



A gas hub for Ukraine. Scoping the discussion

Dr Georg Zachmann

Berlin/Kyiv, December 2016

Structure

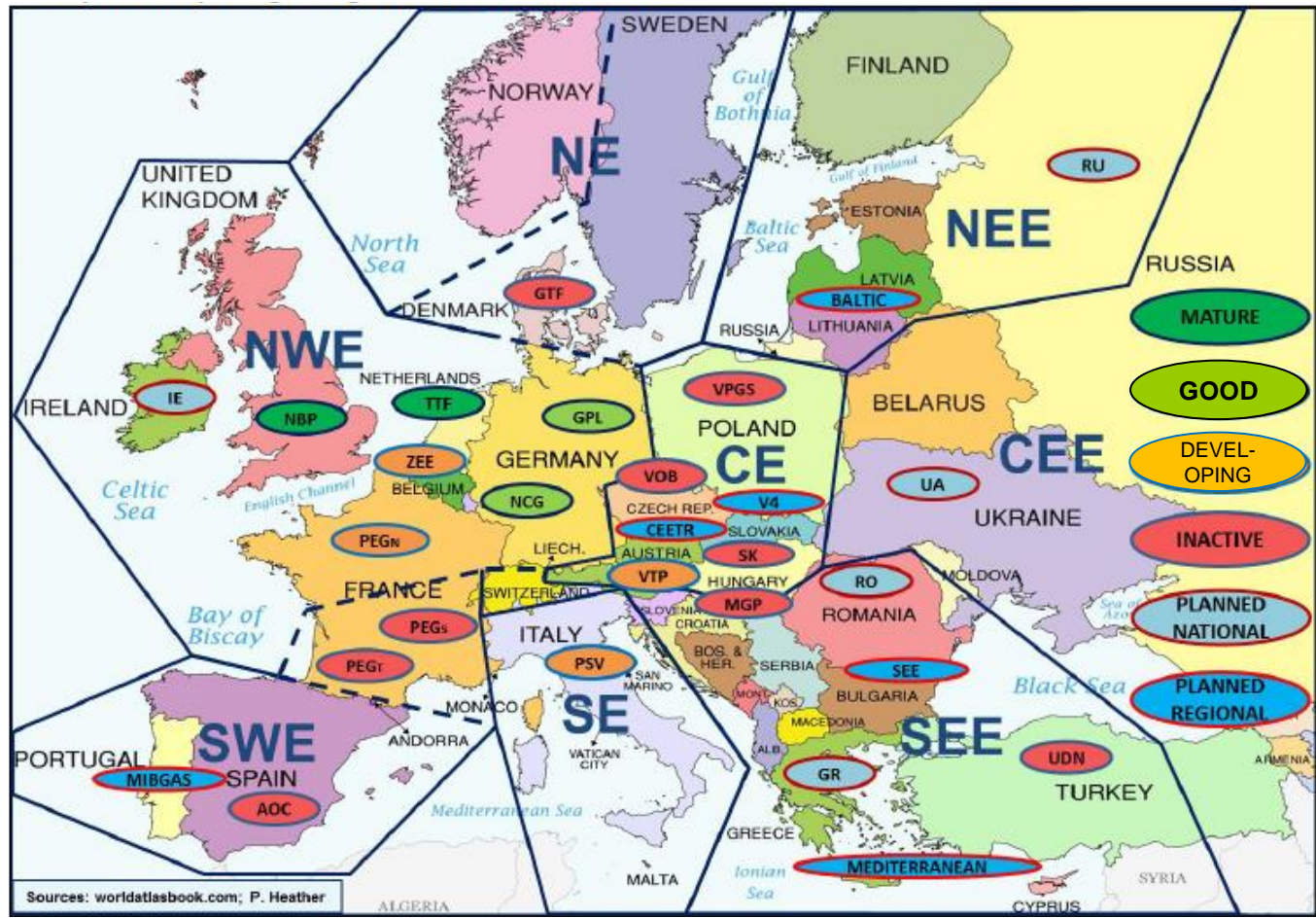
1. What is a gas hub?
2. Benefits of a gas hub
3. Requirements for a functioning gas hub
4. Where does Ukraine stand?
5. Conclusion

Gas is special

- Seasonal patterns (high demand of gas for heating)
 - In the last decade: General move away from oil-indexation to wholesale markets for determining prices
 - High price volatility
 - **Infrastructure bound, with bottlenecks**
- > different prices at different points of the network
- However: Not many suppliers/consumers at each point
- > Fair price cannot be established

For this reason: Gas hubs have emerged in Europe, but only space for a few hubs

EU gas hubs



- Only 4 of the 17 existing gas hubs are working good
- Only 2 are mature: NBP (UK) & TTF (NL)
- VTP (AT, Baumgarten) is the only one in Central Europe that is developing (2015:478TWh)

Heather (2015): The evolution of European traded gas hubs , OIES NG 104
 Note: legend changed

Types of hubs

Main types

- Financial risk management hubs
- Balancing physical hubs

Geography

- Point or area (virtual location)
- International / national / regional

Different market making

- Cleared vs. not-cleared
- OTC vs. exchange traded

Different products

- Short term vs. long term, ...

Benefits of a gas hub

1. What is a gas hub?
2. Benefits of a gas hub
3. Requirements for a functioning gas hub
4. Where does Ukraine stand?
5. Conclusion

National hub (gas exchange)

- Reliable price signal for domestic actors
 - Consumers: benefit from wholesale competition
 - Producers: benefit from liquid market to absorb their volumes and possibly long term price signals
 - Regulator: can use market price signal for setting tariff components (network, PSO, ...)

International hub

- Increased use of infrastructure and storage
- Gains from trading

Cost

National hub

- financial cost to (particularly) the incumbent players who dominated the pre-liberalisation landscape

International hub

- Spill-over of foreign price volatility

Requirements for a functioning gas hub

1. What is a gas hub?
2. Benefits of a gas hub
3. Requirements for a functioning gas hub
4. Where does Ukraine stand?
5. Conclusion

What makes a good hub?

- **Liquidity**

Sufficient supply and demand at reasonable price levels (a lot of gas can be bought/sold close to the market price)

- **Volatility**

Supply and demand are dynamic – leading to different price levels clearing the market

- **Anonymity**

The counterpart of a transaction should not be known

- **Transparency**

Prices and volumes get publicly reported

Liquidity & Market Structure

- There must be as many different sellers as possible:
 - Producers (domestic production helps a lot (NL,UK,RO!))
 - Importers
 - Traders (incl. storage users)
 - If there is only one main seller, there will be no functioning hub!
- There must be as many different buyers as possible:
 - Consumers
 - Exporters
 - Traders (incl. storage users)
- Infrastructure and regulation allow gas to physically flow to where it's needed, when it's needed (Single TSO helps)

Volatility

There needs to be a 'reason' for trading:

- Production and consumption (and/or import and export) need to be **dynamic** and price sensitive
- Dynamics in new hubs need to be **different from coupled hubs**, otherwise trading would take place at existing liquid hubs
- Different price drivers might be:
 - Different consumption patterns (e.g. electricity driven gas demand vs. heating driven demand)
 - Different production patterns
 - Different import sources / export destinations
 - Significant storage capacity

Anonymity & Transparency

- **Anonymity** is required to allow traders to benefit from investing into market research
- **Transparency** allows also small parties to trade at the „fair“ prices
- Anonymity and Transparency require a trusted market operator under independent market oversight
- In the EU, but not in the Energy Community: Regulation (EU) No. 1227/2011 on wholesale energy market integrity and transparency (REMIT)

Other factors

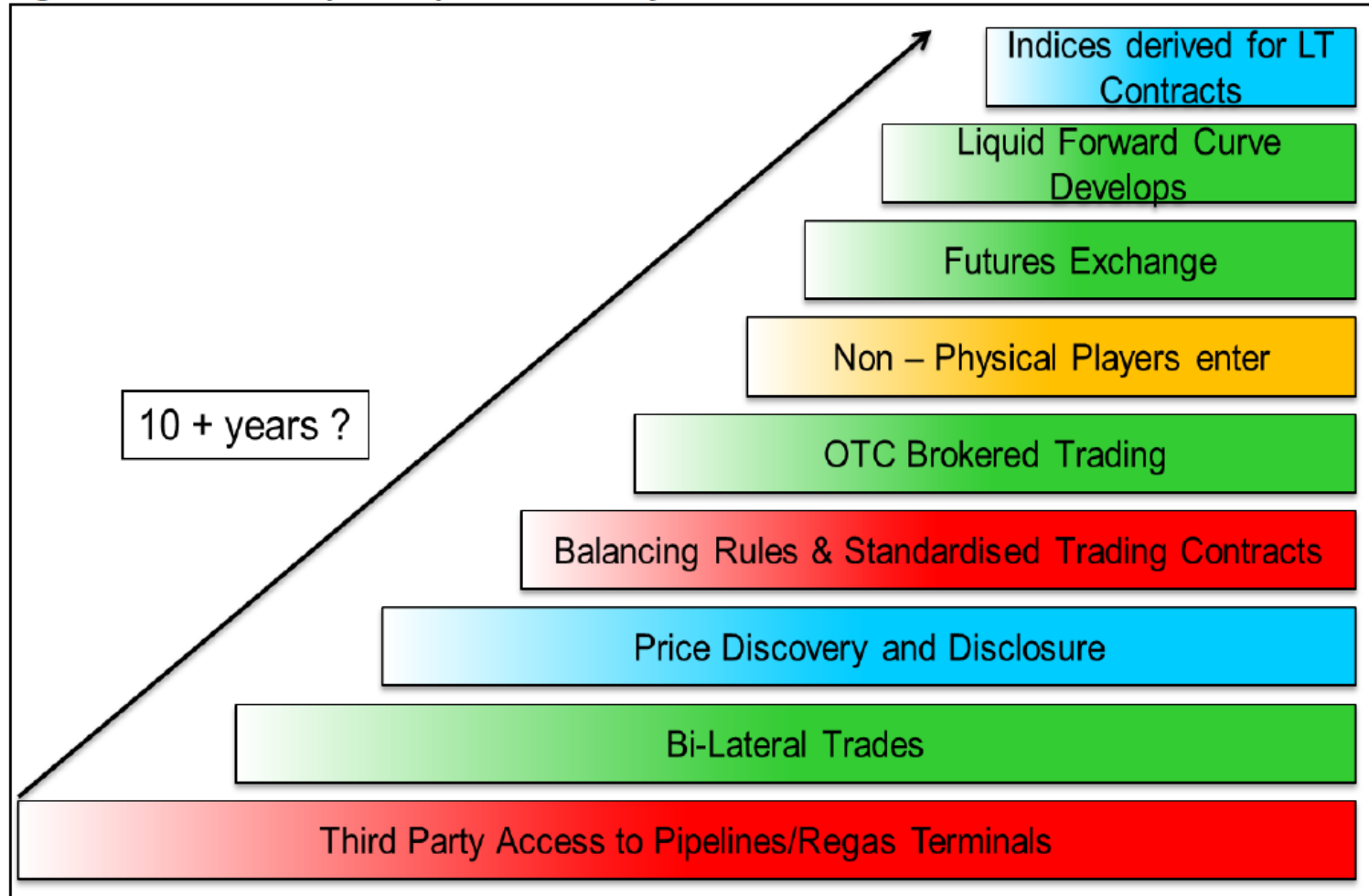
- The trading culture (do market participants trust the hub and are interested to use it)
- The business environment
- Taxation rules
- and the overall regulatory framework

An international financial risk management hub has much higher requirements

- Derivatives (futures, options and financial swaps) require good financial market rules (introduce REMIT in Ukraine)
- Impeccable rule of law record - you need to be sure that contracts are easily enforceable

The development of a liquid hub takes time (10-15 y in US and UK)

Figure 1: Hubs development 'path to maturity'



Source: H.Rogers (OIES)

Where does Ukraine stand?

1. What is a gas hub?
2. Benefits of a gas hub
3. Requirements for a functioning gas hub
4. Where does Ukraine stand?
5. Conclusion

Market participants - seller

Potential sources and technical/expected volumes:

- Domestic
 - 4 bcm/y private
 - 16 bcm/y Naftogaz
- up to 22 bcm/y from competitive EU market's* (but most of the imports currently conducted by Naftogaz)
- up to 288 bcm/y from RU

-> Currently only one large supplier, i.e. Naftogaz

* More when all exit points to the west (~150 bcm) allow reverse-flows

Market participants - buyer

- Oblgaz
 - Households consume about 11 bcm/y
 - Heating sector consumes about 7 bcm/y
 - Companies
 - Ukrtransgaz consumes about 3 bcm/y
 - Industry consumes about 11 bcm/y
 - Exporters
 - Might want to sell to the EU and the Balkan
 - 150 bcm/y of export capacity
 - Traders
 - Might want to use Ukraine's storage for seasonal arbitrage or speculation
- > sufficient potential consumers, when market is fully opened**

Ukraine's role between a liquid market in Western Europe and a dominant supplier in the Eastern Europe

- When Ukraine is fully integrated into the EU internal gas market Ukrainian market participants could also trade at the already trusted and liquid Baumgarten hub
 - > Question: Would a Ukrainian gas hub have substantially different prices from Baumgarten
 - Problem of supplier dominance:
 - If Gazprom decides to (indirectly) participate in the hub, it could exercise market power
 - Could a gas release program (Italy forced ENI, PL forced PGniG) or a cap on imports (like in Spain) restrict the role of, both, Gazprom and Naftogaz during the transition?
- > These questions should be carefully analysed**

Infrastructure

- Strong East-West connections
- Lack of North-South connectivity and no access to LNG
- Legal access regime / level of tariffs still unclear
- Significant storage capacity

-> reliable rules on gas transmission crucial

Business climate

- Still serious issues with rule of law (independent courts, enforceability of contracts, ...)
- Political risks
- Trust in institutions will only grow slowly

-> to speed-up it might help to make use of foreign legal institutions for a transition period

Issues to be clarified

1. What is a gas hub?
2. Benefits of a gas hub
3. Requirements for a functioning gas hub
4. Where does Ukraine stand?
5. Conclusion

Conclusion

- Ukraine should develop a national gas hub (gas exchange) to provide reliable price signals to all market participants
- As of today: Ukraine meets essential preconditions for developing a hub
- But: Ukraine needs to make strategic choices
 - Physical vs. financial
 - Which products (long-term, short term)?
 - Open: Also international hub?
- And: Complete significant work on crucial elements
 - encourage supply-side competition
 - network access rules
 - enforceability of contracts



German
Advisory Group
Ukraine

Contact

Berlin
Economics

Dr. Ricardo Giucci

giucci@berlin-economics.com

Dr. Georg Zachmann

zachmann@berlin-economics.com

German Advisory Group

c/o BE Berlin Economics GmbH

Schillerstr. 59, D-10627 Berlin

Tel: +49 30 / 20 61 34 64 0

Fax: +49 30 / 20 61 34 64 9

www.beratergruppe-ukraine.de

Twitter: @BerlinEconomics

