Ask ICIS: Ukraine’s role in balancing the European gas market

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01 Global gas market overview

02 Central and East European market overview

03 The role of Ukraine in market balancing
Europe becomes the floor

- NBP falls below Henry Hub during April for first time since financial crisis

- On 2 January:
  - NBP settled $1.88/MMBtu above Henry Hub
  - EAX held premium of $2.91/MMBtu to Henry Hub

- On 12 May:
  - NBP closes $0.33/MMBtu **below** Henry Hub
  - EAX bounces back to $.072/MMBtu above Henry Hub

Source: ICIS and NYMEX
European consumption crumbles

Consumption in April 2020 vs April 2019

- Europe – down 17%
- France – down 34%
- Spain – down 23%
- Britain – down 24%
- Italy – down 21%
- Germany – down 9%
- Netherlands – down 9%

Source: ICIS aggregations
Global supply cut-backs in full swing

European pipe gas

- Equinor defers Q1-20 production to periods of higher prices
  - Norway’s supplies to Britain in April fall to just 16% of the main mix
- Gazprom now using 166bcm export target for Far Abroad, down from 200bcm
  - Jan-Apr export volumes already down approx. 20%

Global LNG liquefaction

- At least 21 US cargoes to be cancelled in June
  - ICIS is forecasting a further 21 cargoes to be also cancelled for July and August
- Egypt’s Idku has shut in through Q2-20
  - Eni running 33bcma Zohr field at approx. half capacity
European sink remains in play – but storage levels relatively full

- Low gas prices continue to support spark spreads
  - Although power demand down too
- EDF’s French lower nuclear schedule could drive 14bcm of extra gas-burn
- Storage needs to play an even greater role
  - Even as stocks already relatively full

![Chart: European storage capacity by selected country](source: ICIS aggregations)
Meanwhile, in Ukraine’s neighbourhood

01 Ukraine loses its Balkan and Turkish transit, but TurkStream 1+2 remain underused.

02 Polish-Russian long-term contract expires, but flows unlikely to be diverted to Ukraine for now.

03 Changing regional price dynamics encourage companies to store gas in Ukraine.
Utilisation rates of transit pipelines via Ukraine and Turkey

Utilisation rate of Trans-Balkan pipeline

2018: 60%  
2019: 30%

Source: Transgaz

Utilisation rate of TurkStream1 + Blue Stream and TurkStream2

TurkStream1 + Blue Stream (import Turkey): 80%  
TurkStream 2 (export to Balkans): 40%

TurkStream1 + Blue Stream – January, February 2020 (Source: EPDK)  
TurkStream 2: January – April 2020 (Source: ENTSOG)
Russian Yamal transit via Poland to continue

Source: Gaz-System

Long-term contract expires on 16 May 2020

80% of Q3 ‘20 capacity booked by Gazprom in line with EU rules

Source: Gaz-System
Since 2014, Ukraine had been importing gas from European hubs to cover domestic needs. Ukraine was seen as a premium market for companies looking to make a profit.

Falling hub prices in recent months have been pressuring UAVTP prices, which means that the spread between hub prices and Ukraine has been shrinking.

With falling hub prices and shrinking spreads, the rationale for importing gas into Ukraine has changed. Companies are now looking to inject gas in Ukrainian storages.
Impact of gas exports to Ukraine on Slovak traded OTC volumes

- Increase in gas exports to Ukraine has been driving liquidity on the Slovak OTC market.
- Are these the first signs that Ukraine is becoming a regional hub?

Source: Eustream, ICIS
GTSOU presentation

Overview

Sergii MAKOGON
CEO of Gas TSO of Ukraine, LLC

15 May 2020
Interconnection point capacities

Legend
- Gas pipeline
- Gas metering stations located close to the border
- entry IPs (mcm)
- exit IPs (mcm)

Gas metering stations located close to the border entry IPs (mcm) exit IPs (mcm)

Gas pipeline

* after 1 June 2020 will be united in 1 VIP
** TOT – temporarily occupied territories of Donetsk and Lugansk regions, Crimea
Shorthaul service

Discounted transmission between EU countries

Shorthaul – is a special service, which allows for discounted transmission between dedicated IPs with adjacent countries. UA Network Code specifies short-haul as «capacity with restrictions».

Customs warehouse

This product is only for transit services and does not provide access to the Ukrainian VTP and internal market. Shorthaul can be combined with storing natural gas in UA storages in “customs warehouse” mode.

As of end of April 2020, there were several tests of shorthaul for transit between EU countries and 0,3 bcm was injected into storages.

New opportunities for shippers

The shorthaul service provides the instrument for traders and shippers to use the capacities under very attractive tariffs, reaching the markets of Poland, Hungary, Slovakia, and Romania via Ukrainian GTS.

To use shorthaul service you just need to:
1. Conclude transportation agreement;
2. Receive a separate shipper code for shorthaul product;
3. Book monthly product or day ahead product (via nomination).
Virtual reverse flows and merger of IPs — implications for regional market integration

The Ukrainian and Hungarian TSOs, concluded new interconnection agreement, which prescribes uniting existing two IPs— IP Beregovo DN1400 and IP Beregdaróc DN800 — into one single virtual interconnection point—VIP “Bereg”, which came into force on gas day 1 May 2020.

Example for first 10 days of May:
Ukraine – Hungary = 278,4 mcm
Hungary – Ukraine = 194,7 mcm
Physical gas transportation = 83,2 mcm (difference on OBA between the TSOs)

LLC Gas TSO of Ukraine initiated negotiation with Eustream to conclude new interconnection agreement, which prescribes uniting existing two IPs into one single VIP.

LLC Gas TSO of Ukraine and Gaz-System, in process of the concluding new interconnection agreement, which prescribes uniting existing IPs into one single VIP, which is expected to come into force on gas day 1 June 2020.
Expectations of imports from EU hubs into Ukraine in 2020

In January-April 2020, natural gas imports from the EU reached **3.9 bcm**. This is 1.4 bcm, or **59%**, more than in the same period last year. That is also 26% more than the average in 2016-2019.

During the **four first months of 2020**, import portfolio is the following:
- **Slovakia** 2.4 bcm (+91% compared to the same period last year),
- **Hungary** 0.9 bcm (+26%),
- **Poland** 0.6 bcm (+28%), including **virtual reverse** – 0.38 bcm.

In April 2020, **1.131 bcm** of natural gas was imported to Ukraine. This amount was exceeding the import volumes in April 2019 by 255 mcm. In particular, 264 mcm of gas entered Ukraine using **short-haul** via the following routes: **Hungary** – 64%; **Poland** – 21%; **Slovakia** – 15%.

In late April 2020, **Eustream** launched the new service which prescribes discount of up to **40%** for bought capacities in Slovakia toward transporting gas to Ukraine for seasonal storage of gas and its subsequent export back to Slovakia. The gas injection season is just beginning, so this year Western traders will be able to use this product.

On April 16, **LLC Gas TSO of Ukraine announced procurement** of fuel gas for total volume of **300 million cubic meters** targeted for non-residents. **The purchase is planned in "customs warehouse“** regime in the underground storage facility, the expected value of 33 million euros.
Expectations of imports from EU hubs into Ukraine in 2020

GAS IMPORTS

2019 and 2020, January-April

mln cubic m

2019 2020
How to become a client Guideline
For more information please check GTSOU web site:
Thank you!

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Ukrainian Gas Storages: Save to Provide
by Sergii Oleksiyenko
Chief Executive Officer
Ukrainian Gas Storages

Available capacity - 14 bcm
Total - 30.9 bcm

<table>
<thead>
<tr>
<th></th>
<th>Reserves as of 1.05.2020</th>
<th>Injected in January-April 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customs Warehouse</td>
<td>2.4</td>
<td>1.2</td>
</tr>
<tr>
<td>Short-haul</td>
<td>0.3</td>
<td>0.3</td>
</tr>
<tr>
<td>“CW” residents</td>
<td>1.2</td>
<td>0.6</td>
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<tr>
<td>“SH” residents</td>
<td>0.1</td>
<td>0.1</td>
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<tr>
<td>“CW” non residents</td>
<td>1.2</td>
<td>0.6</td>
</tr>
<tr>
<td>“SH” non residents</td>
<td>0.2</td>
<td>0.2</td>
</tr>
</tbody>
</table>

Total reserves as of 1.05.2020 = 16.6 bcm
Injected in January-April 2020 = 2.3 bcm
Our Partners

Today, Ukrainian UGS services are used by companies from Austria, Estonia, Germany, Poland, Slovakia, the USA, France and Switzerland.

Start Business with SSO:

Visit our web-site and download instruction “How to Become a Customer”.

694 Total concluded contract
300 Customers as of May 2020
10 Used short-haul
52 Non residents contracts
15 Non residents as of May 2020
9 Used short-haul non residents
## Tariffs Comparison

The **short-haul** product is up to two times cheaper even in comparison with alternative storage services in Europe.

<table>
<thead>
<tr>
<th>Short-haul + customs warehouse</th>
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<th>Storage capacities (injection/withdrawal)</th>
<th>Storage tariff Euro per MWh</th>
</tr>
</thead>
<tbody>
<tr>
<td>PL - UA</td>
<td>PL</td>
<td>PL</td>
<td>4.2-4.7</td>
</tr>
<tr>
<td>UA - PL</td>
<td></td>
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<tr>
<td>HU - UA</td>
<td>1.67 ↓ 72.8%</td>
<td>CZ</td>
<td>2.45-6.14</td>
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<tr>
<td>UA - HU</td>
<td></td>
<td></td>
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<tr>
<td>SK - UA</td>
<td>1.62 ↓ 55.6%</td>
<td>SK</td>
<td>3.65</td>
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<tr>
<td>UA - SK</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RO - UA</td>
<td>1.63 ↓ 70.4%</td>
<td>IT</td>
<td>3.12-5.51</td>
</tr>
<tr>
<td>UA - RO</td>
<td></td>
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</tbody>
</table>

Advantages of Ukrainian gas storages: fixed price, no auction procedures!
Tariff Methodology

The cost-based approach includes two models: Cost Plus and RAB regulation. The two models differ by the margin calculation methodology.

**Cost plus**

Margin = fixed amount

- Short-term tariff design
- No return on investment

**RAB**

Margin = RAB x Rate of return

- Long-term tariff design
- Aimed at attracting capital
RAB Methodology:
Financing of investment projects by external and internal sources

RAB regulation allows a company to attract investments and create value for itself by achieving superior performance relative to regulatory target.

The key task is to introduce methodology, which will cover operating and investment expenses in tariff and will provide stipulated level of profitability.

Sources of investments
- Equity
- External funds

Based on approved investment program

1. regulatory period
2. regulatory period
Thank you!

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