



Association
of Gas Producers
of Ukraine

THE ROLE OF UKRAINE IN EUROPEAN ENERGY SECURITY

June 15, 2023



BY WAGING WAR IN UKRAINE, RUSSIA HAS UNDERMINED THE ENERGY SECURITY OF EUROPE



- ⦿ Ukraine is sharing borders with EU member states and has the same mindset, taking its part in collective security, including energy one
- ⦿ The occupiers' invasion on February 24, 2022, and their plans to capture the capital within three days remained only in the dreams of Russia
- ⦿ However, they managed to undermine the security of supply in Europe. This became a reason for reevaluating strategies, adopting new visions, and implementing further operational actions among EU countries
- ⦿ It was necessary to diversify the supplies quickly, ensure market stability, and prepare for a harsh winter

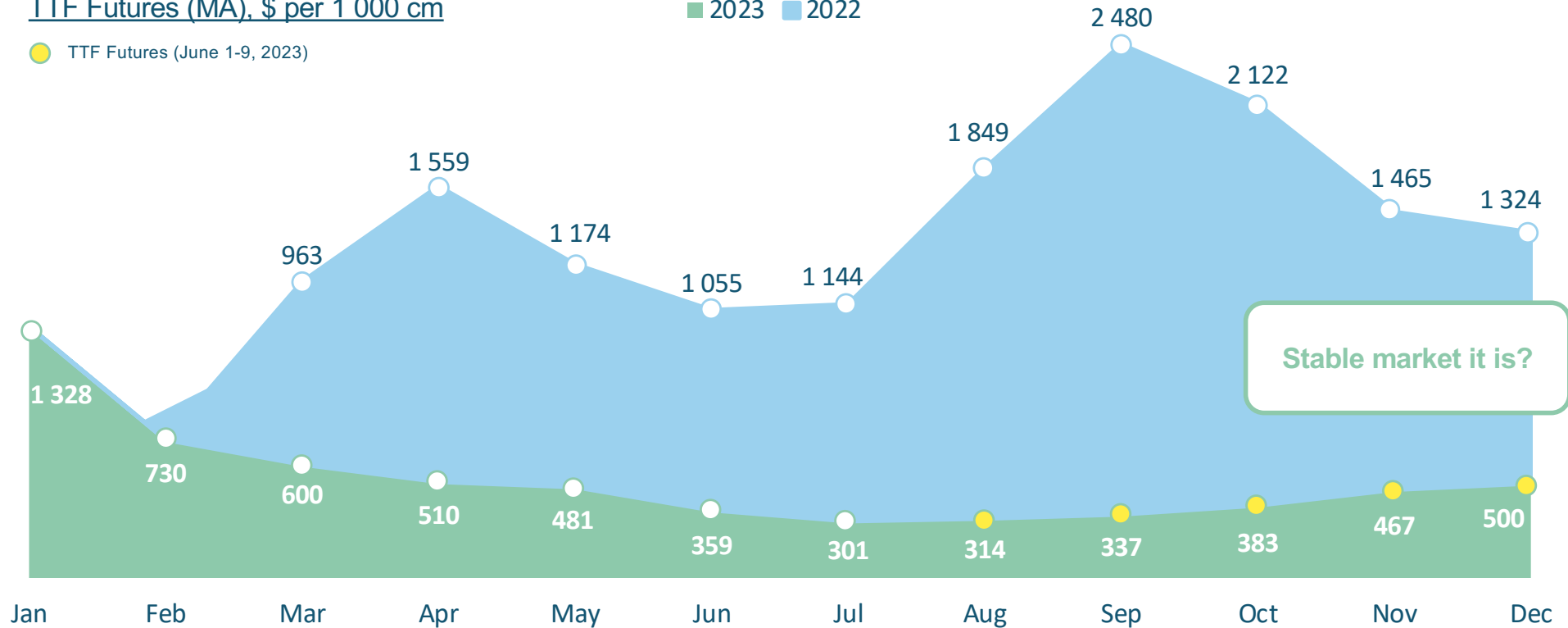


EUROPE STOOD STRONG, AND THE MARKET WILL RETURN TO STABLE OPERATION

TTF Futures (MA), \$ per 1 000 cm

■ 2023 ■ 2022

● TTF Futures (June 1-9, 2023)



- ⦿ The war in Ukraine has directly impacted Europe's energy market, significantly increasing the cost of natural gas and volatility. Russia has consistently engaged in speculation and resorted to a myriad of manipulations
- ⦿ Preparing for the winter became a top priority in the EU. Owing to joint coordinated efforts, Europe managed to fill its UGSs up to 80% prematurely in 2022, and as of June, 2023 it's already 71.9%
- ⦿ Furthermore, due to diversification, the share of Russian gas in the EU's imports decreased from 41% to 19% within a year, while LNG, on the contrary, increased from 17% to 34%



DESPITE THE FULL-SCALE WAR, THE GAS PRODUCTION INDUSTRY IN UKRAINE ALSO REMAINS RESILIENT

Rocket
attacks



Daily
bombardments



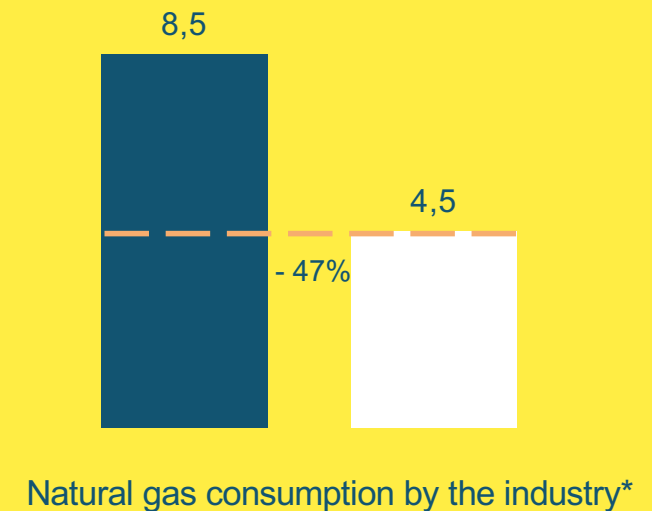
Harsh
winter



Damaged
infrastructure



- The relentless and targeted strikes, along with the destruction of industrial facilities, led to a decrease in gas consumption and production
- And even in times of darkness, owing to our Armed Forces and international partners' help, we managed to survive and found so necessary light
- Despite all the challenges, Ukraine bravely endured the most difficult winter, actively preparing for the new heating season. The sector continues its operations, and producers consistently pay taxes
- No matter how hard the Russian terrorists tried, they could not destroy Ukrainian gas production



■ 2021 ■ 2022



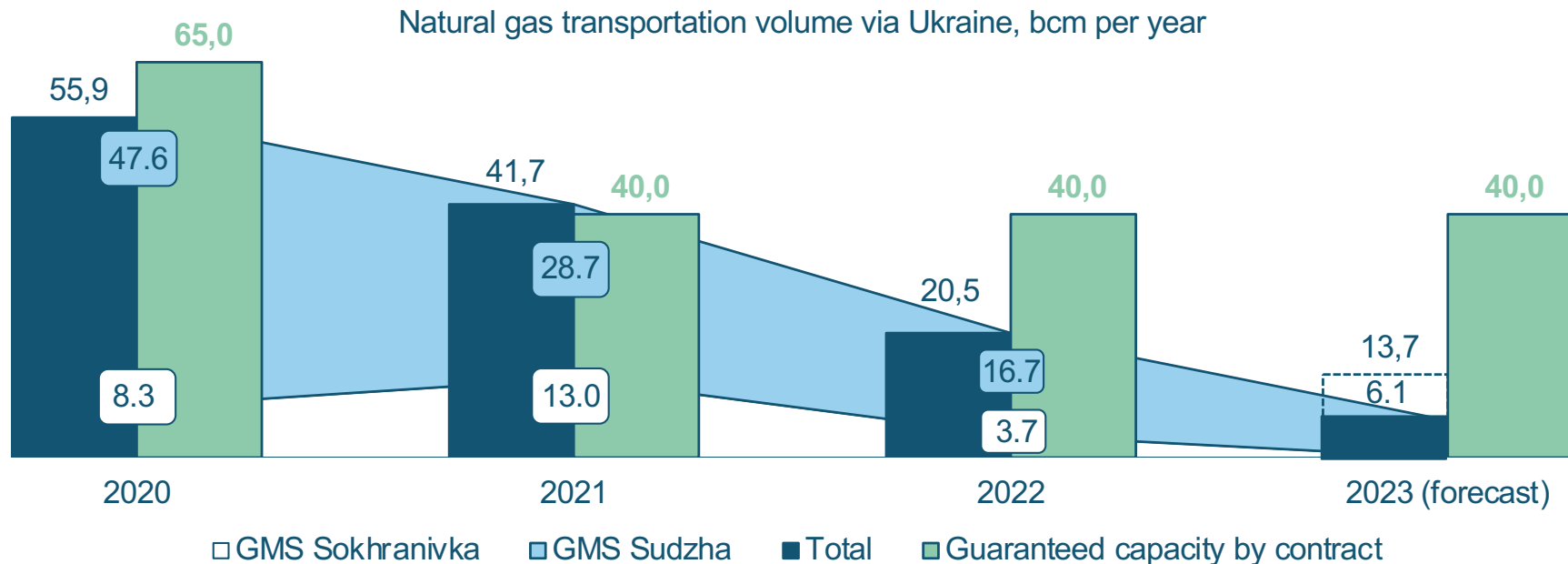
GAS TRANSPORTATION VOLUMES THROUGH THE TERRITORY OF UKRAINE REMAIN AT RECORD-LOW LEVEL

- ⊙ The Ukrainian gas transportation system remains a key source of Russian gas supplies to Europe. According to the contract signed in 2019 under the principle of “take-or-pay”, the minimum transit volume in 2020 was 65 bcm, and 40 bcm in 2021-2024
- ⊙ During the war, Russia significantly reduced gas transit via the Ukrainian GTS. Since May, 2022, transportation via GMS Sokhranivka has not been carried out, the station remains occupied
- ⊙ In 2023 only the GMS Sudzha remains operational, and there is a constant risk of transit suspension. In this case TSO of Ukraine will change system’s working conditions, ensuring performance in reverse mode

Risk to stop

Need for GTS optimization

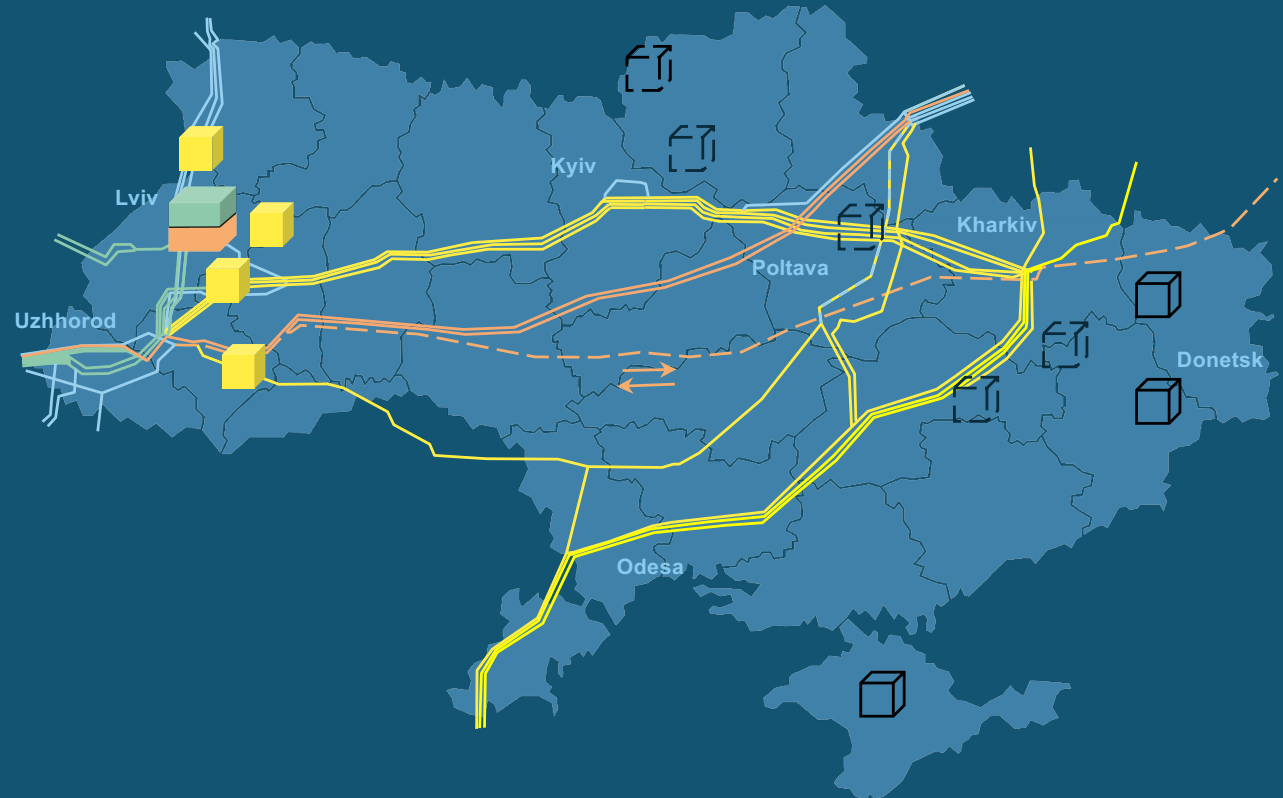
Most likely won't be prolonged





THIS IS WHY IT IS CRUCIAL TO TIMELY OPTIMIZE THE GAS TRANSPORTATION SYSTEM

- ⦿ The optimization of the GTS envisages the allocation of separate pipelines and UGS facilities for domestically produced gas, imported gas, and transit gas
- ⦿ To ensure the supply of resources to the Left-Bank and Central Ukraine, the infrastructure of existing pipelines will be utilized
- ⦿ The supply of gas to the Right-Bank Ukraine will be achieved with UGS facilities
- ⦿ One of the gas pipelines will be utilized for physical reverse flow, transporting gas from west to east or vice versa, depending on the demand



— Gas transit transportation

- - - Transit flow (halted due to the occupant's interference)

— Transportation of gas for domestic consumption

— Physical transportation of imported gas

— Other gas pipelines



UGS facilities for imported and transit gas (17.1 bcm)



UGS facilities potentially under threat (4.8 bcm)



UGS facilities for domestic production (8.3 bcm)



UGS facilities in temporarily occupied territories



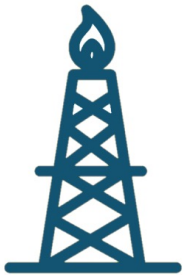
THE WAR CONTINUES, BUT WE MANAGE TO REMAIN STEADFAST AND HOLD ONTO A RANGE OF ENERGY ADVANTAGES



The largest GTS in Europe in terms of transportation



The largest UGS facilities in Europe by storage capacities



More than 700 bcm of developed and undeveloped booked reserves

- ⦿ The energy sector of Ukraine is undergoing a survival test
- ⦿ The built model withstands the maximum blows of the aggressor, but it would have been impossible without the assistance of partner countries and dedicated employees who promptly address all issues, and last but not least – our defenders
- ⦿ The robust system of the gas transportation system, underground gas storages, and production capabilities make Ukraine highly resilient to any challenges, even during times of war
- ⦿ The sector continues to operate, and non-resident companies have uninterrupted access to inject gas into our UGSs



Association
of Gas Producers
of Ukraine

WE INVITE YOU TO ENGAGE IN FRUITFUL COOPERATION ON PROMISING LARGE-SCALE PROJECTS!

PSAs

TIGHT GAS

CONVENTIONAL
BROWNFIELDS

DEEP HORIZIONS

RES

PECs

The
Economist

UKRAINE
STRIKES
BACK

STORE

DEVELOP FIELDS

WIN TENDERS

PURCHASE LOTS

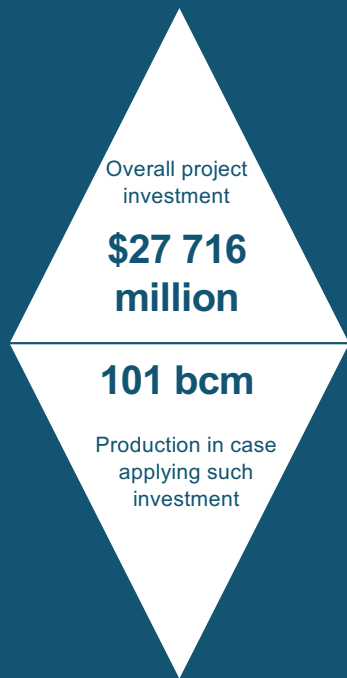
ENHANCE
PRODUCTION

RESTORE
INFRASTRUCTURE



STRATEGIC PARTNERSHIP OPPORTUNITIES AMONG THE LARGE-SCALE PROJECTS IN E&P OF UKRAINE

Forecasted results



Opportunity	Brownfields	Conventional Greenfields	Tight gas	Deep Horizons	PSAs	Yuzivska	Dolphin (Black Sea)	Carpathians
Size of a Prize, EUR* bcm	80 2P reserves already	36	43	37	50	190	200	40
What Naftogaz seeks from partnership?	Production intensification from depleted fields		Track-record of commercialization of unconventional gas projects	Underbalanced, high temp, high pressure drilling technologies	Track-record of commercialization of unconventional gas projects	Track-record of commercialization of unconventional gas projects	Experience in deep water drilling and project commercialization	Know-how in development similar rocks
Entry ticket**, \$ mln								TBD
Stage of farm-down	At production decline phase	At wild-cat greenfield stage	After gas discovery is made	After shooting 3D seismic	At wild-cat greenfield stage	After gas discovery is made	After shooting 3D seismic	At wild-cat greenfield stage
Possible way to farm-in***	PEC	PSA	PSA	RSC	PSA	PSA	PSA	PSA / JV

Notes: * EUR – expected ultimate recovery; ** - Minimum size of a project in each bucket; Naftogaz will only consider partnerships with overall minimum investment commitment of \$100+ mln; package deal with projects from different buckets is possible; *** - Production Enhancement Contract (PEC), Risk Service Contract (RSC), Production Sharing Agreement (PSA), Joint Venture (JV).
Source: Naftogaz Group



Association
of Gas Producers
of Ukraine

THANK YOU FOR ATTENTION!