SEEGAS meeting
Bucharest ‘23

NAFTOGAZ
UKRTRANSGAZ

ENERGY TRANSITION

Strategic advantages of Ukraine’s gas storages and their contribution to the Europe`s energy security

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STRATEGIC ADVANTAGES OF UKRAINIAN GAS STORAGES

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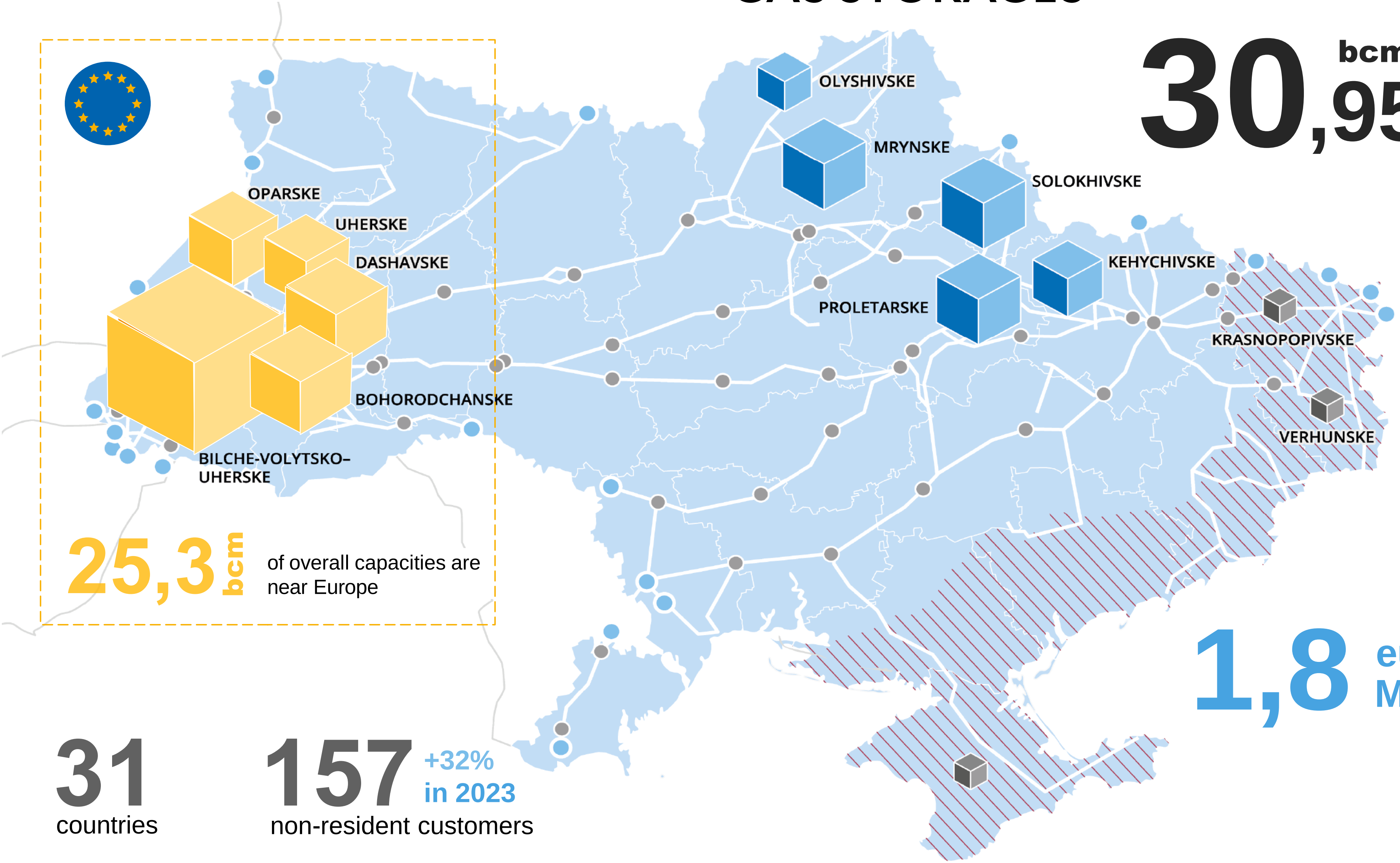

30,95 bcm overall working gas volume

2,5 bcm stored by non-residents in CWR as of 01.11.2023

1095 days within CWR without taxes and customs duties

1,8 euro MWh approximate full gas storage tariff until 01.04.2025

25,3 bcm of overall capacities are near Europe

31 countries

157 +32% in 2023 non-resident customers

PROMISING ACTIVITY AREAS OF UKRTRANSGAZ

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CH_4

TRANSITION FUEL

Involvement of Ukraine's gas storages in implementation of energy security measures in Europe (possibility of storing strategic reserves)

Introducing a gas safety stock for Ukrainian gas supply companies

Bio CH_4

STORAGE AND SERVICE PROVISION

Biomethane storage

Provision of services in construction, repair and maintenance of biomethane plants

Development of regulatory documentation and expert examination, certification

H_2

STORAGE AND ENERGY SAVING

Substitution of fossil fuels in the Company's production activities

Hydrogen storage

CCUS

CO2 SEQUESTRATION

Creation of storages for CO2 sequestration

INJECTION SEASON RESULTS 2023

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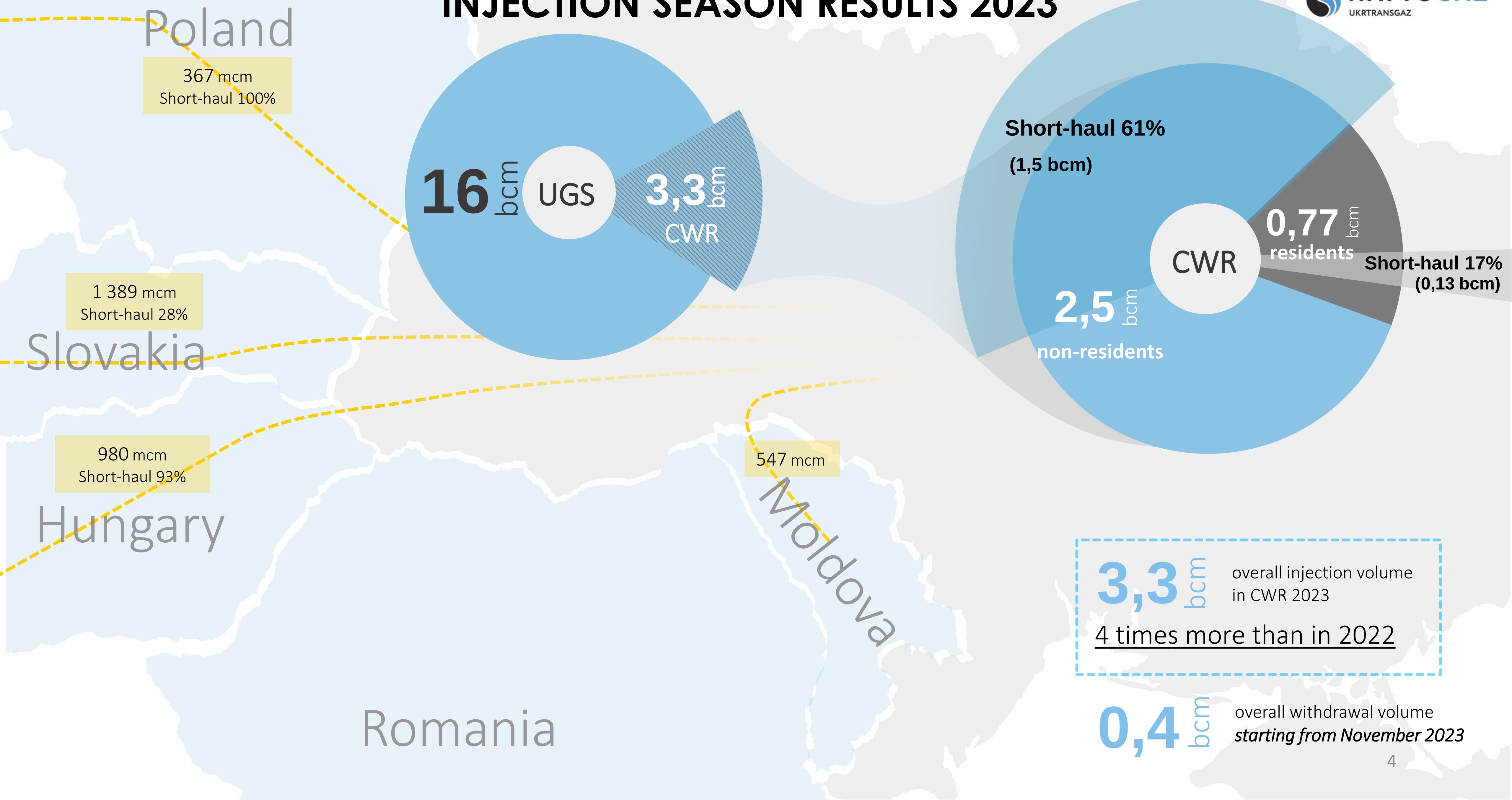

3,3 bcm overall injection volume in CWR 2023

4 times more than in 2022

0,4 bcm overall withdrawal volume *starting from November 2023*

UKRAINIAN STORAGES FOR THE EU MARKET: CWR BALANCE

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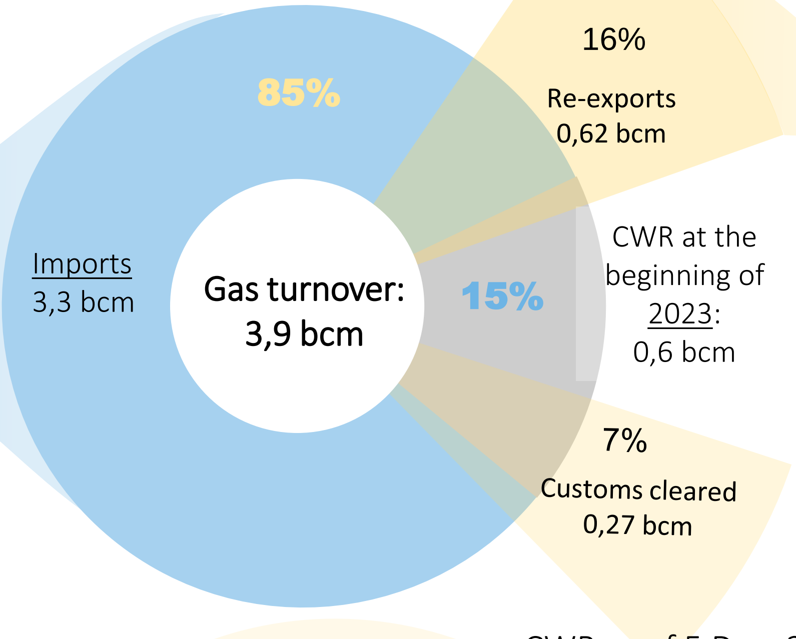
2023

Imports 3,3 bcm

HU	1,0 bcm (30%)
SK	1,4 bcm (42%)
PL	0,4 bcm (11%)
MD	0,5 bcm (17%)

Short-haul *1,7 bcm (51%)*
Non-residents *2,5 bcm (76%)*



CWR as of 5 Dec. 2023: 2,95 bcm

Re-exports 0,62 bcm

HU	0,02 bcm (3%)
SK	0,11 bcm (17%)
PL	0,20 bcm (32%)
MD	0,3 bcm (48%)

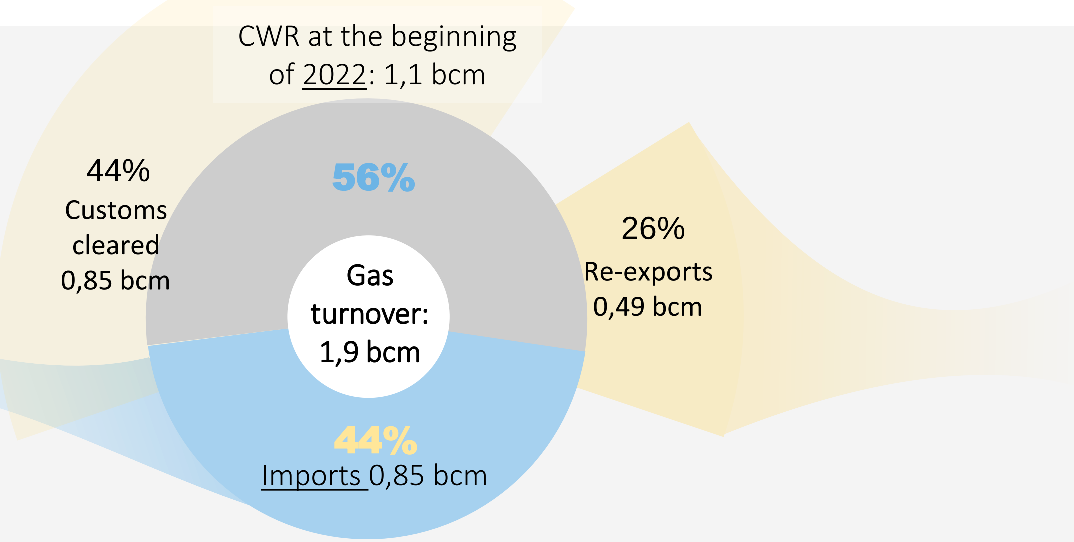
Short-haul *0,32 bcm (51%)*
Non-residents *0,41 bcm (66%)*

2022

Imports 0,85 bcm

HU	0,2 bcm (22%)
SK	0,3 bcm (39%)
PL	0,2 bcm (26%)
MD	0,1 bcm (13%)

Short-haul *0,4 bcm (46%)*
Non-residents *0,6 bcm (70%)*



CWR at the end of 2022: 0,6 bcm

Re-exports 0,49 bcm

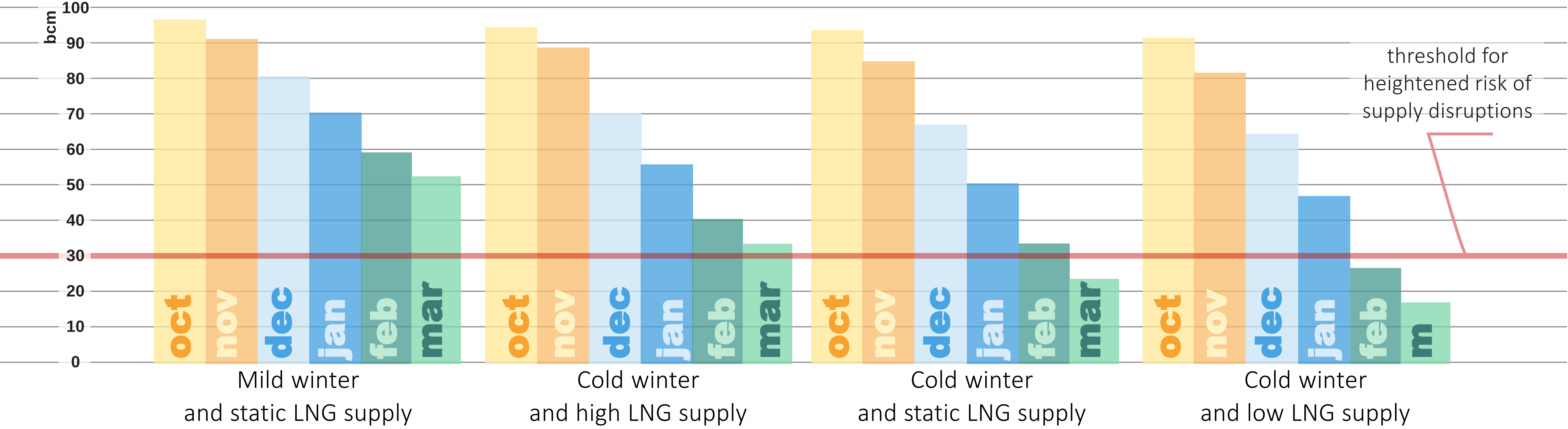
HU	0,3 bcm (56%)
SK	0,1 bcm (20%)
PL	0,09 bcm (18%)
RO	0,03 bcm (6%)

Short-haul *0,46 bcm (86%)*
Non-residents *0,43 bcm (87%)*

UKRAINIAN UNDERGROUND STORAGES IN MITIGATING THE PRICE VOLATILITY RISKS

Involvement of Ukrainian storages in formation of the EU's gas insurance reserves will reduce the gas price volatility risks at the end of the heating season

DIFFERENT SCENARIOS OF GAS STORAGE IN THE EU DURING THE 2023/2024 HEATING SEASON



according to Global Gas Security Review 2023 (IEA)

UPCOMING UPDATES IN THE SERVICE PORTFOLIO

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UKRTRANSGAZ in co-operation with NEURC is working on amendments to the Gas Storage Code*

Synchronizing capacity allocation

- Storage capacity allocation timeline aligns with auctions on cross-border entry/exit points

Re-organizing capacity types

- 100% firm
- Conditionally firm **
- Interruptible

***Submit nomination till 15:00 D-1 for gas day D*

Amendments to the Gas Storage Code*

* *Approximate effective date April 1, 2024*

Short-term service

- Booking day-ahead gas working volume as well as injection/withdrawal service

Bundled service ***

- Basic season injection + working volume
- Basic season withdrawal + working volume

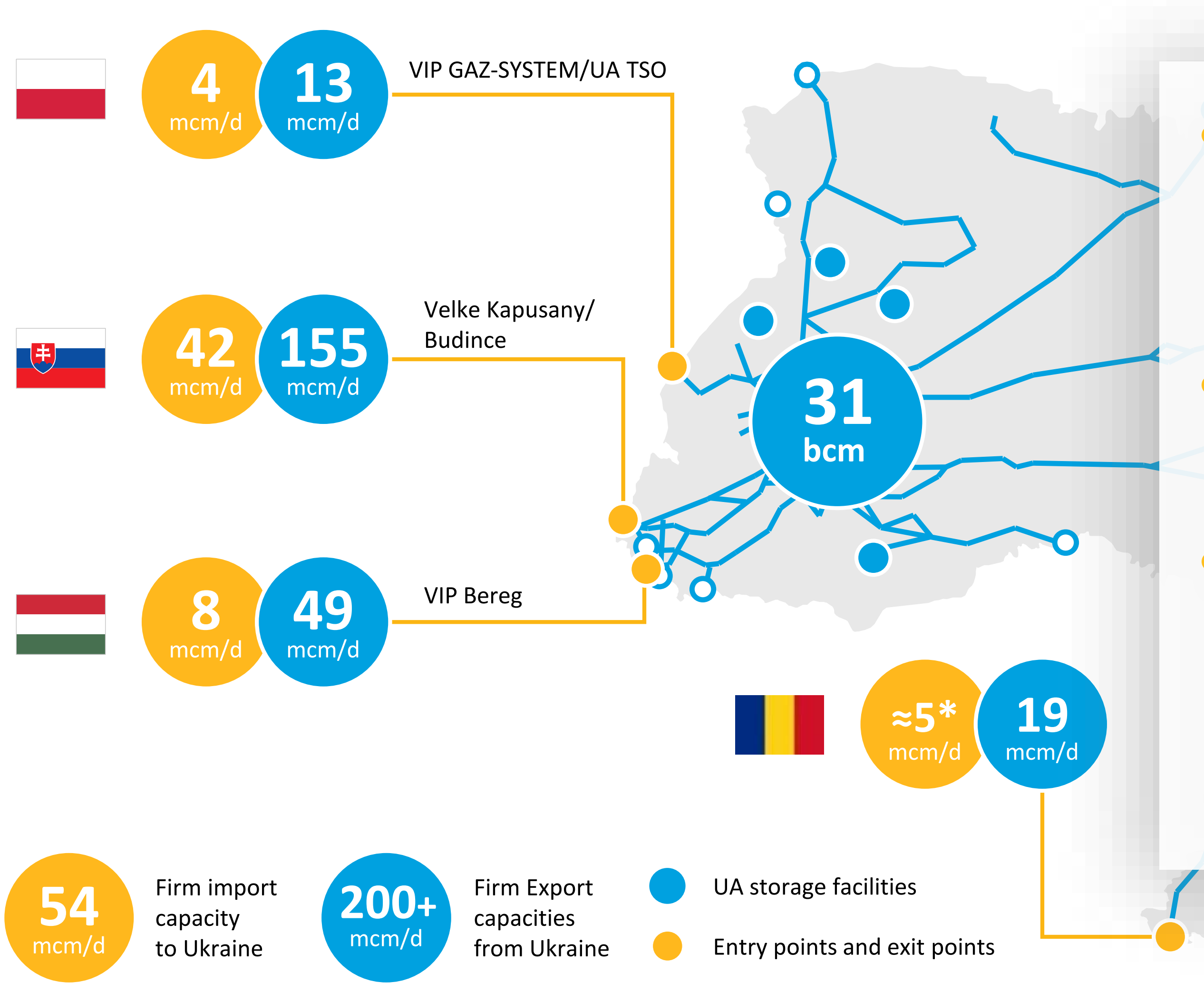
****No injection/withdrawal curves for long-term services*

10th SEEGAS Stakeholder Meeting

07.12.2023

The capabilities and flexibility of the Ukrainian GTS are a solution for Europe's energy security

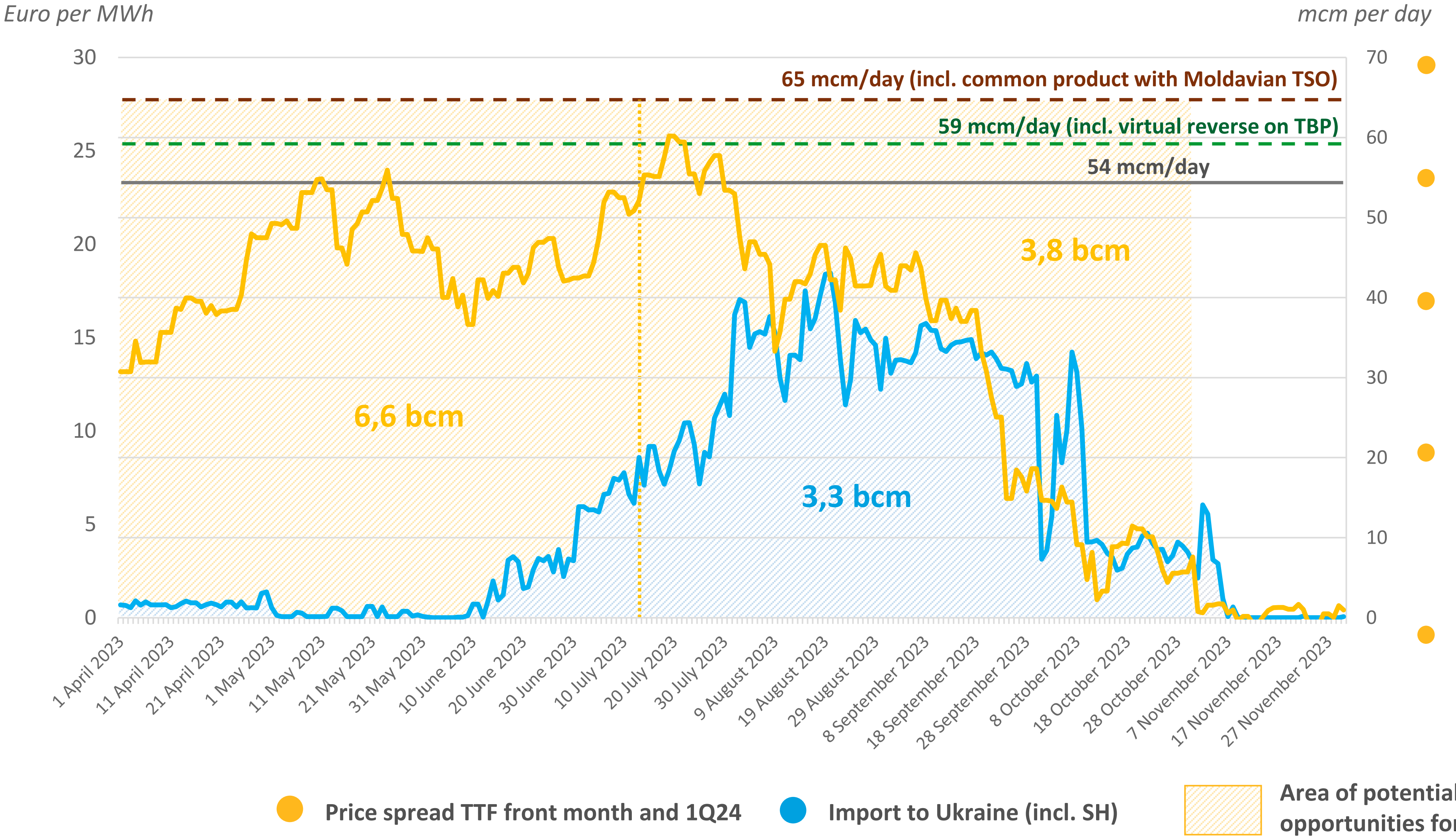
UA TRANSMISSION SYSTEM OPERATOR



- Extensive spare capacities of entry/exit cross-border IPs with 4 EU countries and Moldova
- Powerful underground gas storages at competitive prices
- Infrastructure in place to create capable bridge between Southern and Central Europe

* Use of the Trans-Balkan route requires booking the capacities of MD GTS. Indicated capacities of virtual reverse.

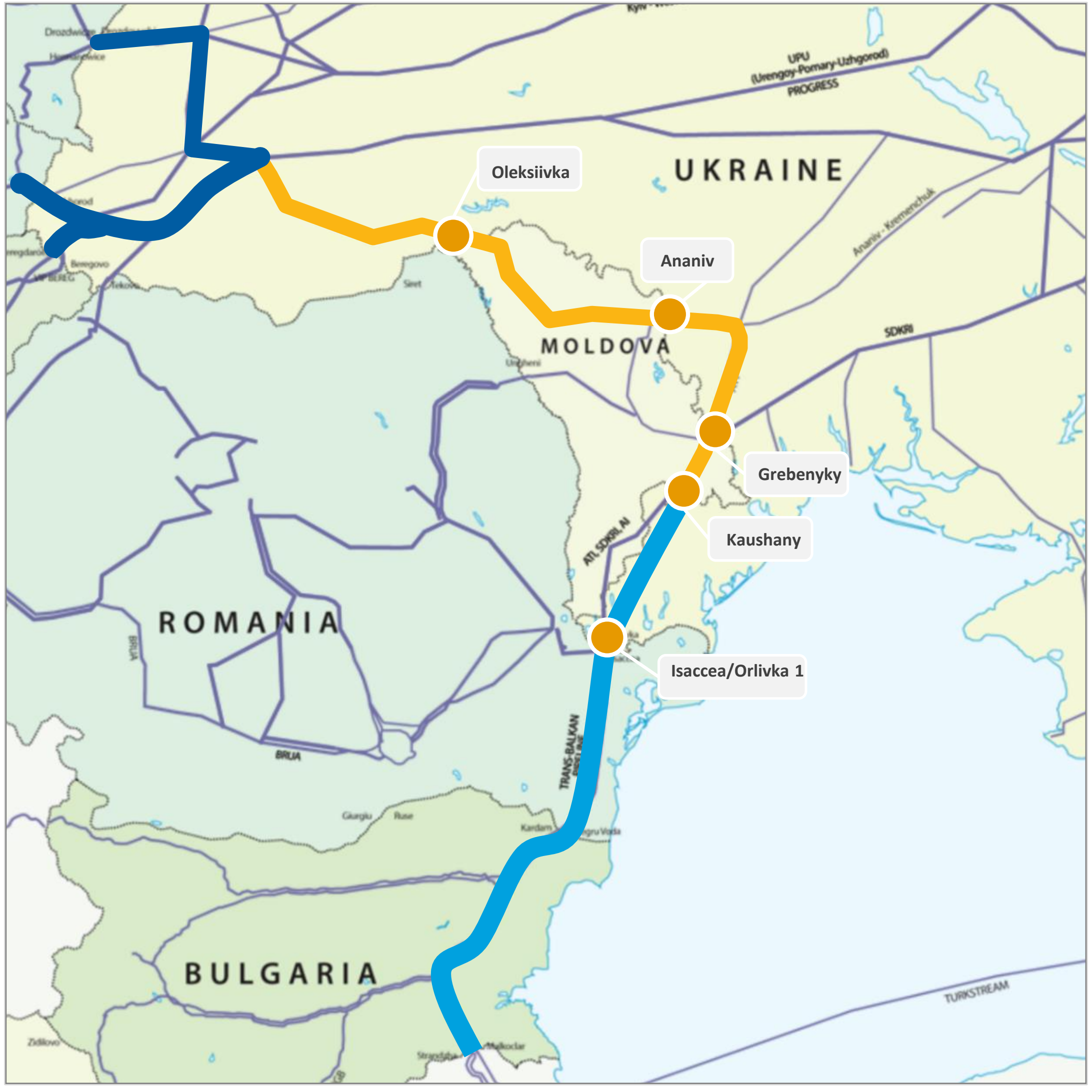
2023/2024 storage season



- **Import**
  April-November 3,3 bcm
- **Firm capacities**
  April-November 11,3 bcm
- **Addition capacities from South**
  April-November 11 mcm/day
  (≈2,4 bcm)
- **Average spread**
  April-July - 19,9 Euro/MWh
  August-September - 16,2 Euro/MWh
  October - 9,2 Euro/MWh
- **Available capacity on cross-border IPs** - 10,4 bcm

Data source: GTSOU calculation based on data from Argus

Short-term solution for 2023/2024



Route «Transbalkan pipeline — Moldova — Ukrainian storages»

Capacities of **at least 6 mcm/day** will be available during the whole year:

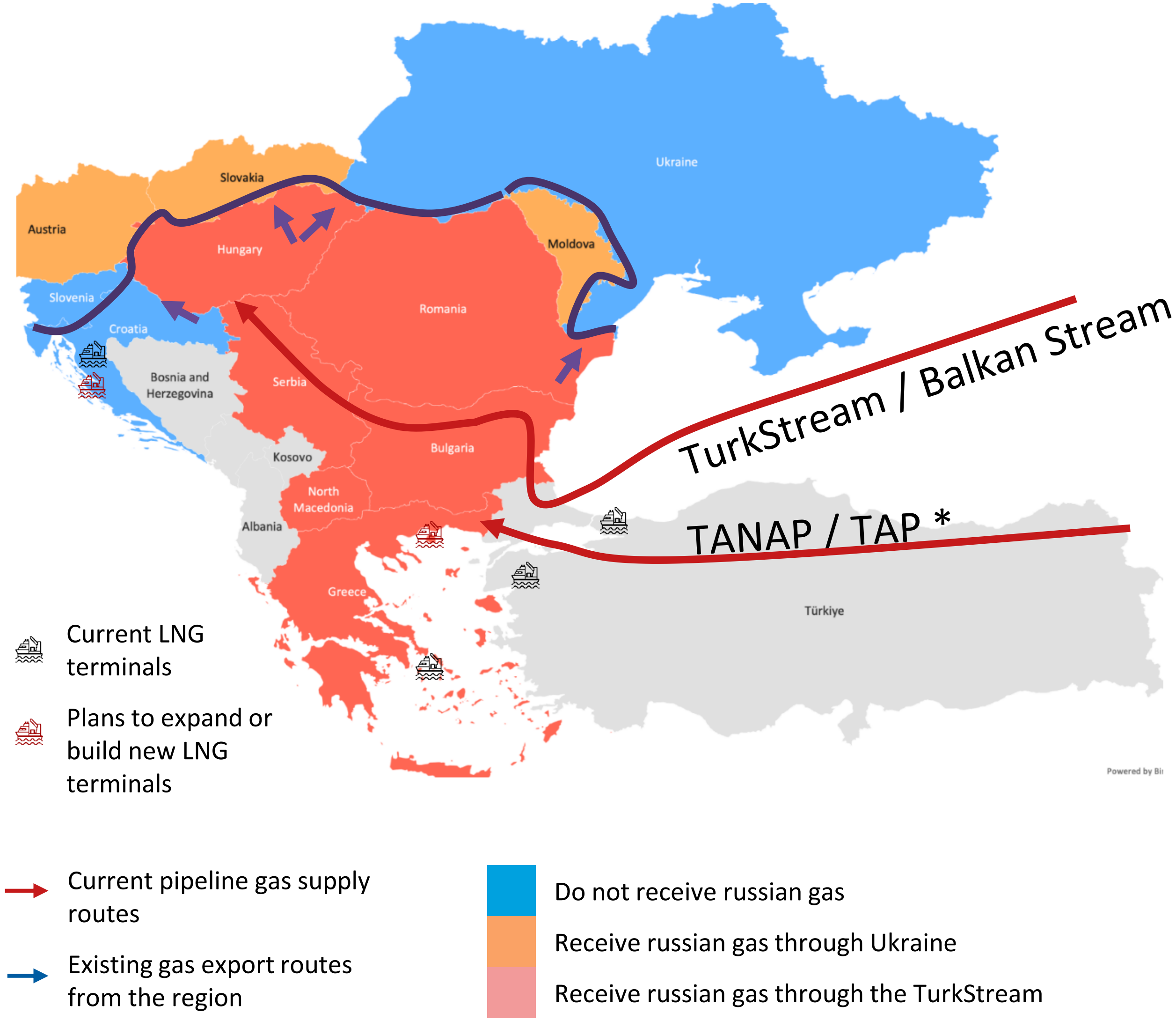
- **In winter season** — from November to April through route Isaccea/Orlivka-Kaushany-Grebenyky-storage
- **In summer season** — from April to October through route Isaccea/Orlivka-Kaushany-Grebenyky-Ananiv-Oleksiivka-storage
- Additional limitations in summer — **constant flow of 6 mcm/day** is prerequisite of introducing of such product
- Capacities must be booked and nominations submitted for all IPs on the route

Gas balance of the Balkan region

UA TRANSMISSION SYSTEM OPERATOR

Demand	around **36.5 bcma**
Production	around **12 bcma** (mainly in Romania)
Import need	around **24.5 bcma:** **TurkStream** provides 2/3 of the needed import (capacity **up to 16.5 bcma)** **Alternative gas sources:** • LNG from Greece and Croatia – **10 bcma** • **(+ 8-9 bcma after 2025)** • Gas from Azerbaijan – up to **2 bcma*** • Gas from Turkey – up to **3.5 bcma**
Possible export	up to **6 bcma**
Surplus	**8-10 bcma**

* TAP gas pipeline currently transports up to 10-11 bcm of gas per year, mainly to Italy. Technically, shipping to Greece and Bulgaria can amount up to 5-6 bcm per year, but reaching this level would reduce supplies to Italy under the long-term contract.



Data source: Eurostat, ENTSOG, GTSOU calculations

Q&A SESSION

- Will the availability of a bundled storage & transportation product have an impact on capacity booking?
- Ideas/suggestions to improve gas regulatory framework of Ukraine
- Major factors influencing 2024 injection plans