62,5%
- **Note**:
  - Additionally to capacity-based tariffs and flow-based charges a complementary revenue recovery charge (CRRC) of 0,101 EUR/MWh is applied for 2025.

Conversions applied

- Conversion from published units [EUR/MWh/d]
- → conversion factor for capacity-based tariffs = 24/1000

Serbia: Gastrans selected Tariff Information

Tariffs for annual capacity products

Interconnection Point	Direction (Gastrans)	Adjacent	Annual tariff	
			GY24/25	GY25/26
			€/kWh/h/a	€/kWh/h/a
Kirieevo / Zaychar	entry	Bulgartransgaz	6,300	n.a.
Horgos / Kizkundorozsma 2	exit	FGSZ	7,190	n.a.

Multipliers

	Quarterly	Monthly	Daily
GY24/25	1,2	1,3	2,0
GY25/26	n.a.	n.a.	n.a.

Seasonal factors

- None

Flow-based charges

- None

Reference price methodology

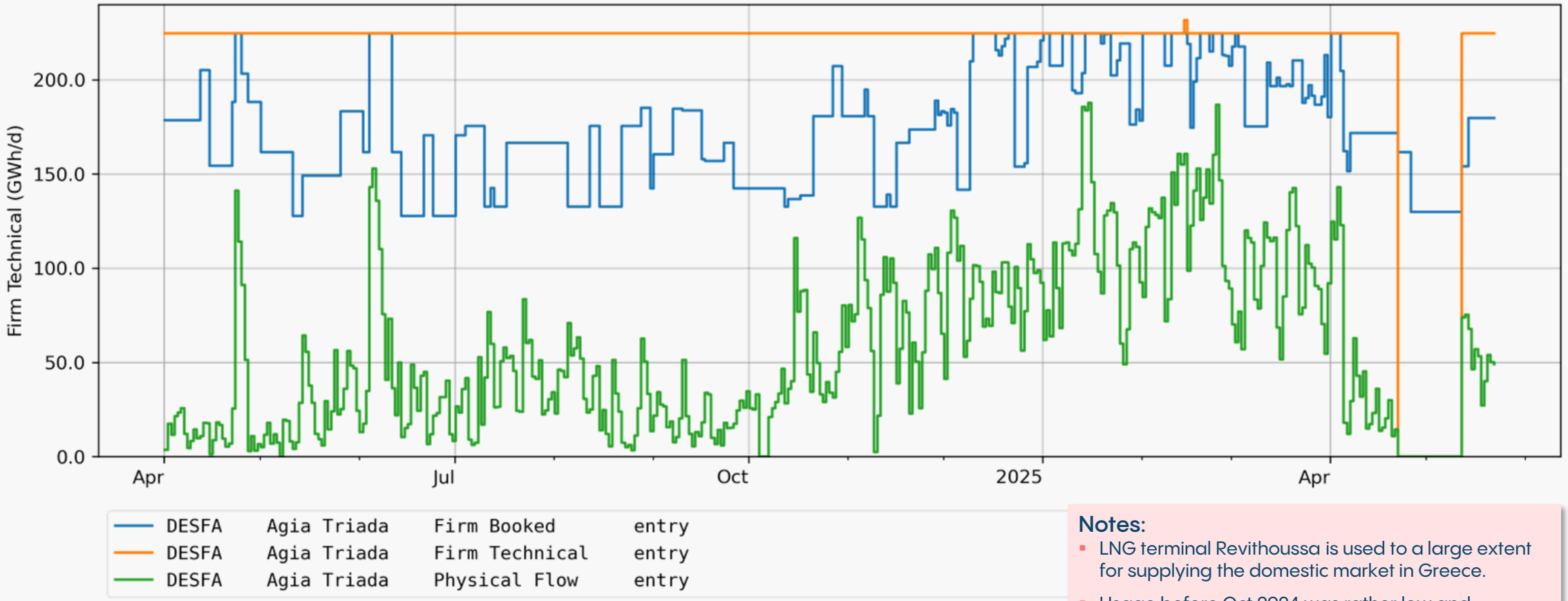
- **Current tariff period:** Gas year 2024/2025
- **Methodology**: Other (exempted)
  - Gastrans is exempted from the obligations to apply third-party access, regulated prices and the ownership unbundling (AERS Decision 40/2018-D-03/62 from 5.3.2019).
  - On 22.7.2024 Gastrans has taken its Decision on Setting the Initial Prices of Standard Capacity Products No. 05-101.
  - On 25.7.2024 National regulatory authority AERS confirmed that tariff are established in accordance with the Decision on Exemption and Tariff Methodology for Tariff Calculation for the Natural Gas Transportation Service.
  - Different rules apply for regulated tariffs (Srbijagas).

Conversions applied

- None (published units in [EUR/kWh/h/a])

Details on Bookings and Flows

DESFA | ICGB | BTG | TG | FGSZ | Eustream | VMTG



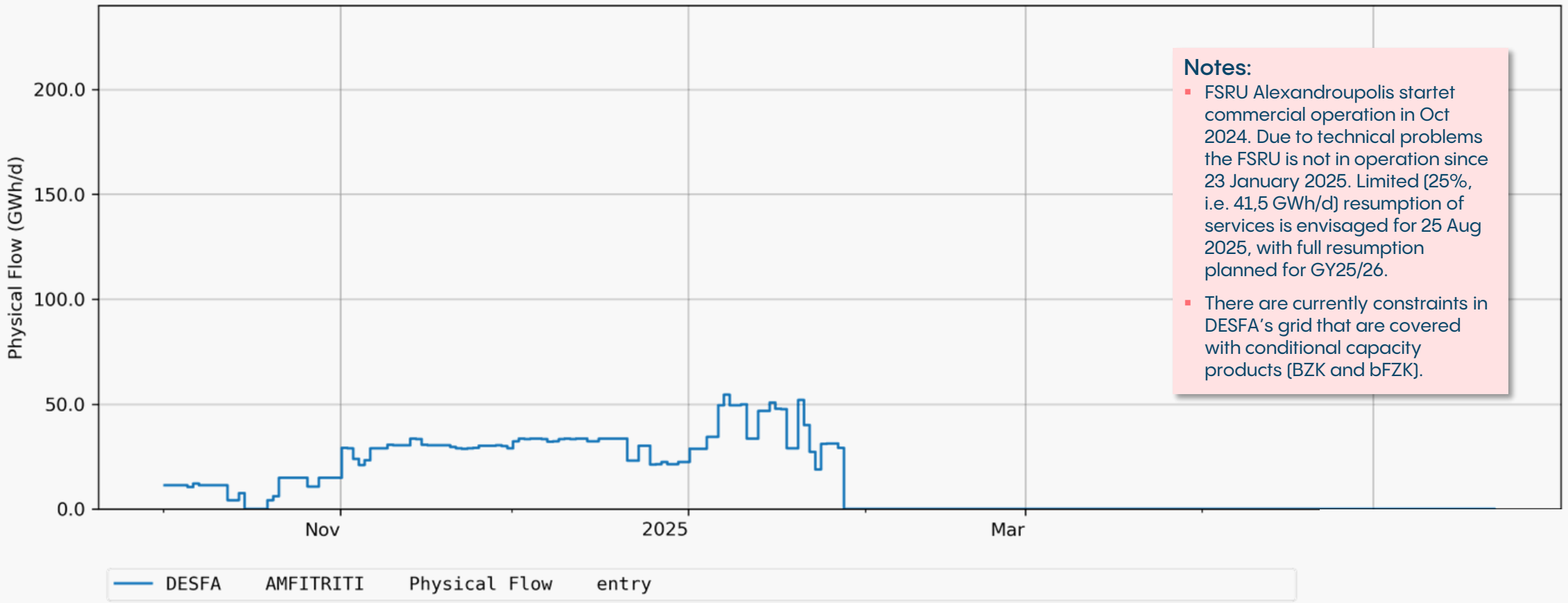
Notes:

- LNG terminal Revithoussa is used to a large extent for supplying the domestic market in Greece.
- Usage before Oct 2024 was rather low and afterwards also not going consistenly above 50%.

Data source: ENTSOG Transparency Platform
Data period: 1 April 2024 to 22 May 2025
Graph key IP names shortened

Details on Bookings and Flows

DESFA | ICGB | BTG | TG | FGSZ | Eustream | VMTG



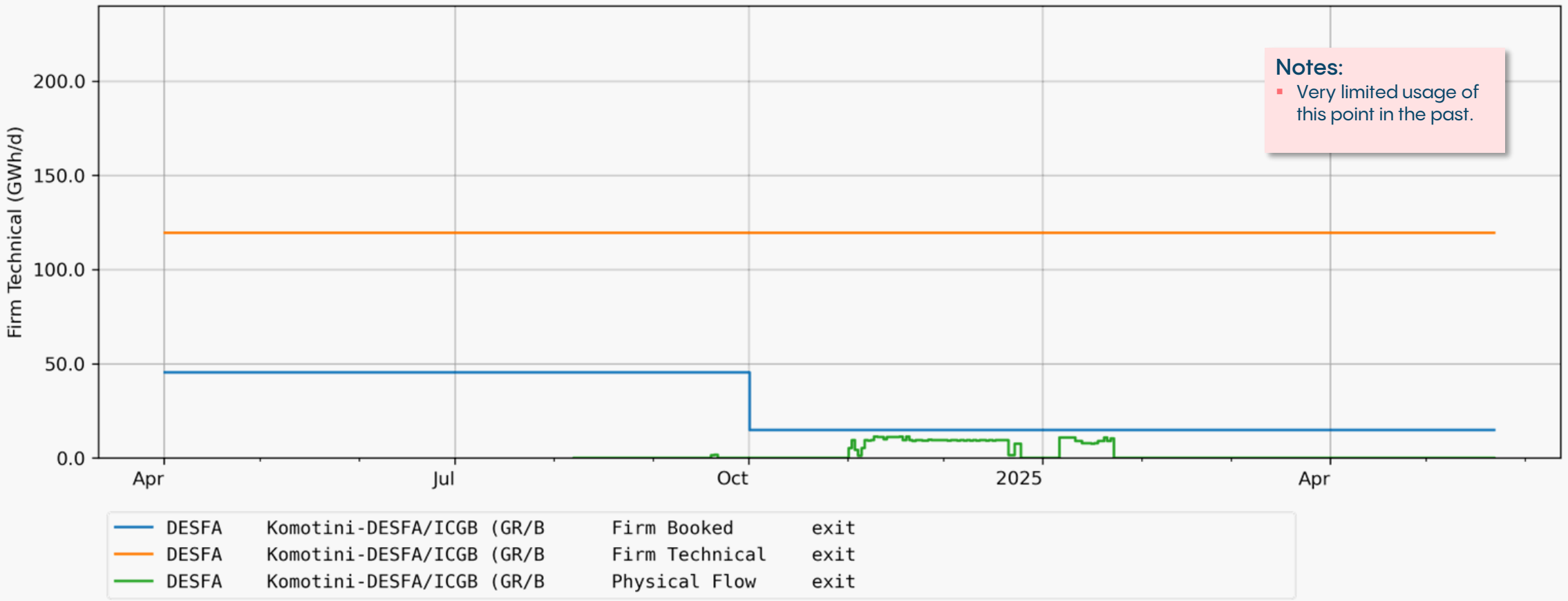
Notes:

- FSRU Alexandroupolis startet commercial operation in Oct 2024. Due to technical problems the FSRU is not in operation since 23 January 2025. Limited (25%, i.e. 41,5 GWh/d) resumption of services is envisaged for 25 Aug 2025, with full resumption planned for GY25/26.
- There are currently constraints in DESFA's grid that are covered with conditional capacity products (BZK and bFZK).

Data source: ENTSOG Transparency Platform
Data period: 1 April 2024 to 22 May 2025
Graph key IP names shortened

Details on Bookings and Flows

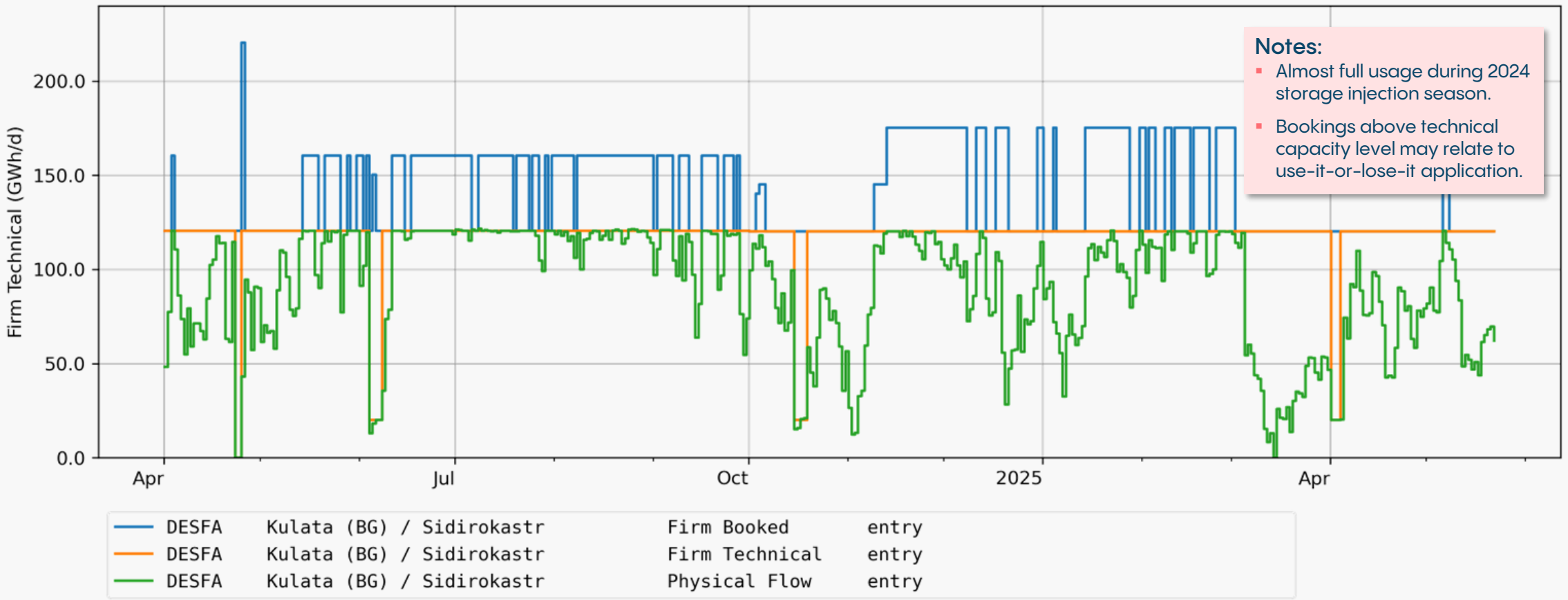
DESFA | ICGB | BTG | TG | FGSZ | Eustream | VMTG



Data source: ENTSOG Transparency Platform
Data period: 1 April 2024 to 22 May 2025
Graph key IP names shortened

Details on Bookings and Flows

DESFA | ICGB | BTG | TG | FGSZ | Eustream | VMTG



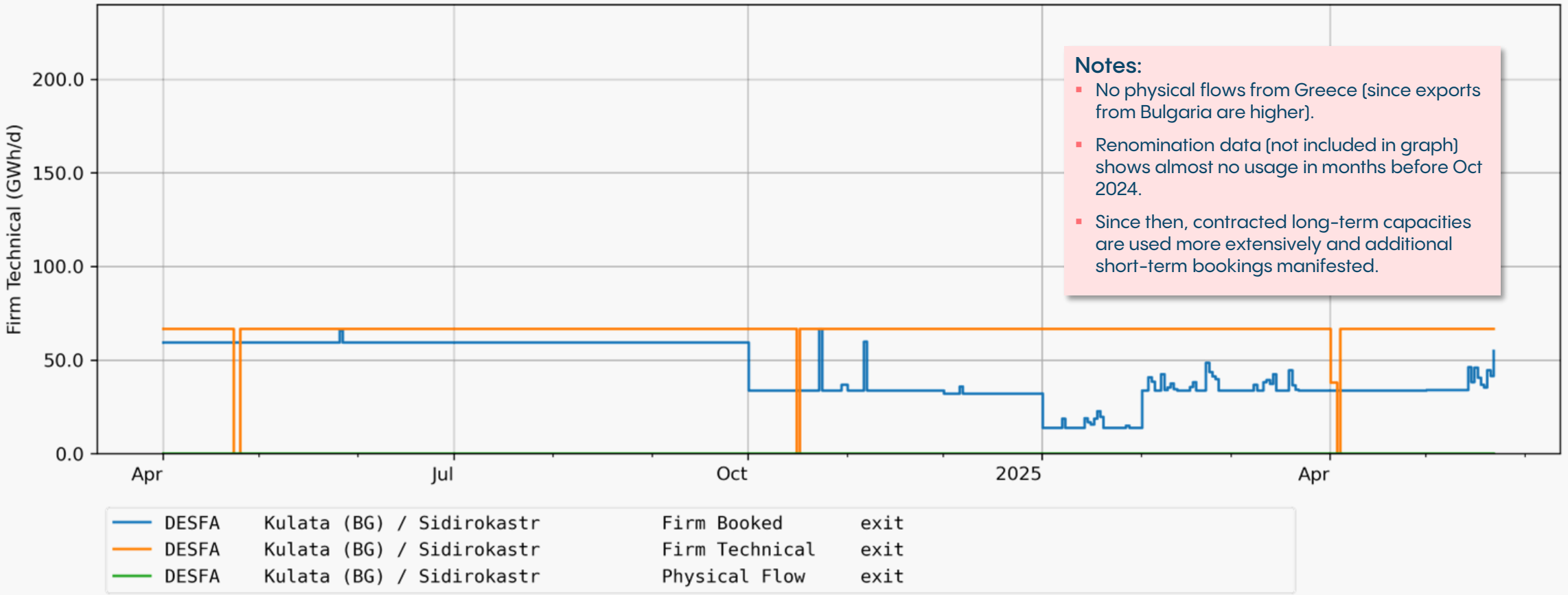
Notes:

- Almost full usage during 2024 storage injection season.
- Bookings above technical capacity level may relate to use-it-or-lose-it application.

Data source: ENTSOG Transparency Platform
Data period: 1 April 2024 to 22 May 2025
Graph key IP names shortened

Details on Bookings and Flows

DESFA | ICGB | BTG | TG | FGSZ | Eustream | VMTG



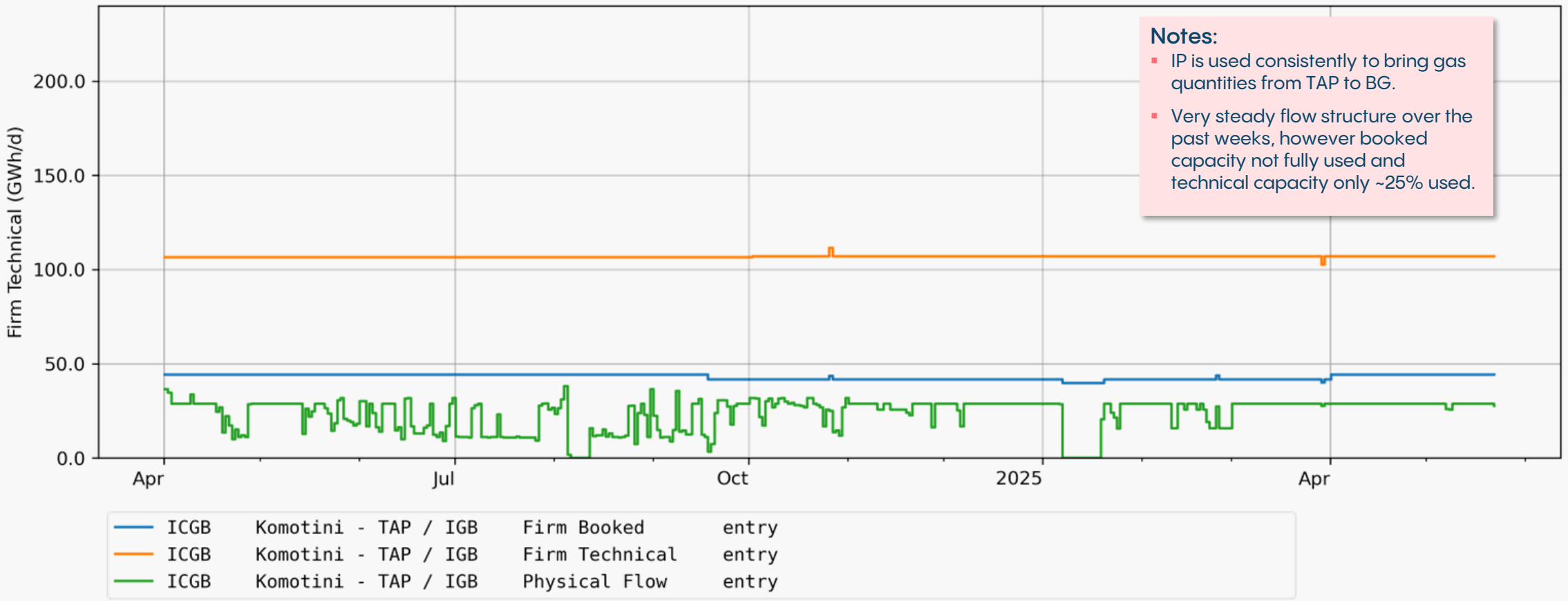
Notes:

- No physical flows from Greece (since exports from Bulgaria are higher).
- Renomination data (not included in graph) shows almost no usage in months before Oct 2024.
- Since then, contracted long-term capacities are used more extensively and additional short-term bookings manifested.

Data source: ENTSOG Transparency Platform
Data period: 1 April 2024 to 22 May 2025
Graph key IP names shortened

Details on Bookings and Flows

DESFA | ICGB | BTG | TG | FGSZ | Eustream | VMTG



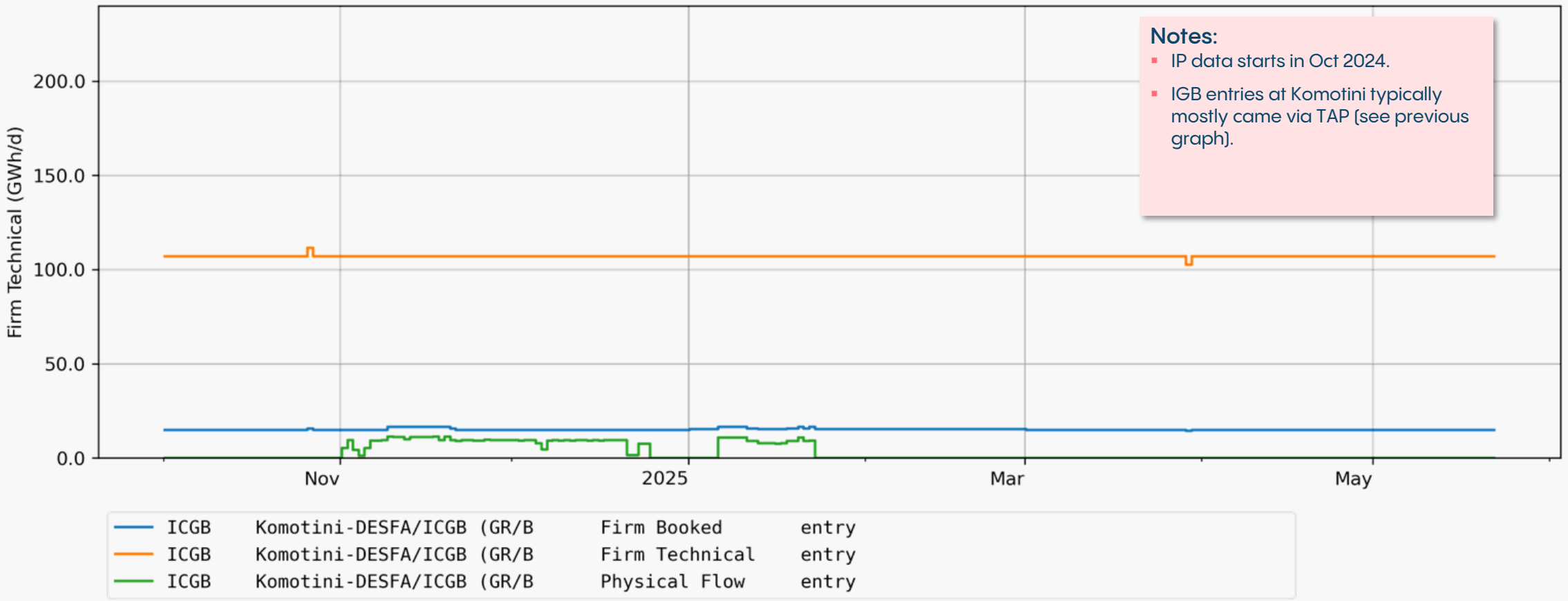
Notes:

- IP is used consistently to bring gas quantities from TAP to BG.
- Very steady flow structure over the past weeks, however booked capacity not fully used and technical capacity only ~25% used.

Data source: ENTSOG Transparency Platform
Data period: 1 April 2024 to 22 May 2025
Graph key IP names shortened

Details on Bookings and Flows

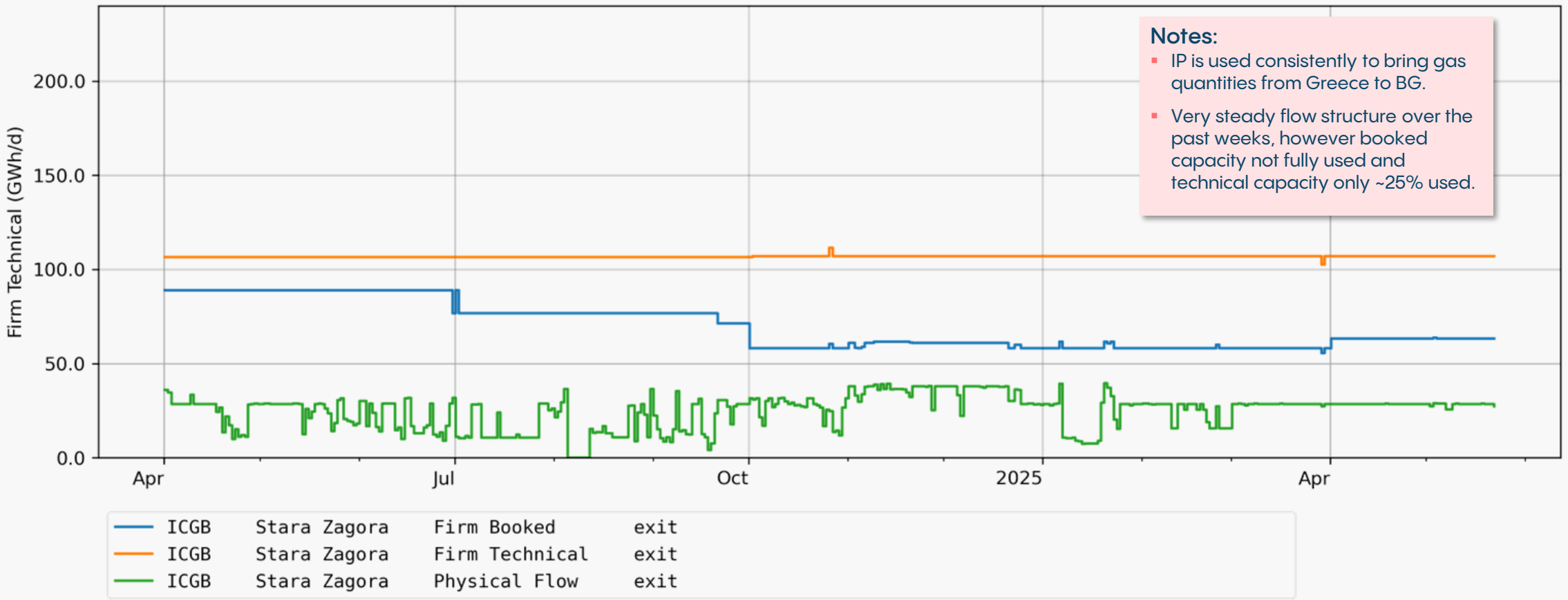
DESFA | ICGB | BTG | TG | FGSZ | Eustream | VMTG



Data source: ENTSOG Transparency Platform
Data period: 1 April 2024 to 22 May 2025
Graph key IP names shortened

Details on Bookings and Flows

DESFA | ICGB | BTG | TG | FGSZ | Eustream | VMTG



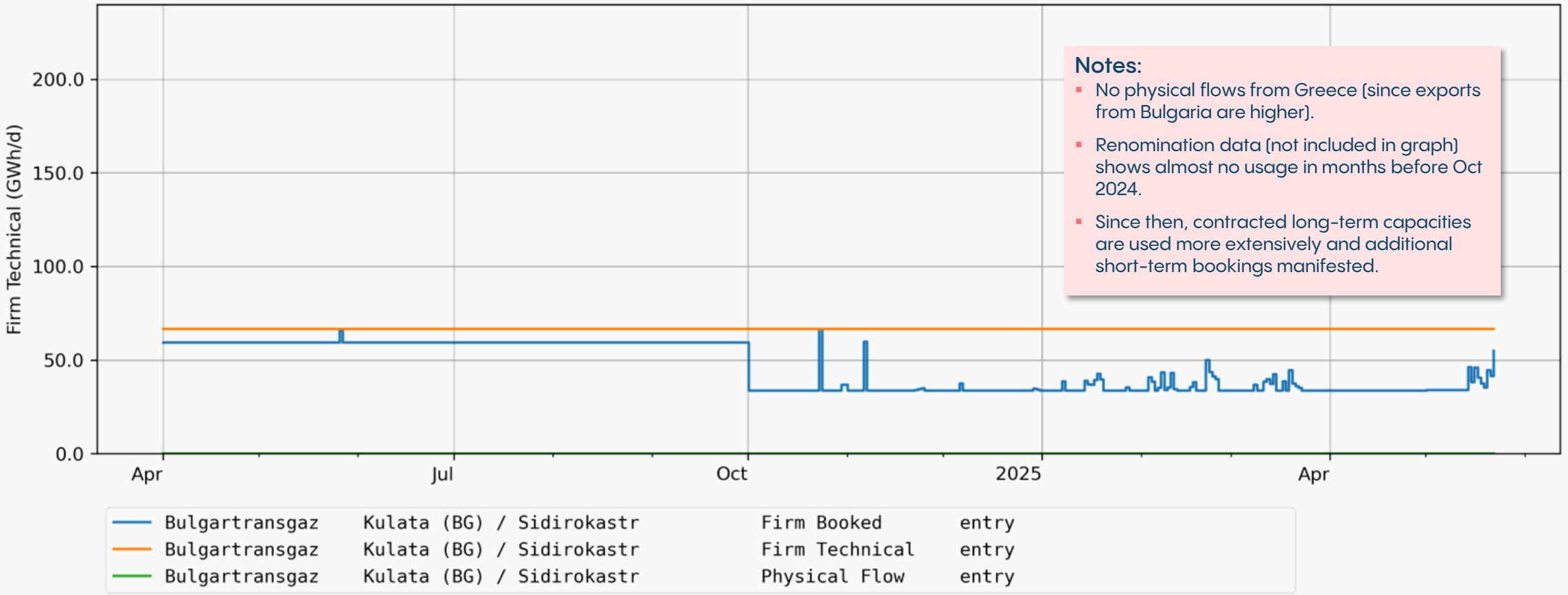
Notes:

- IP is used consistently to bring gas quantities from Greece to BG.
- Very steady flow structure over the past weeks, however booked capacity not fully used and technical capacity only ~25% used.

Data source: ENTSOG Transparency Platform
Data period: 1 April 2024 to 22 May 2025
Graph key IP names shortened

Details on Bookings and Flows

DESFA | ICGB | **BTG** | TG | FGSZ | Eustream | VMTG



Notes:

- No physical flows from Greece (since exports from Bulgaria are higher).
- Renomination data (not included in graph) shows almost no usage in months before Oct 2024.
- Since then, contracted long-term capacities are used more extensively and additional short-term bookings manifested.

Data source: ENTSOG Transparency Platform
Data period: 1 April 2024 to 22 May 2025
Graph key IP names shortened

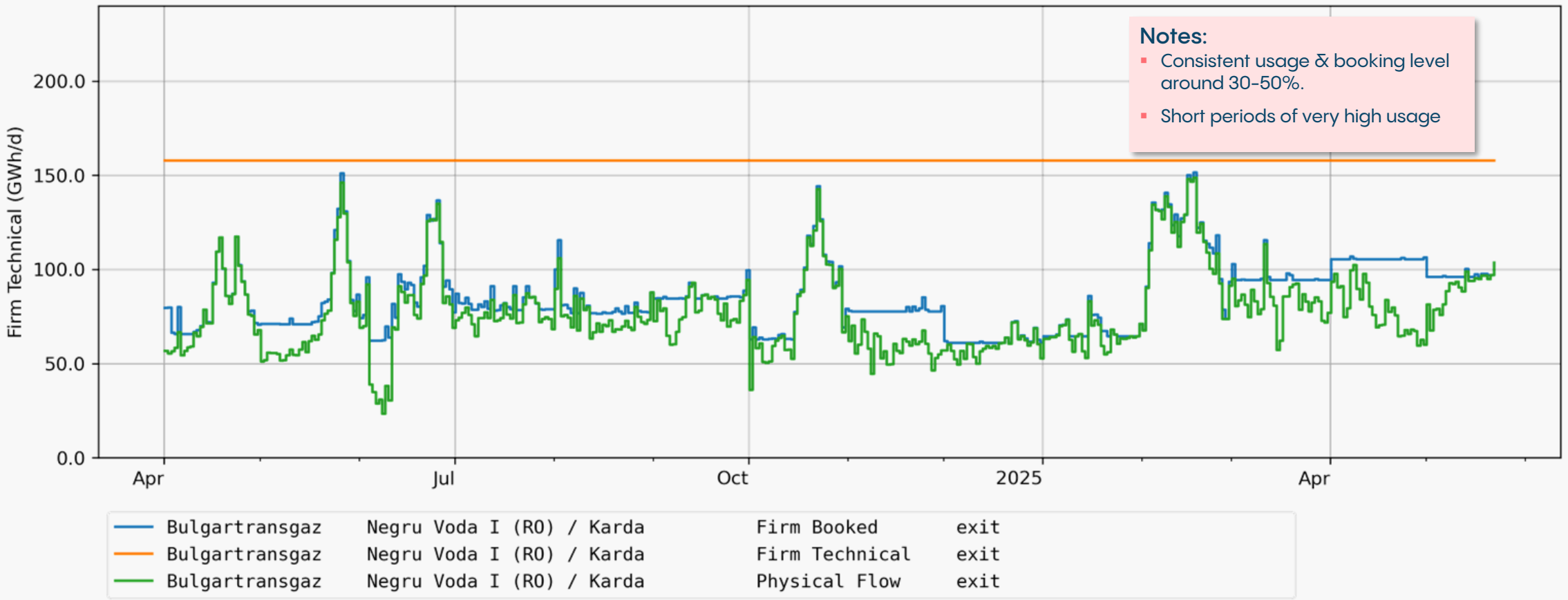
Details on Bookings and Flows

DESFA | ICGB | **BTG** | TG | FGSZ | Eustream | VMTG

Data source: ENTSOG Transparency Platform
Data period: 1 April 2024 to 22 May 2025
Graph key IP names shortened

Details on Bookings and Flows

DESFA | ICGB | **BTG** | TG | FGSZ | Eustream | VMTG

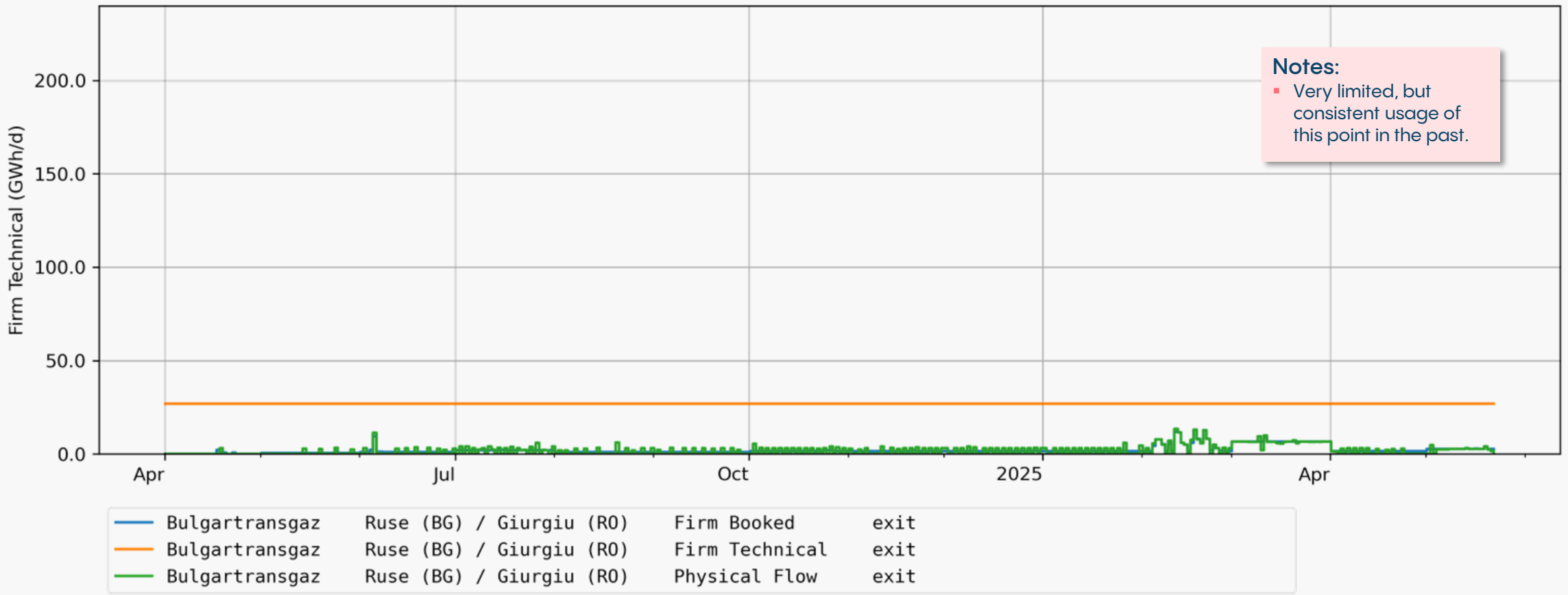


Note: IP only used in this direction.

Data source: ENTSOG Transparency Platform
Data period: 1 April 2024 to 22 May 2025
Graph key IP names shortened

Details on Bookings and Flows

DESFA | ICGB | **BTG** | TG | FGSZ | Eustream | VMTG

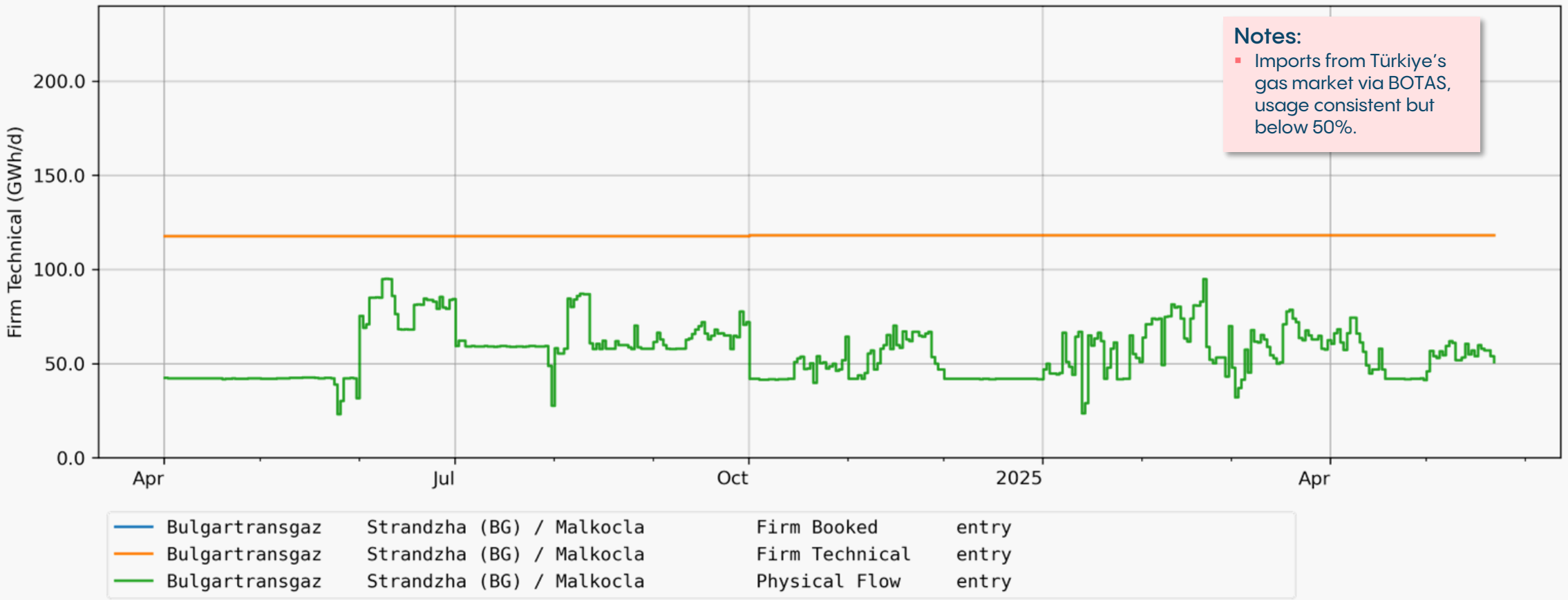


Note: IP only used in this direction.

Data source: ENTSOG Transparency Platform
Data period: 1 April 2024 to 22 May 2025
Graph key IP names shortened

Details on Bookings and Flows

DESFA | ICGB | **BTG** | TG | FGSZ | Eustream | VMTG



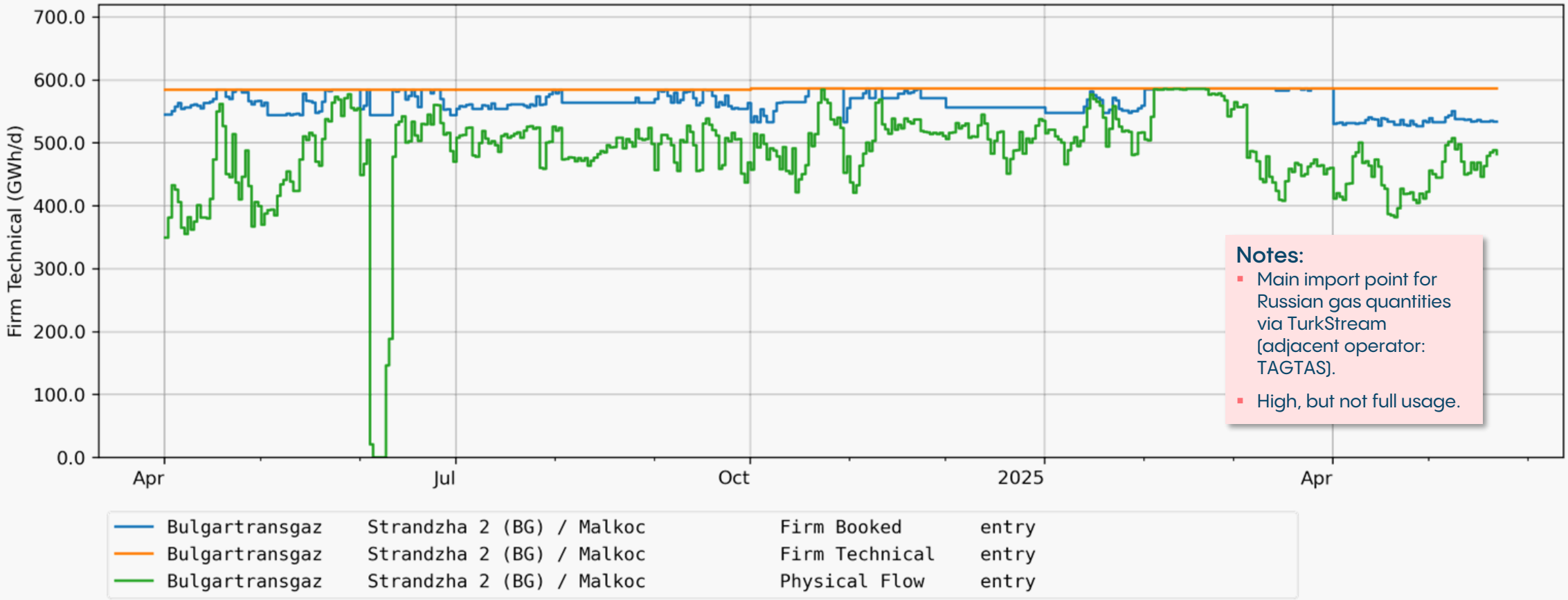
Note: IP only used in this direction.

Data source: ENTSOG Transparency Platform
Data period: 1 April 2024 to 22 May 2025
Graph key IP names shortened

Details on Bookings and Flows

DESFA | ICGB | **BTG** | TG | FGSZ | Eustream | VMTG

Note: Scale adjusted due to size of IP (standard scale: 200 GWh/d).



Notes:

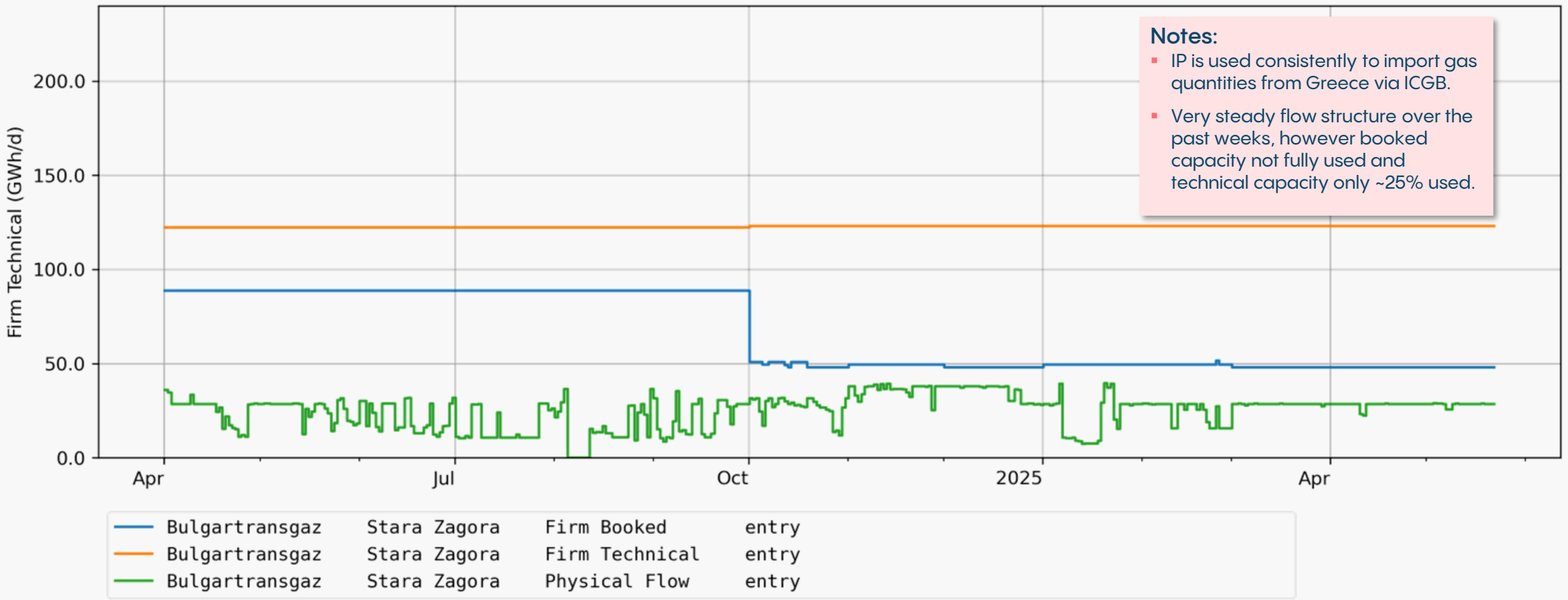
- Main import point for Russian gas quantities via TurkStream (adjacent operator: TAGTAS).
- High, but not full usage.

Note: IP only used in this direction.

Data source: ENTSOG Transparency Platform
Data period: 1 April 2024 to 22 May 2025
Graph key IP names shortened

Details on Bookings and Flows

DESFA | ICGB | **BTG** | TG | FGSZ | Eustream | VMTG



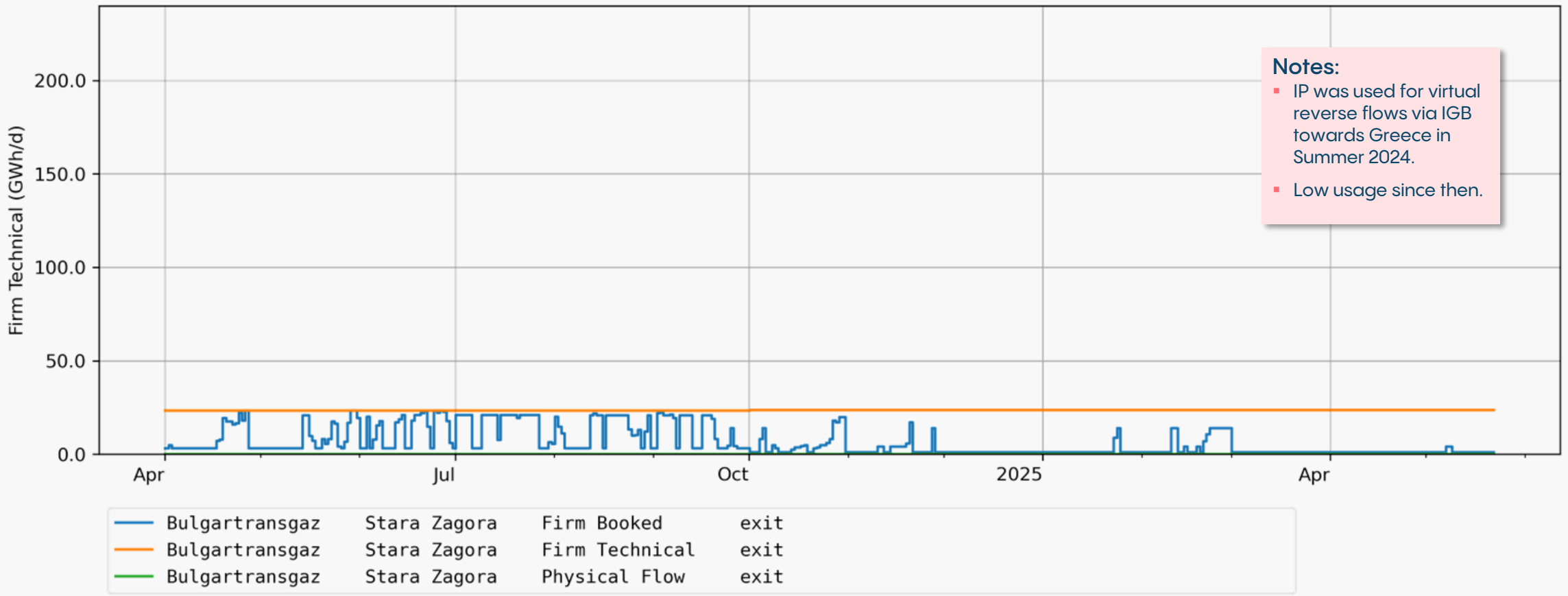
Notes:

- IP is used consistently to import gas quantities from Greece via ICGB.
- Very steady flow structure over the past weeks, however booked capacity not fully used and technical capacity only ~25% used.

Data source: ENTSOG Transparency Platform
Data period: 1 April 2024 to 22 May 2025
Graph key IP names shortened

Details on Bookings and Flows

DESFA | ICGB | **BTG** | TG | FGSZ | Eustream | VMTG



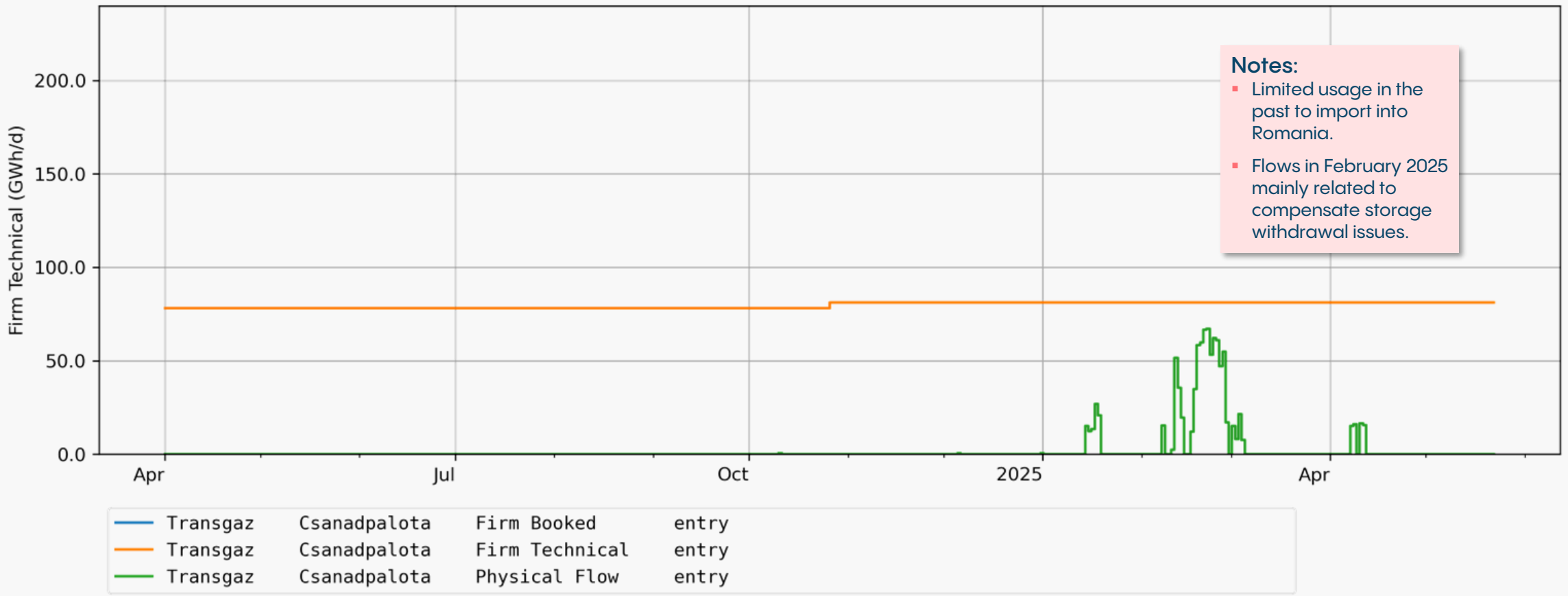
Notes:

- IP was used for virtual reverse flows via IGB towards Greece in Summer 2024.
- Low usage since then.

Data source: ENTSOG Transparency Platform
Data period: 1 April 2024 to 22 May 2025
Graph key IP names shortened

Details on Bookings and Flows

DESFA | ICGB | BTG | **TG** | FGSZ | Eustream | VMTG



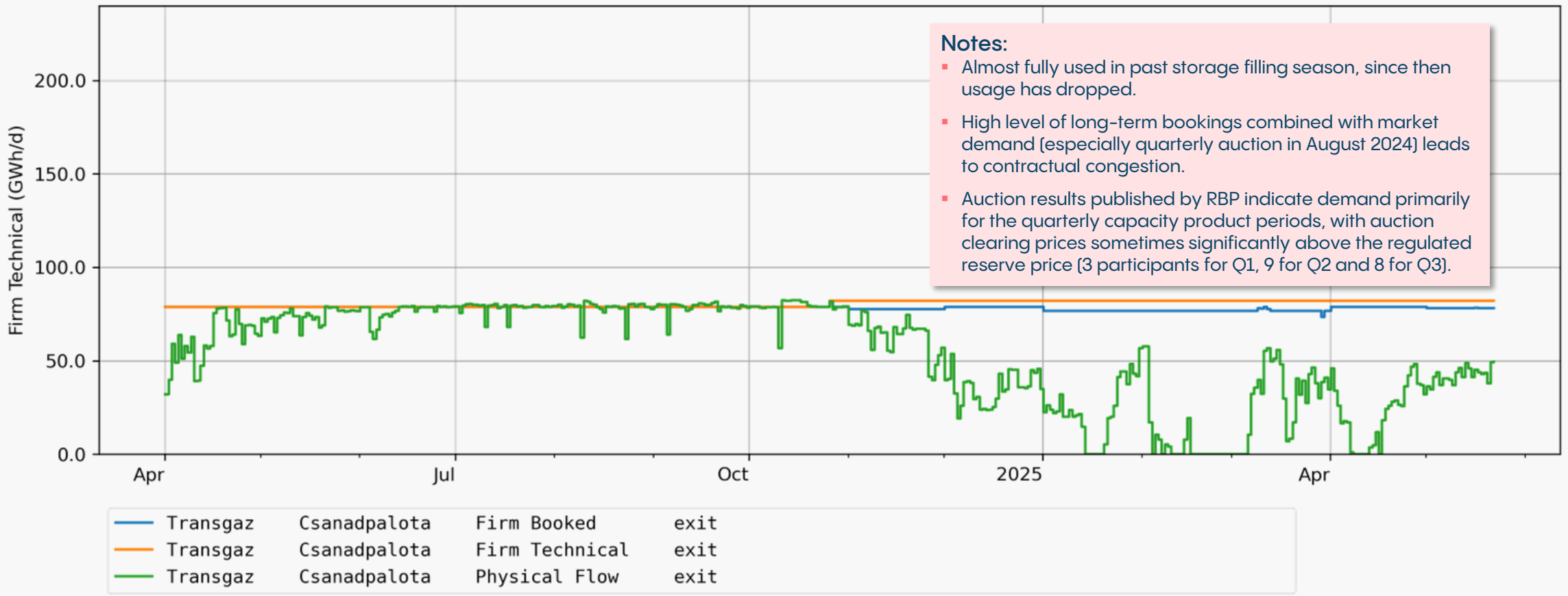
Notes:

- Limited usage in the past to import into Romania.
- Flows in February 2025 mainly related to compensate storage withdrawal issues.

Data source: ENTSOG Transparency Platform
Data period: 1 April 2024 to 22 May 2025
Graph key IP names shortened

Details on Bookings and Flows

DESFA | ICGB | BTG | **TG** | FGSZ | Eustream | VMTG



Notes:

- Almost fully used in past storage filling season, since then usage has dropped.
- High level of long-term bookings combined with market demand (especially quarterly auction in August 2024) leads to contractual congestion.
- Auction results published by RBP indicate demand primarily for the quarterly capacity product periods, with auction clearing prices sometimes significantly above the regulated reserve price (3 participants for Q1, 9 for Q2 and 8 for Q3).

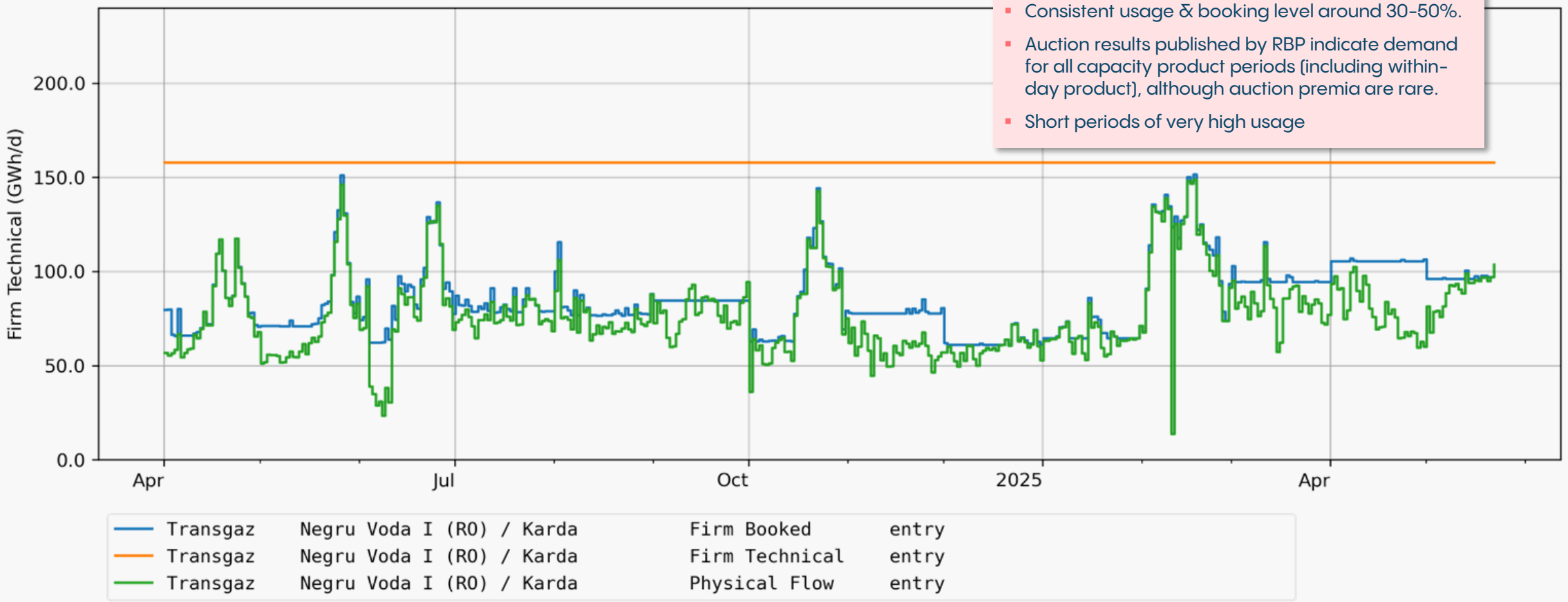
Data source: ENTSOG Transparency Platform
Data period: 1 April 2024 to 22 May 2025
Graph key IP names shortened

Details on Bookings and Flows

DESFA | ICGB | BTG | **TG** | FGSZ | Eustream | VMTG

Notes:

- Consistent usage & booking level around 30-50%.
- Auction results published by RBP indicate demand for all capacity product periods (including within-day product), although auction premia are rare.
- Short periods of very high usage

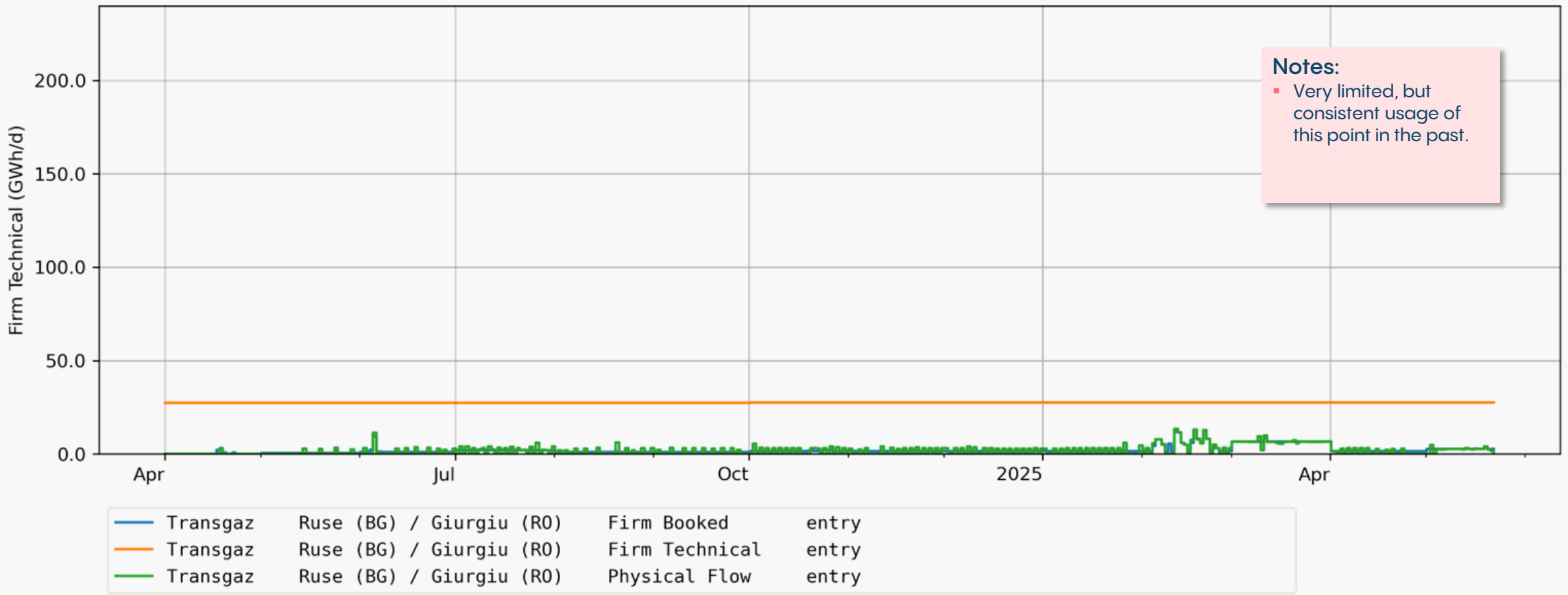


Note: IP only used in this direction.

Data source: ENTSOG Transparency Platform
Data period: 1 April 2024 to 22 May 2025
Graph key IP names shortened

Details on Bookings and Flows

DESFA | ICGB | BTG | **TG** | FGSZ | Eustream | VMTG



Note: IP only used in this direction.

Data source: ENTSOG Transparency Platform
Data period: 1 April 2024 to 22 May 2025
Graph key IP names shortened

Details on Bookings and Flows

DESFA | ICGB | BTG | **TG** | FGSZ | Eustream | VMTG

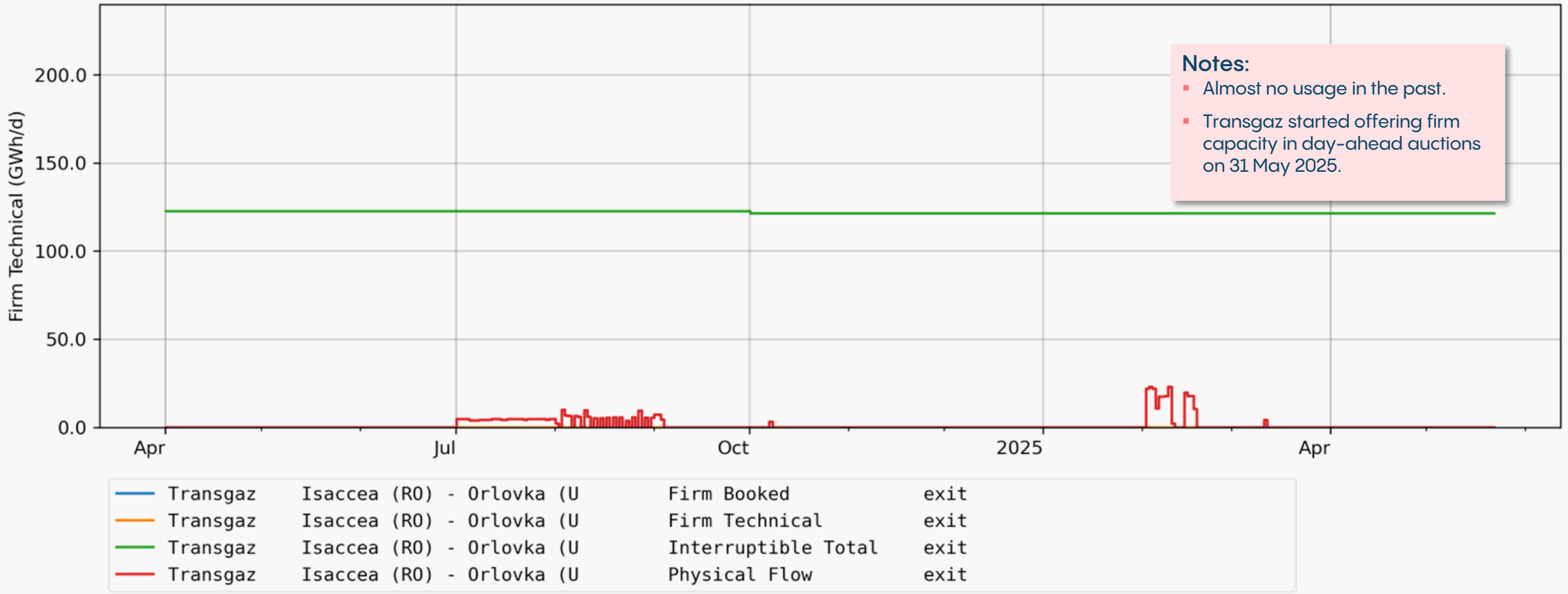
Notes:
- IP mainly used for MD supply

Note: IP only used in this direction.

Data source: ENTSOG Transparency Platform
Data period: 1 April 2024 to 22 May 2025
Graph key IP names shortened

Details on Bookings and Flows

DESFA | ICGB | BTG | **TG** | FGSZ | Eustream | VMTG



Note: IP only used in this direction.

Data source: ENTSOG Transparency Platform
Data period: 1 April 2024 to 22 May 2025
Graph key IP names shortened

Details on Bookings and Flows

DESFA | ICGB | BTG | TG | **FGSZ** | Eustream | VMTG

Notes:

- Almost fully used & booked in 2024, in particular for Slovakian supply and storage filling

Note: IP only used in this direction.

Data source: ENTSOG Transparency Platform
Data period: 1 April 2024 to 22 May 2025
Graph key IP names shortened

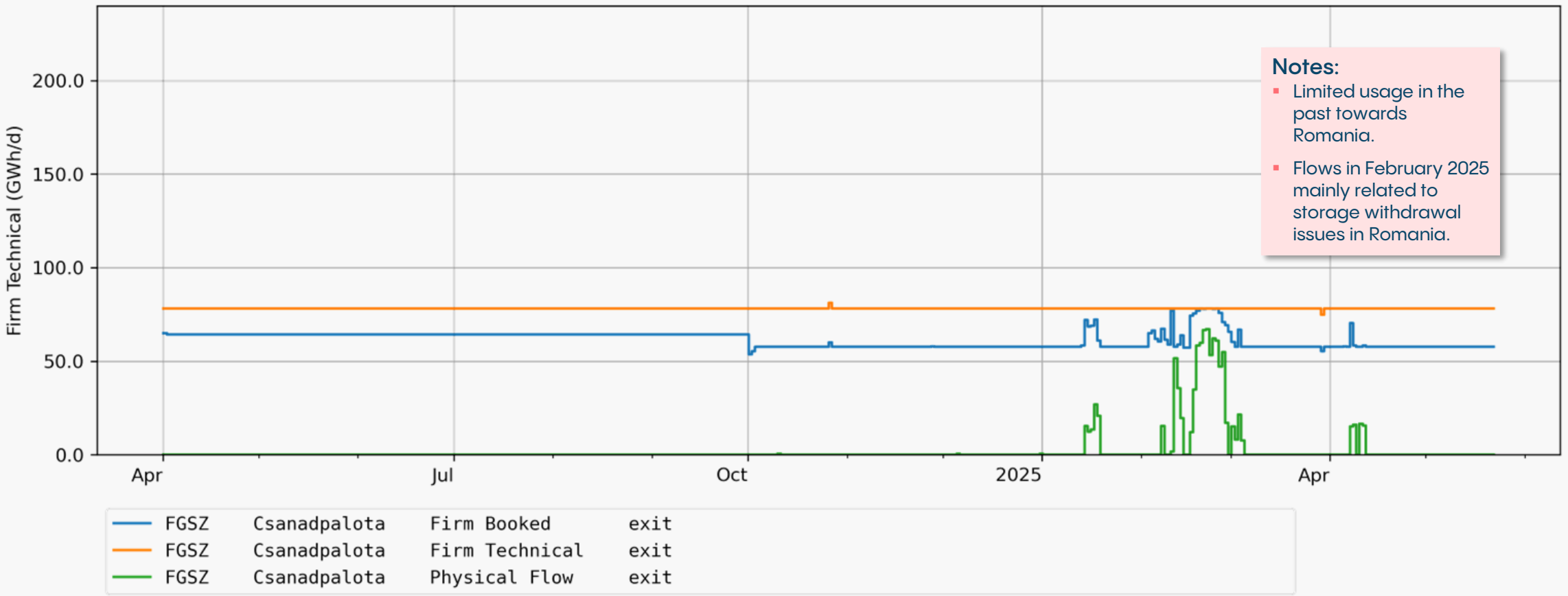
Details on Bookings and Flows

DESFA | ICGB | BTG | TG | **FGSZ** | Eustream | VMTG

Data source: ENTSOG Transparency Platform
Data period: 1 April 2024 to 22 May 2025
Graph key IP names shortened

Details on Bookings and Flows

DESFA | ICGB | BTG | TG | **FGSZ** | Eustream | VMTG



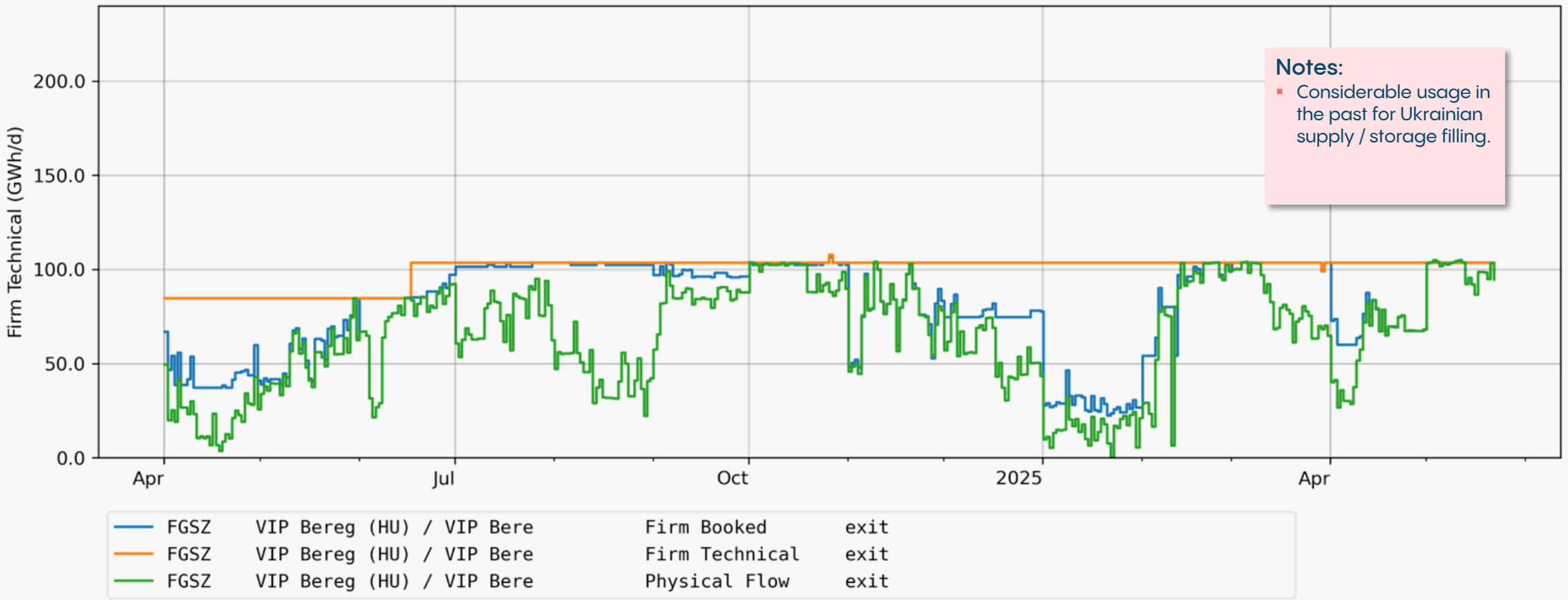
Notes:

- Limited usage in the past towards Romania.
- Flows in February 2025 mainly related to storage withdrawal issues in Romania.

Data source: ENTSOG Transparency Platform
Data period: 1 April 2024 to 22 May 2025
Graph key IP names shortened

Details on Bookings and Flows

DESFA | ICGB | BTG | TG | **FGSZ** | Eustream | VMTG

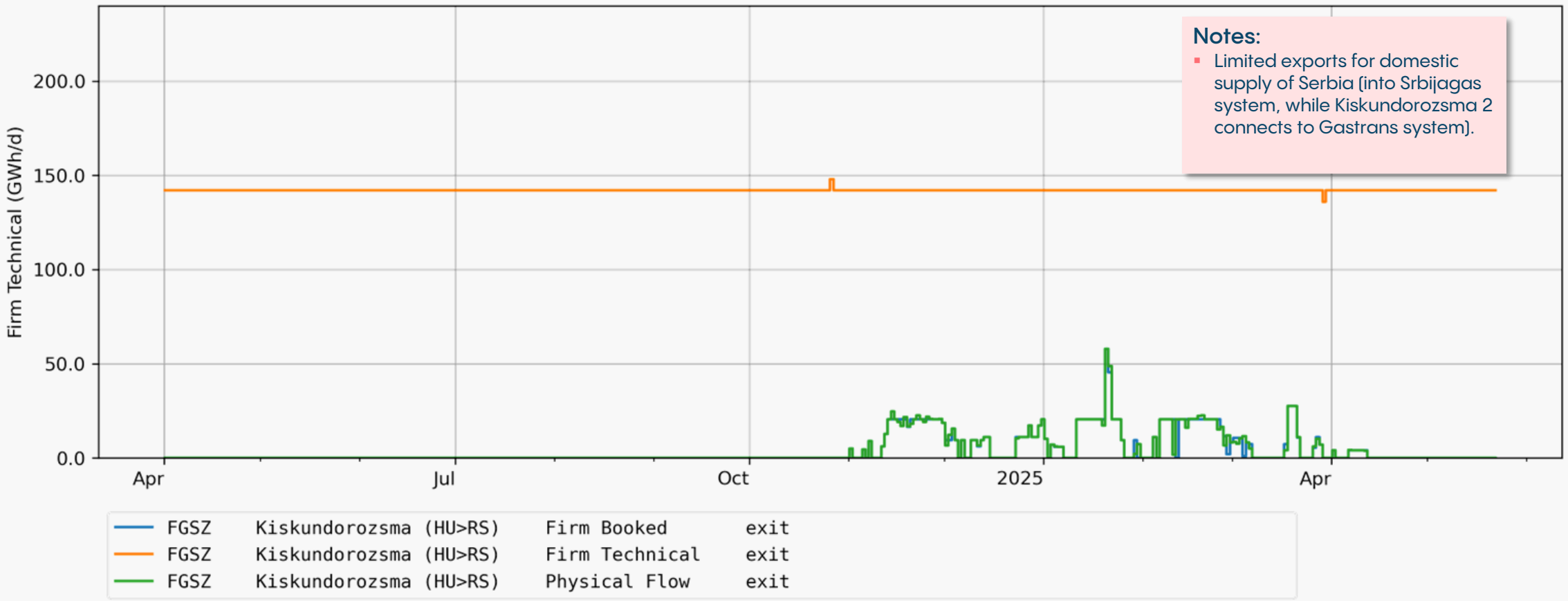


Note: IP only used in this direction.

Data source: ENTSOG Transparency Platform
Data period: 1 April 2024 to 22 May 2025
Graph key IP names shortened

Details on Bookings and Flows

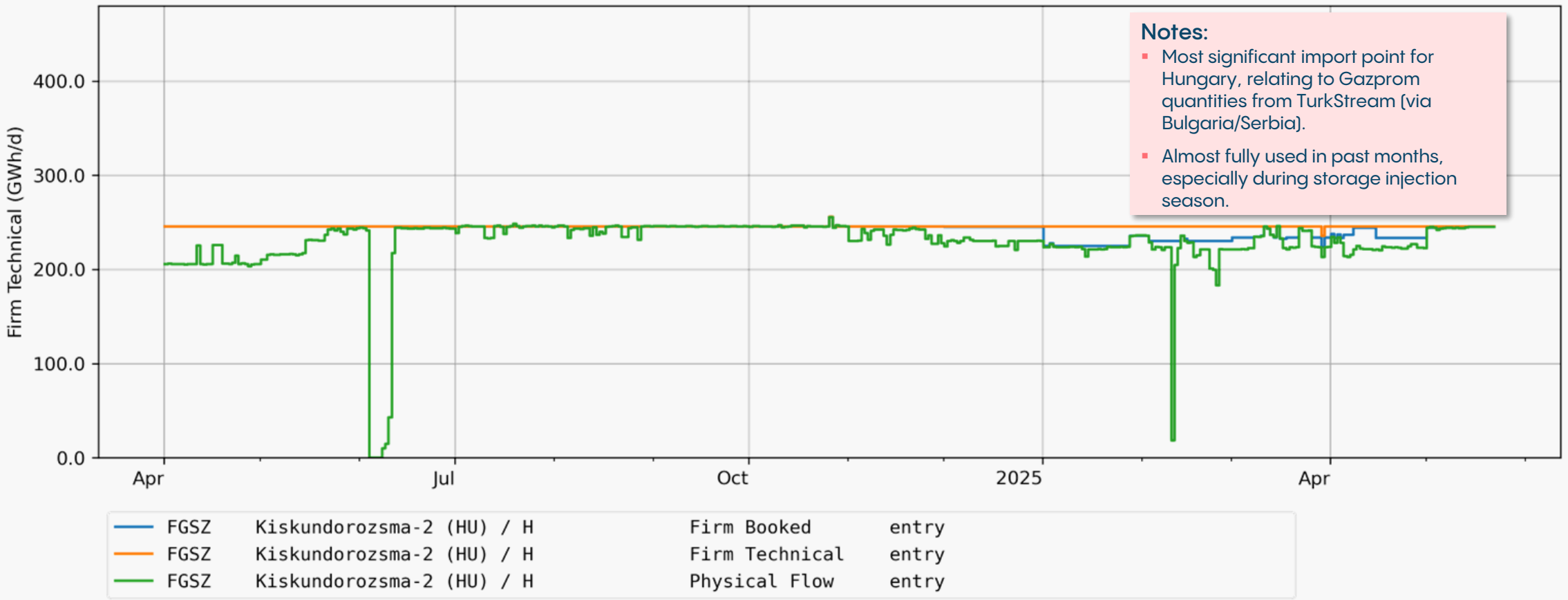
DESFA | ICGB | BTG | TG | **FGSZ** | Eustream | VMTG



Data source: ENTSOG Transparency Platform
Data period: 1 April 2024 to 22 May 2025
Graph key IP names shortened

Details on Bookings and Flows

DESFA | ICGB | BTG | TG | **FGSZ** | Eustream | VMTG



Notes:

- Most significant import point for Hungary, relating to Gazprom quantities from TurkStream (via Bulgaria/Serbia).
- Almost fully used in past months, especially during storage injection season.

Note: IP only used in this direction.

Data source: ENTSOG Transparency Platform
Data period: 1 April 2024 to 22 May 2025
Graph key IP names shortened

Details on Bookings and Flows

DESFA | ICGB | BTG | TG | FGSZ | **Eustream** | VMTG

Notes:

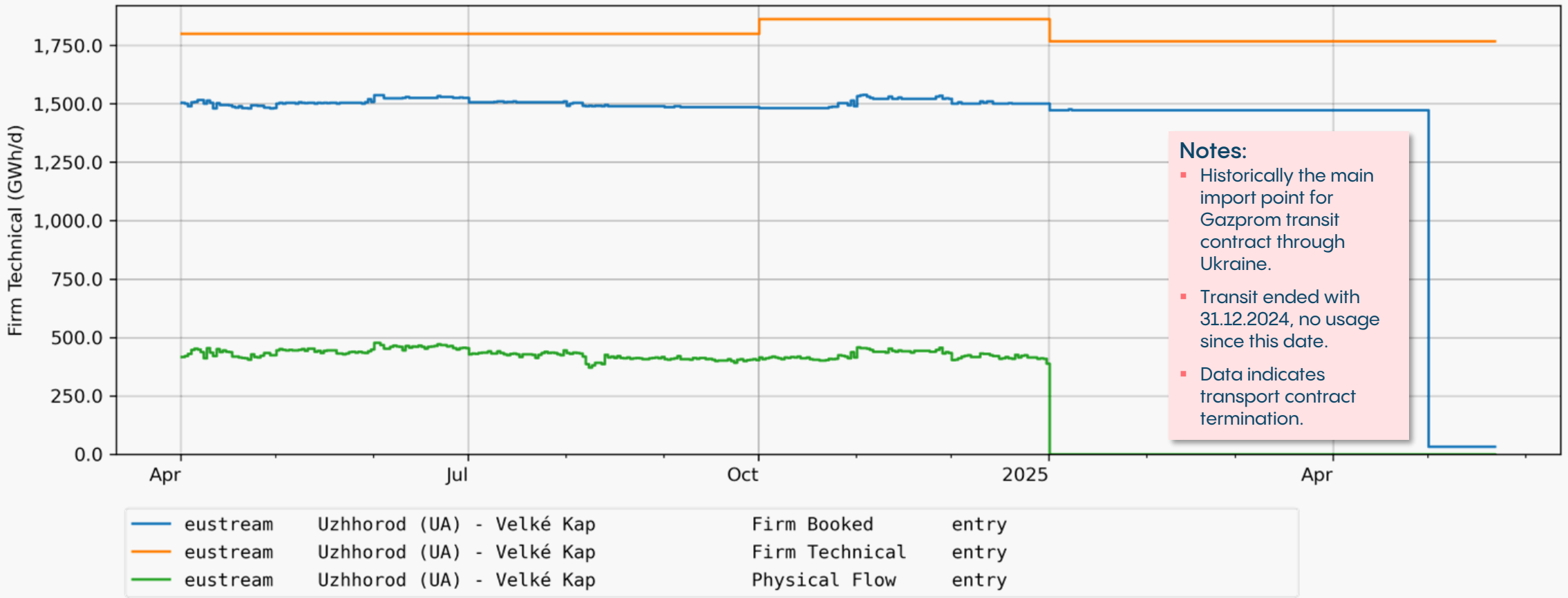
- Almost fully used & booked in 2024, in particular for Slovakian supply and storage filling
- Some isolated flow inconsistencies in comparison to FGSZ data

Note: IP only used in this direction.

Data source: ENTSOG Transparency Platform
Data period: 1 April 2024 to 22 May 2025
Graph key IP names shortened

Details on Bookings and Flows

DESFA | ICGB | BTG | TG | FGSZ | **Eustream** | VMTG



Notes:

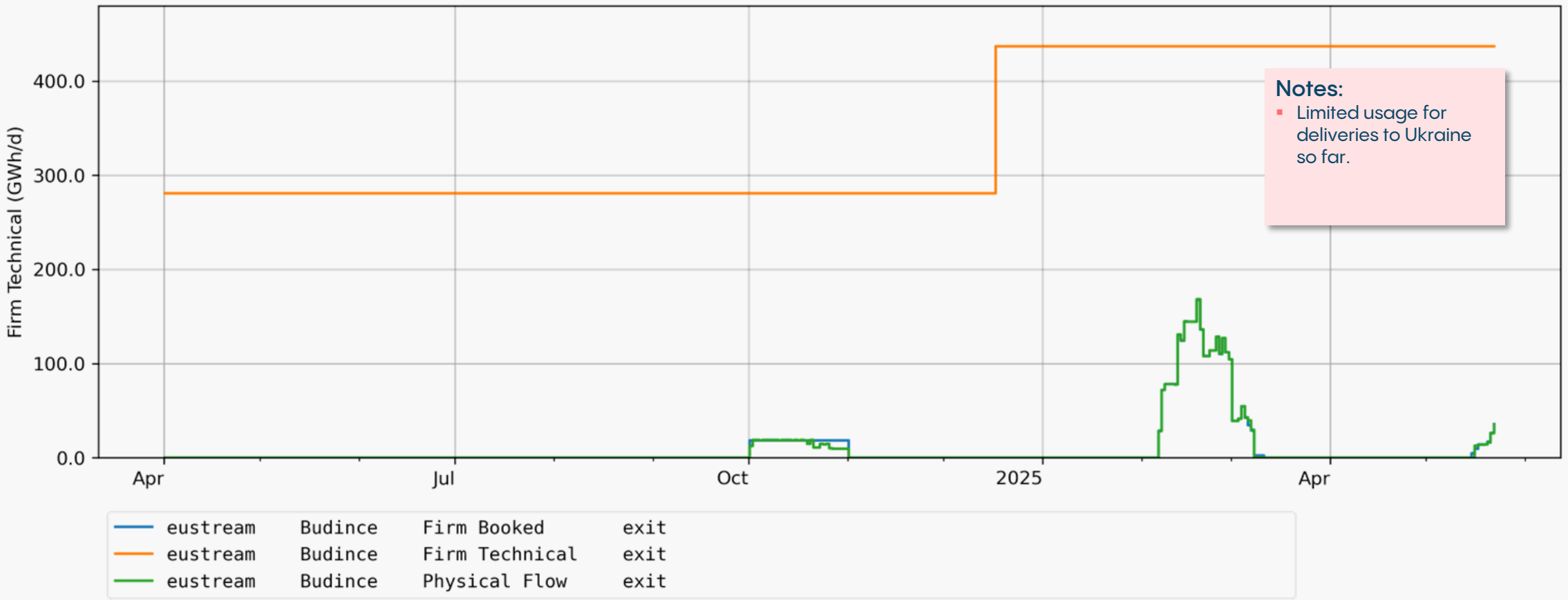
- Historically the main import point for Gazprom transit contract through Ukraine.
- Transit ended with 31.12.2024, no usage since this date.
- Data indicates transport contract termination.

Note: IP only used in this direction.

Data source: ENTSOG Transparency Platform
Data period: 1 April 2024 to 22 May 2025
Graph key IP names shortened

Details on Bookings and Flows

DESFA | ICGB | BTG | TG | FGSZ | Eustream | VMTG

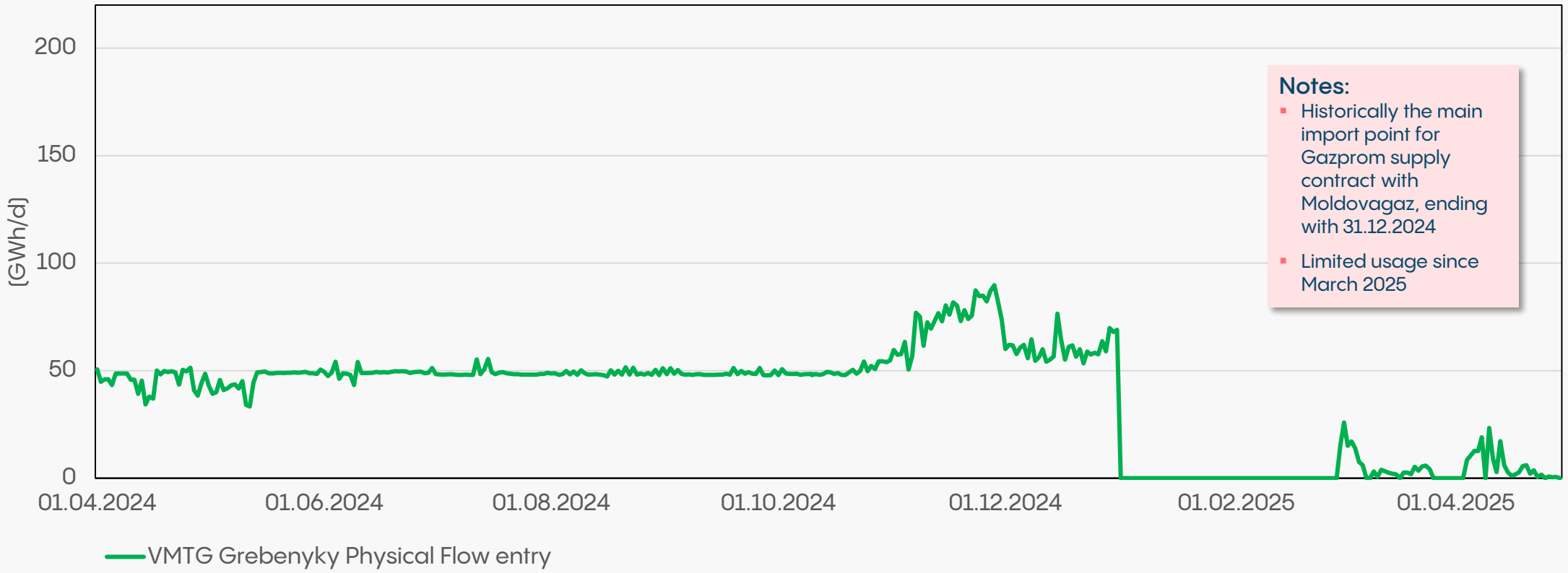


Note: IP only used in this direction.

Data source: ENTSOG Transparency Platform
Data period: 1 April 2024 to 22 May 2025
Graph key IP names shortened

Details on Bookings and Flows

DESFA | ICGB | BTG | TG | FGSZ | Eustream | VMTG



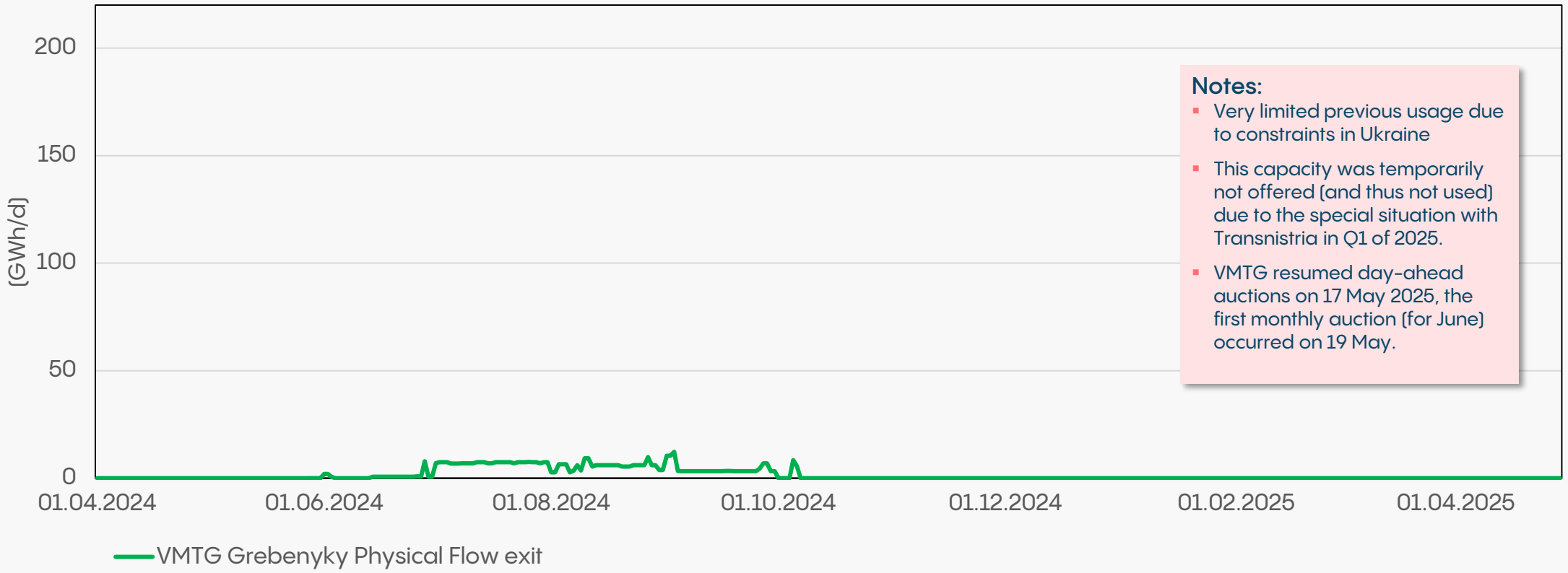
Notes:

- Historically the main import point for Gazprom supply contract with Moldovagaz, ending with 31.12.2024
- Limited usage since March 2025

Data source: VMTG (https://www.vmtg.md/index.php/clienti/informatii-operationale/volumul-gazelor)
Data period: 1 April 2024 to 30 April 2025

Details on Bookings and Flows

DESFA | ICGB | BTG | TG | FGSZ | Eustream | VMTG



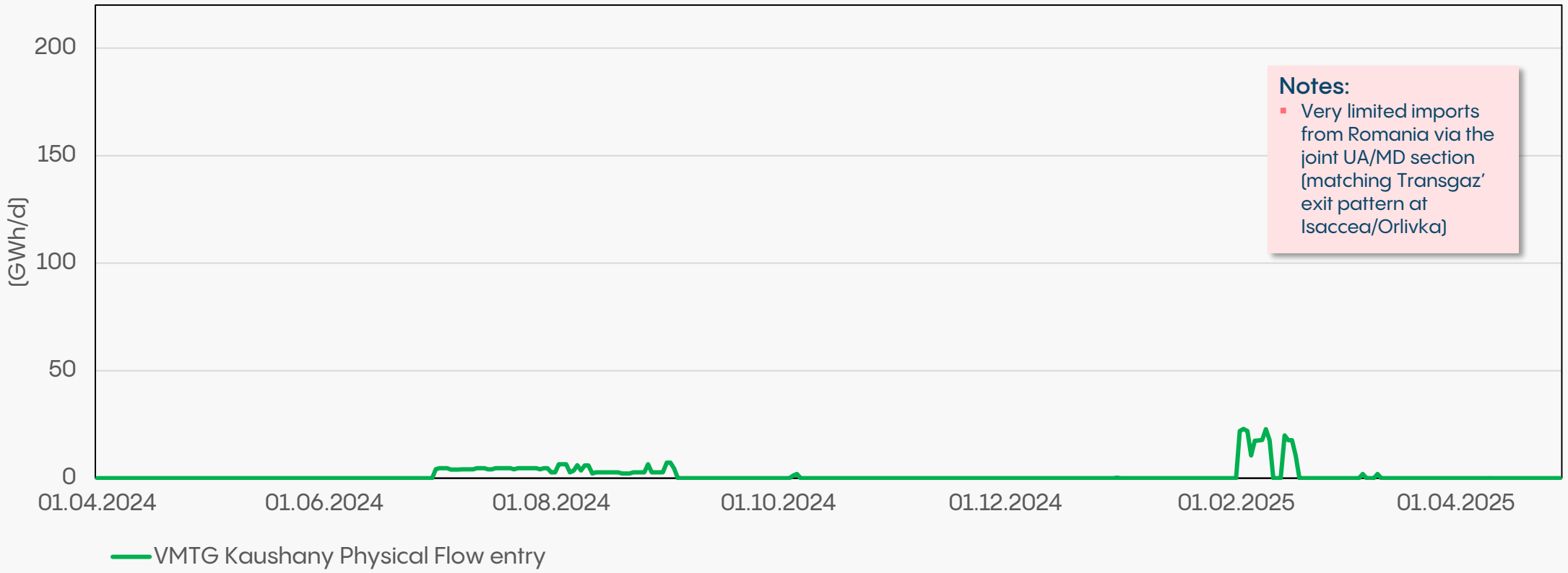
Notes:

- Very limited previous usage due to constraints in Ukraine
- This capacity was temporarily not offered (and thus not used) due to the special situation with Transnistria in Q1 of 2025.
- VMTG resumed day-ahead auctions on 17 May 2025, the first monthly auction (for June) occurred on 19 May.

Data source: VMTG (https://www.vmtg.md/index.php/clienti/informatii-operationale/volumul-gazelor)
Data period: 1 April 2024 to 30 April 2025

Details on Bookings and Flows

DESFA | ICGB | BTG | TG | FGSZ | Eustream | VMTG



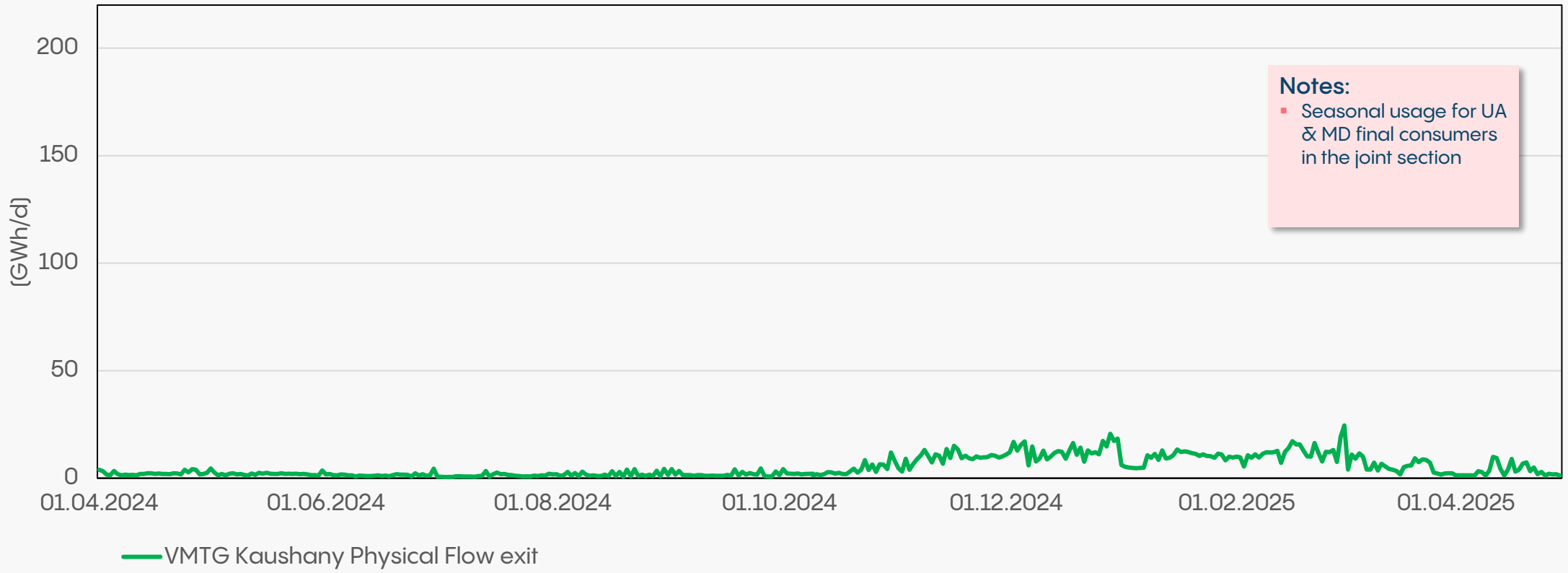
Notes:

- Very limited imports from Romania via the joint UA/MD section (matching Transgaz' exit pattern at Isaccea/Orlivka)

Data source: VMTG (https://www.vmtg.md/index.php/clienti/informatii-operationale/volumul-gazelor)
Data period: 1 April 2024 to 30 April 2025

Details on Bookings and Flows

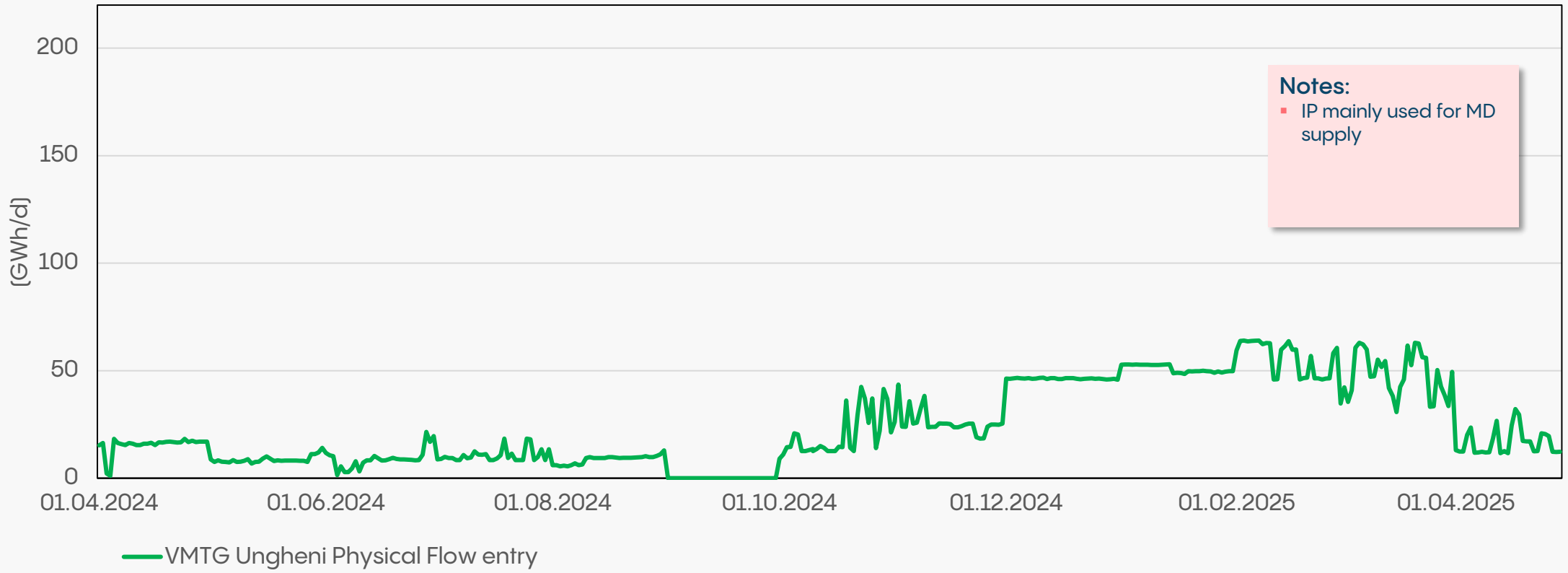
DESFA | ICGB | BTG | TG | FGSZ | Eustream | VMTG



Data source: VMTG (https://www.vmtg.md/index.php/clienti/informatii-operationale/volumul-gazelor)
Data period: 1 April 2024 to 30 April 2025

Details on Bookings and Flows

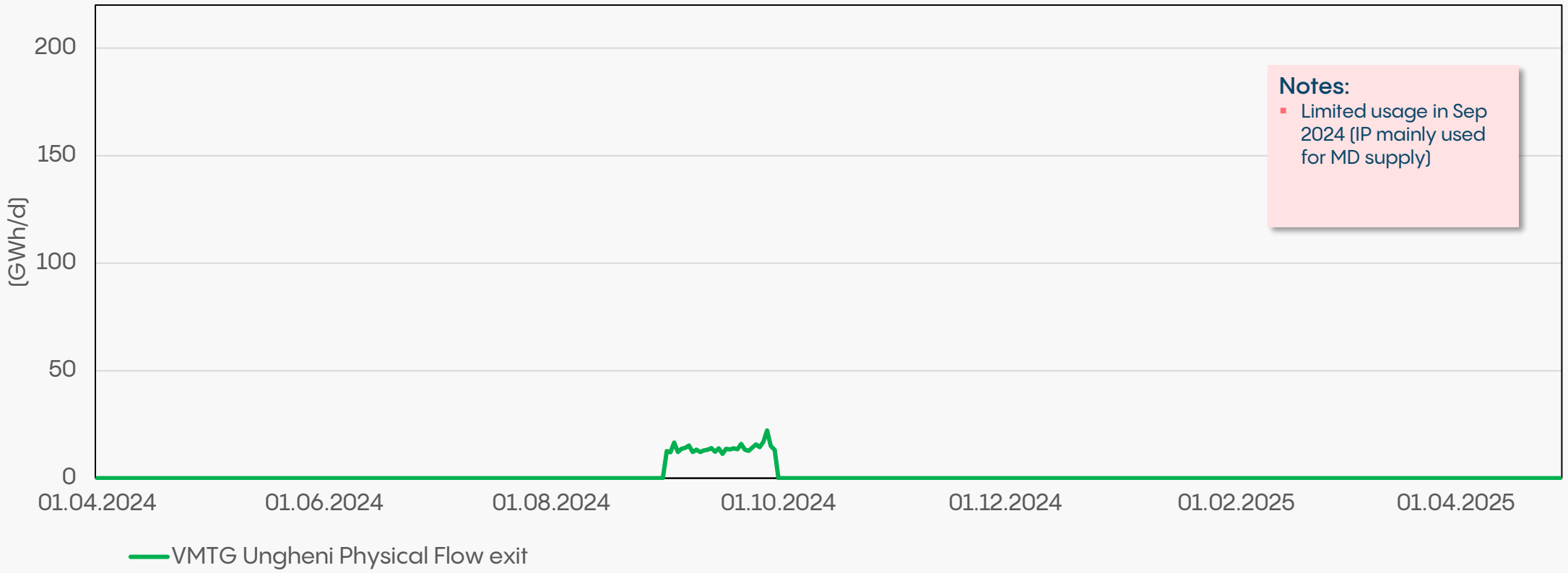
DESFA | ICGB | BTG | TG | FGSZ | Eustream | VMTG



Data source: VMTG (https://www.vmtg.md/index.php/clienti/informatii-operationale/volumul-gazelor)
Data period: 1 April 2024 to 30 April 2025

Details on Bookings and Flows

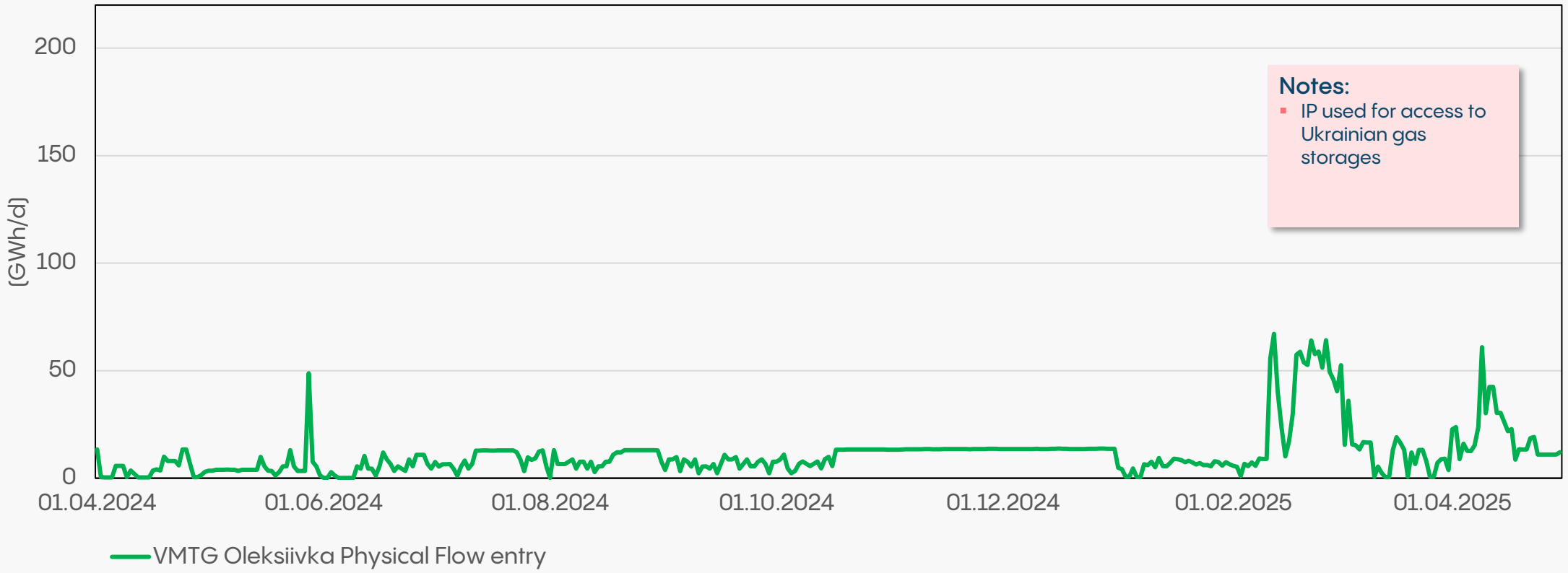
DESFA | ICGB | BTG | TG | FGSZ | Eustream | VMTG



Data source: VMTG (https://www.vmtg.md/index.php/clienti/informatii-operationale/volumul-gazelor)
Data period: 1 April 2024 to 30 April 2025

Details on Bookings and Flows

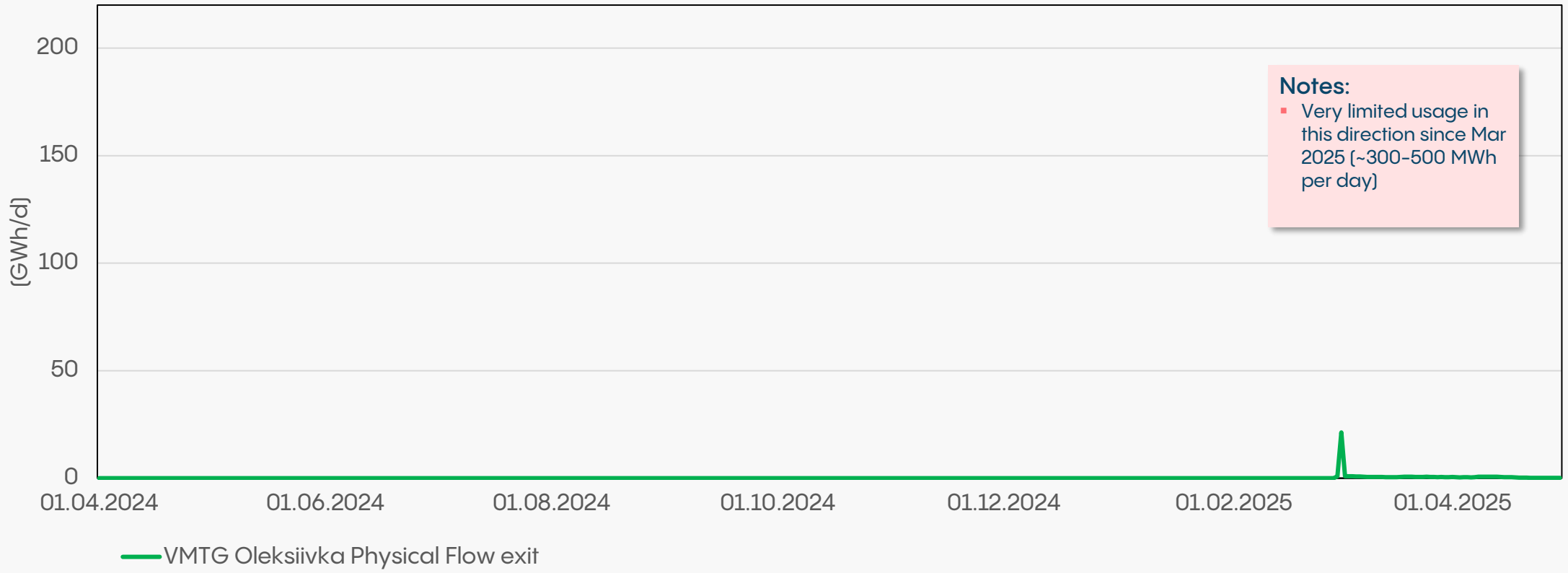
DESFA | ICGB | BTG | TG | FGSZ | Eustream | VMTG



Data source: VMTG (https://www.vmtg.md/index.php/clienti/informatii-operationale/volumul-gazelor)
Data period: 1 April 2024 to 30 April 2025

Details on Bookings and Flows

DESFA | ICGB | BTG | TG | FGSZ | Eustream | VMTG



Notes:

- Very limited usage in this direction since Mar 2025 (~300-500 MWh per day)

Data source: VMTG (https://www.vmtg.md/index.php/clienti/informatii-operationale/volumul-gazelor)
Data period: 1 April 2024 to 30 April 2025

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