

# **Gas release programmes as an instrument to improve gas market functioning**

## ***EU4Energy High-level Policy Talks***

***05.10.2018***

---

**Georg Fischer**

This document has been prepared by Wagner & Elbling GmbH ('WECOM') at the request of EU4Energy.

The information contained in this document is supplied to any person only on the condition that WECOM and any employee of WECOM are not liable for any information within the document including any error, inaccuracy, whether negligently caused or otherwise, or for any loss or damage suffered by any person due to such error, omission, or inaccuracy.

This document may only be transmitted to third parties in its entirety and provided with copyright notice, prohibition to change, electronic versions' validity notice and disclaimer.

Wagner & Elbling GmbH, Vienna, Austria. All rights reserved.

**1. Reasoning for gas release programmes**

**2. Historical examples of GRPs in Europe**

**3. Learnings from European GRPs**

**4. Specific conditions in Georgia**

**5. Properties of different potential GRP designs for the GE gas market**

**1. Reasoning for gas release programmes**

2. Historical examples of GRPs in Europe

3. Learnings from European GRPs

4. Specific conditions in Georgia

5. Properties of different potential GRP designs for the GE gas market

## Overall goal: Functioning wholesale market

---

From the Energy Community Acquis, Article 1 of Regulation (EC) No 715/2009:

**“Facilitate the emergence of a well-functioning and transparent wholesale market with a high level of security of supply in gas”**

# 1. Reasoning for gas release programmes

## What are key characteristics of functioning wholesale gas markets?

### Liquidity (spot and forward)

Market participants' shall be able to cover their gas volume needs both on a short-term (spot market) basis as well as over various mid- and long-term (forward market) time horizons

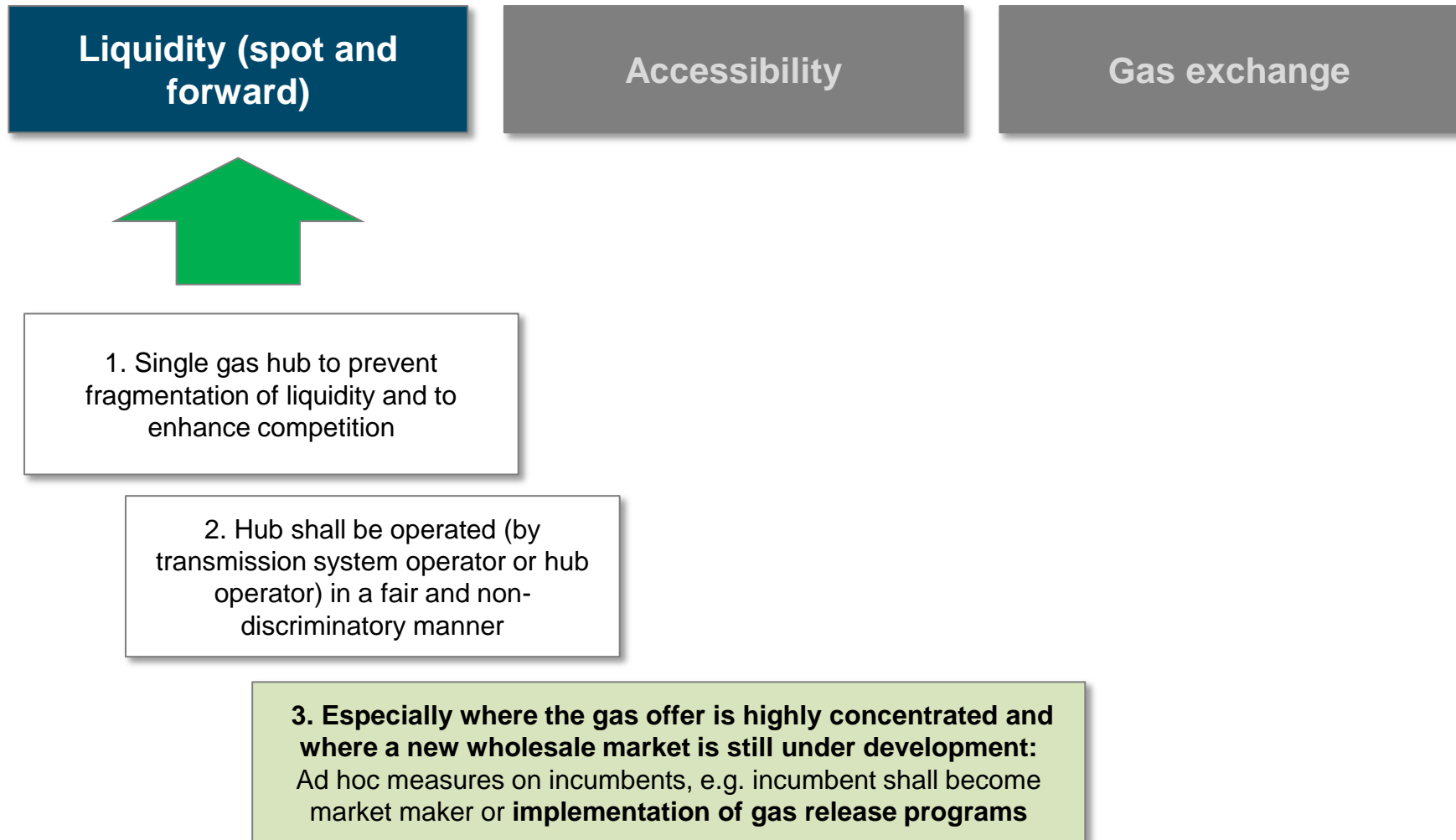
### Accessibility

Market participants can participate in the gas market and access the transmission network on a non-discriminatory and transparent basis

### Gas exchange

Final step in the evolution of the wholesale market that enables anonymous transactions, provides the most reliable price signals and improves management of credit risks (ideally via clearing house)

# What measures shall be applied to improve functioning of a wholesale gas market?



## Gas release programmes (GRPs)

### Aim

**Kickstart competition in early stages of market opening, especially where gas supply sources (import and/or domestic production) are strongly concentrated ('gatekeeper').**

### General properties of GRPs (depending on the concrete design)

- **Creates non-discriminatory and transparent access to gas volumes and (potentially) flexibility for non-incumbent wholesale market participants (e.g. retailers, large industrial consumers, traders) in the first place**
- **Provides access to gas at competitive prices**
- **Increases price transparency on the market by effectively providing benchmarks (e.g. auction clearing price or at least the information, whether the base price was exceeded or not)**
- **Facilitates liquidity on the bilateral (OTC) and balancing market**



1. Reasoning for gas release programmes

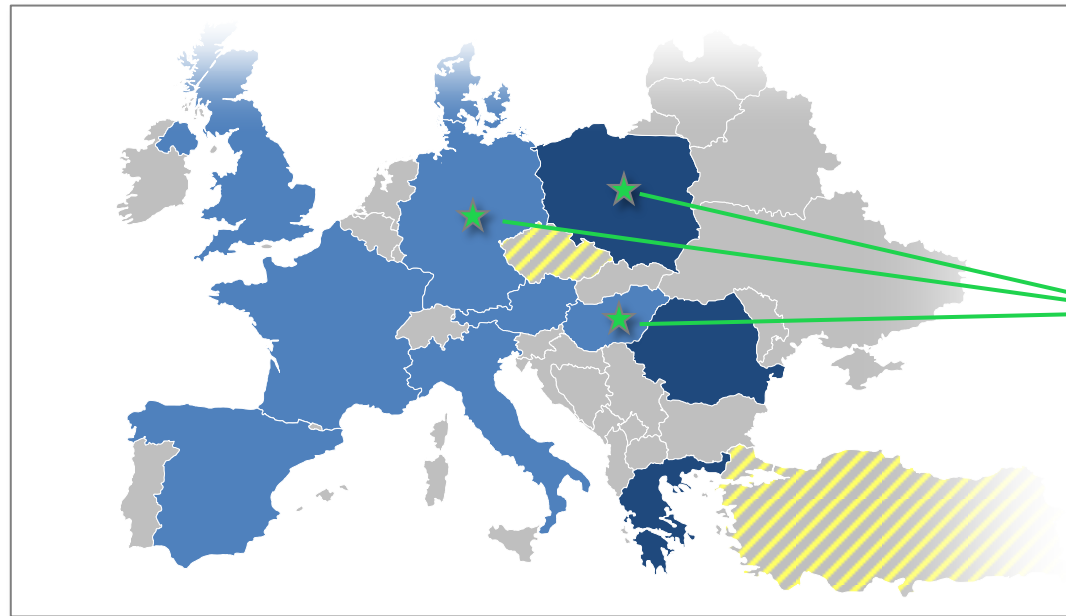
**2. Historical examples of GRPs in Europe**

3. Learnings from European GRPs

4. Specific conditions in Georgia

5. Properties of different potential GRP designs for the GE gas market

Since the start of gas market liberalisation a multitude of gas release programmes has been conducted in Europe, including three gas release programmes still in progress.



case study targets



## Case study: Germany

- **Government approval of the acquisition of Ruhrgas by E.ON was subject to a number of obligations on Ruhrgas, including the establishment of a gas release programme to release 200 TWh of gas from its long-term import contracts.**
- **Yearly auctions in 2003-2008, held in spring/summer**
- **At each auction 33 TWh were offered over the 3 forthcoming gas years (11 TWh per year) in 33 lots**
- **Delivery points:**
  - **Emden (for the auctions in 2003, 2005, 2006)**
  - **Waidhaus (for the auctions in 2004, 2007, 2008)**
- **The starting price for the auction was set to 95% of the published average border price for the delivery month concerned**
  - **starting with the auction 2004, an alternative option for the starting price (based on the national oil and gas prices) was introduced**
- **Product flexibility: Minimum Annual Quantity 80%, Minimum Daily Quantity 60%**
- **Companies wishing to bid had to provide a bank guarantee for EUR 1 million per lot being bid for and a higher guarantee if their bid was successful**
- **Companies with more than 10% ownership by either E.ON or Ruhrgas were excluded**

## Case study: Germany

- In first auction 2003 only 15 lots were sold, the remaining 18 were offered in the years 2004-2006 (6 lots per year)

	2003	2004	2005	2006	2007	2008
Delivery point	Emden	Waidhaus	Emden	Emden	Waidhaus	Waidhaus
Offered lots	33	39	39	39	33	33
Successful bids (lots)	15	35	39	39	33	32
Number of bidders	2	7	7	7	13	7
Premium (Euro/MWh)	0	0	1.001	6.002	2.850	3.651

- The first auction was judged a failure since more than 50 percent of the volume remained unsold. As a result, for the next auction at Waidhaus, the conditions were amended. In addition to the base price, which was linked to the statistical average border price published by BAFA (Federal Office for Export Control), a base price linked to Rotterdam traded gas oil and fuel oil products was introduced.
- Responses from market participants also indicated that difficulties to obtain sufficient capacity to transport the acquired gas were an issue.
- The impact on the German gas market of the first three rounds of the gas release programme was limited, as a significant part of the gas was transported further to foreign trading points.

- In a merger procedure where German E.ON acquired stakes in Hungarian MOL subsidiaries, with the effect of substantial concentration on both the Hungarian gas and electricity market:
  - Domestic demand in 2004 was at approximately 14 bcm
  - MOL controlled about 99% of domestic production (around 3 bcm in 2004)
  - MOL controlled imports, with supply dominated by Gazprom and only small volumes contracted from E.ON and GDF (diversification on government pressure, at prices not competitive to RU gas)
- Due to the size of both companies this operation also had a European Community dimension. Thus in 2005 the Commission initiated proceedings under the Merger Regulation.
- At first the companies objected, but later offered commitments based inter alia on a market test, which included:
  - unbundling (gas production and transmission, gas wholesale and storage)
  - a gas release programme
  - a release of gas production contracts (with MOL E&P)
  - storage access at regulated tariffs for gas and contract release participants
  - monitoring by the regulator
- Concluding that the commitments proposed by the parties were sufficient to address the competition concerns, the Commission approved the merger operation.

## 2. Historical examples of GRPs in Europe

### Case study: Hungary

#### GRP details 1/2

- The released volume (gas and contracts) was estimated to represent:
  - up to 14% of the forecasted total Hungarian demand (estimated in the range of 15-20 bcm)
  - 21% of total third parties' gas sales
  - 60% of the size of the market for the supply of gas to power plants
  - 55% of the size of the market for the supply of gas to large industrial customers
- The GRP duration was chosen to coincide with the expiry of Gazprom supply contracts (and thus until a restructuring of import relationships can realistically take place)
- Lot sizes were 25 mcm/a, 50 mcm/a and 100 mcm/a
- Product: Low flexibility (not capable to satisfy the full needs of consumers in itself). Delivery over 2 years at UA/Beregdaróc (80%) and AT/Baumgarten\* (20%)

Gas year	Gas release volume	Contract release volume
2006/2007	0.5 bcm	0.7 – 1.3 bcm
2007/2008	1 bcm	0.7 – 1.3 bcm
2008/2009	1 bcm	0.7 – 1.3 bcm
2009/2010	1 bcm	0.7 – 1.3 bcm
2010/2011	1 bcm	0.5 – 1.0 bcm
2011/2012	1 bcm	0.5 – 1.0 bcm
2012/2013	1 bcm	0.5 – 1.0 bcm
2013/2014	1 bcm	0 – 0.5 bcm
2014/2015	1 bcm	0 – 0.5 bcm

It should be noted that the GRP was designed taking into account comments and suggestions made by respondents (e.g. regarding participation terms, lot sizes, price mechanism and allocation procedure) in the market test and under scrutiny of the regulator HEO.

\* Notably, E.ON transported the gas from Baumgarten to the Austrian-Hungarian border, for which an extra charge applied

- Allocation procedure:
  - Yearly ascending-price auctions
- Price mechanism:
  - Successful bidders would obtain gas at the same competitive conditions as the merger parties, and possibly cheaper, owing to the fact that the starting bidding price foresees a 5% discount off the WACOG.
  - Potential financial losses to be carried by merger parties up to EUR 26 million – Accordingly, the starting price in 2008 based on the losses of 2006 and 2007 was 97.4% of the WACOG, and 99.3% of WACOG in 2009.
  - The WACOG calculation was verified by the regulator.
  - Settlement prices were not public.
- “Access to customers”:
  - Customers purchasing gas in the GRP or indirectly from a trader purchasing gas in the GRP have the opportunity to terminate their existing gas supply contracts.
- Capacity in transmission and distribution networks:
  - Capacity-follows-the-customer principle defined in Hungarian regulatory framework ensured transport capabilities of GRP participants.

## Case study: Poland GRP background

- PGNiG\* is Poland's single producer and single importer from Russia.
- In order to make the gas market more transparent and competitive, the amended Energy Law ("Small Tri-Pack") went into force on September 11<sup>th</sup> 2013. It imposes the obligation to sell at least the following share of the overall gas volumes fed into the transmission network at the exchange market ("exchange obligation"):
  - 30% in 2013 (based on combined consumption of "largest consumers")
  - 40% in 2014
  - 55% since 2015
- The above obligation applies to gas fed into the transmission system through:
  - interconnection points with other countries
  - upstream pipeline networks (i.e. production systems)
  - LNG regasification installations
- Exceptions are provided for H-gas\*\*...
  - ...constituting mandatory stocks of natural gas
  - ...for transit volumes and exported production volumes
  - ...for TSO/DSO needs
- Gas utilities are exempt from the obligation if they own the rights to <10% of all transmission entry capacity at foreign interconnections → In practice, PGNiG is only entity covered by the obligation.

\* Polskie Górnictwo Naftowe i Gazownictwo

\*\* high caloric natural gas (Poland also produces low caloric gas, transported and traded in a separate entry/exit-system)



**Case study: Poland  
GRP progress**

- PGNiG failed to meet the 30% target in 2013 (only 0.2 of 1.4 bcm were sold at Polish power exchange TGE)
  - → This is primarily because the natural gas market is still dominated by long-term bilateral supply agreements, which in turn result in insufficient natural gas demand on the exchange
- Consequently, PGNiG decided to establish a retail company (PGNiG Obrót Detaliczny sp z oo), to purchase gas for end users on the exchange
  - → Create higher demand on the exchange and help PGNiG to meet the exchange obligation
- The recent exchange marketing results of PGNiG were:

Position	Volume 2017 (TWh)	Volume 2016 (TWh)
<b>PGNiG's sales of H-gas in Poland</b>	<b>165</b>	<b>144</b>
<b>Sales via TGE exchange</b>	<b>92</b>	<b>98</b>
... of which futures market	75	79
... of which spot market	17	19
<b>% sold via TGE exchange</b>	<b>56%</b>	<b>68%</b>

## Summary

No.	PARAMETER	UK	SPAIN	FRANCE	DENMARK	GERMANY	AUSTRIA	ITALY	HUNGARY	POLAND	ROMANIA	GREECE
1.	Time reference	1992, 4 years	2001, 3 years	2005, 3 years	2005, 6 years	2004, 6 years	2003, 6 years	2004 (3 stages)	2006, 8 years	2013, ongoing	ongoing	ongoing
2.	Obligated company	British Gas plc	Gas Natural	GDF, Total	DONG Energy	E.ON Ruhrgas	EconGas	ENI	E.ON Földgáz Trade Zrt.	PGNiG	various producers	DEPA
3.	Reason	open competition	open competition	open competition	merger condition	merger condition	merger condition	open competition	merger condition	open competition	open competition	open competition
4.	Annual volume released	2.3% of market	9% of market	16 bcm/a	10% of market	up to 4% of market	3% of market	s1: 2.3/ s2: 4.0/ s3: 3.9 bcm/a	1 bcm/a	55%** of imported/ produced gas	quotas for producers as sellers (30%) and as buyers (20%)	17% of annual total quantity
5.	Obligated company affiliates allowed?	n.a.	no	n.a.	n.a.	no (except where stake <10%)	no	n.a.	no	yes	n.a.	n.a.
6.	Price mechanism	cost plus	cost plus	partly auctioned, partly bid price	n.a.	n.a.	auction with min. price	s1+s2: reg. price formula, s3: auction with min. price	anon. auction	exchange auction	n.a.	n.a.

\* stages: 2004 (5 years), 2007 (2 years), 2009 (1 year)

\*\* since 2015 (40% in 2014, 30% in 2013)

1. Reasoning for gas release programmes

2. Historical examples of GRPs in Europe

**3. Learnings from European GRPs**

4. Specific conditions in Georgia

5. Properties of different potential GRP designs for the GE gas market

### 3. Learnings from European GRPs

# General conclusions from EU Gas Release Programmes

#### Historical purpose

- Tool to initiate/increase wholesale market competition (in past cases such as UK, Spain, Italy)
- Measure fight monopole position of incumbents in mergers or antitrust procedures (in past cases such as France, Germany, Austria)

#### Extent (volume)

GRPs have generally been implemented involving relatively low quantities compared to national consumptions

#### Extent (time)

Implementation time was limited to around 4-6 years

#### Progress

While 7 countries have completed GRPs, there are 3 countries remaining with such obligations.

## Conclusions on GRP parameters 1/2

No.	PARAMETER	CONCLUSIONS
1.	Obligated company	<ul style="list-style-type: none"> <li>■ Either the incumbent to initiate/increase wholesale market competition or a company intending to perform a merger procedure expected to effecting considerable market concentration.</li> </ul>
2.	Participation of subsidiaries allowed?	<ul style="list-style-type: none"> <li>■ Subsidiaries of the obliged companies shall not be allowed to participate.</li> <li>■ However a threshold for the degree of control can be set to not exclude minority shareholding.</li> </ul>
3.	Volumes	<ul style="list-style-type: none"> <li>■ Depend on the objectives of the gas release programme and of the regulatory framework.</li> <li>■ Only if the volumes released are sufficient to allow eligible customers in all affected markets to benefit from the programme (as direct purchasers or indirectly as customers of traders buying gas through the gas release programme) can a gas release programme offset the incumbent's ability and incentives to engage in anticompetitive behaviour.</li> </ul>
4.	GRP duration	<ul style="list-style-type: none"> <li>■ Should remain in place for a sufficiently long time as to ensure that the market structure and the competitive conditions have changed significantly, and that the level of competition achieved through the programme is sustainable</li> </ul>
5.	Allocation mechanism	<ul style="list-style-type: none"> <li>■ The “ascending clock auction” mechanism is a convenient way to allocate efficiently the gas quantities to be released.</li> <li>■ The organization of the auction should also ensure that the seller does not gain information on its competitors.</li> <li>■ The amount of the deposits and guarantees should not be disproportionate and should not constitute a disincentive for potential bidders. Payment terms should reflect standard market practices and in particular those of the seller's upstream supply contracts.</li> </ul>
6.	Price	<ul style="list-style-type: none"> <li>■ Price at which gas is available through the gas release programme should enable wholesalers to compete with the supplier of gas under the gas release on the wholesale and retail markets.</li> <li>■ The WACOG is recognised in the EFET paper as one of the benchmarks for the definition of price mechanisms in auctions for gas release programmes.</li> </ul>

## Conclusions on GRP parameters 2/2

No.	PARAMETER	EC CONCLUSIONS
7.	Gas supply duration, lot size	<ul style="list-style-type: none"> <li>■ The duration of the gas supply contract and the size of the lots in a gas release programme should be designed so as to meet the needs of the various categories of bidders in the relevant markets.</li> </ul>
8.	Flexibility	<ul style="list-style-type: none"> <li>■ Wholesalers, especially small ones, and end users have higher flexibility requirements than large importers.</li> <li>■ A base-load gas supply only or even a daily flexibility similar to the seller's gas portfolio's average daily flexibility may be insufficient.</li> <li>■ Experiences in European countries, particularly in Germany, show that the attractiveness of a gas release programme for small wholesalers and industrial customers strongly depends on the flexibility provisions of the gas supply.</li> </ul>
9.	Delivery points	<ul style="list-style-type: none"> <li>■ Gas should be delivered at a delivery point from which wholesalers can easily transport and store the gas.</li> <li>■ A gas hub or cross-border entry points are generally appropriate delivery points.</li> <li>■ A certain degree of flexibility for the choice of the delivery point (as is often the case for the seller) increases the attractiveness of the programme.</li> </ul>
10.	Contract firmness	<ul style="list-style-type: none"> <li>■ The rights and obligations of the purchasers and the seller should be balanced, e.g. regarding maintenance, force majeure, off-spec, interruptibility, etc. following the common practices in the relevant markets.</li> </ul>
11.	Capacity	<ul style="list-style-type: none"> <li>■ For gas release to be effective there needs to be properly implemented, regulated third party access downstream of the delivery point.</li> <li>■ If transmission capacity is booked by the company that organizes the gas release programme, it should be released to the transmission system operator to the extent of the gas quantities released.</li> </ul>

1. Reasoning for gas release programmes

2. Historical examples of GRPs in Europe

3. Learnings from European GRPs

**4. Specific conditions in Georgia**

5. Properties of different potential GRP designs for the GE gas market

## Specific situation in Georgia

### Gas sources

- Republic of Azerbaijan (93% of Georgian primary gas supply in 2016, in 2018 estimated to be >99%)
- Russian Federation
- Republic of Armenia
- Additionally, small quantities of gas produced locally

### Gas storage

No gas storages – most flexibility requirements have to be met via import flexibility

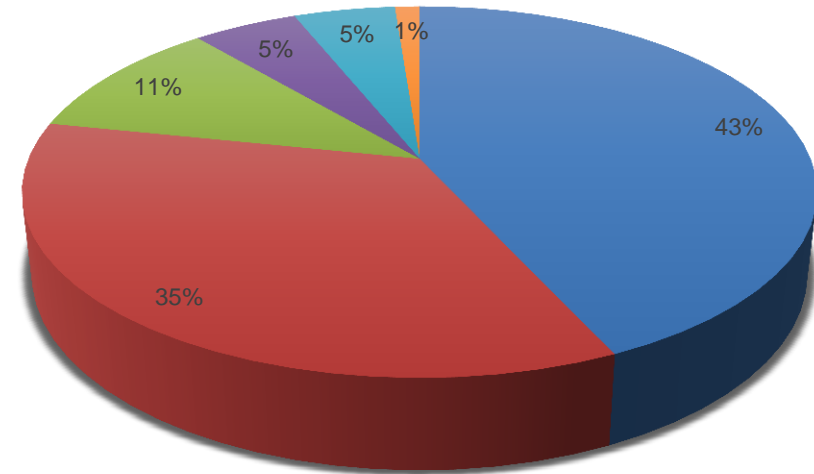
### Wholesale market

remains highly concentrated: GOGC and the SOCAR group are dominant importers and wholesalers, together satisfying more than 80% of total annual Georgian gas demand.

### Retail market

Various suppliers operating on retail market, however as vertically integrated companies mostly on their respective distribution region

Share of natural gas importers 2015 (%)



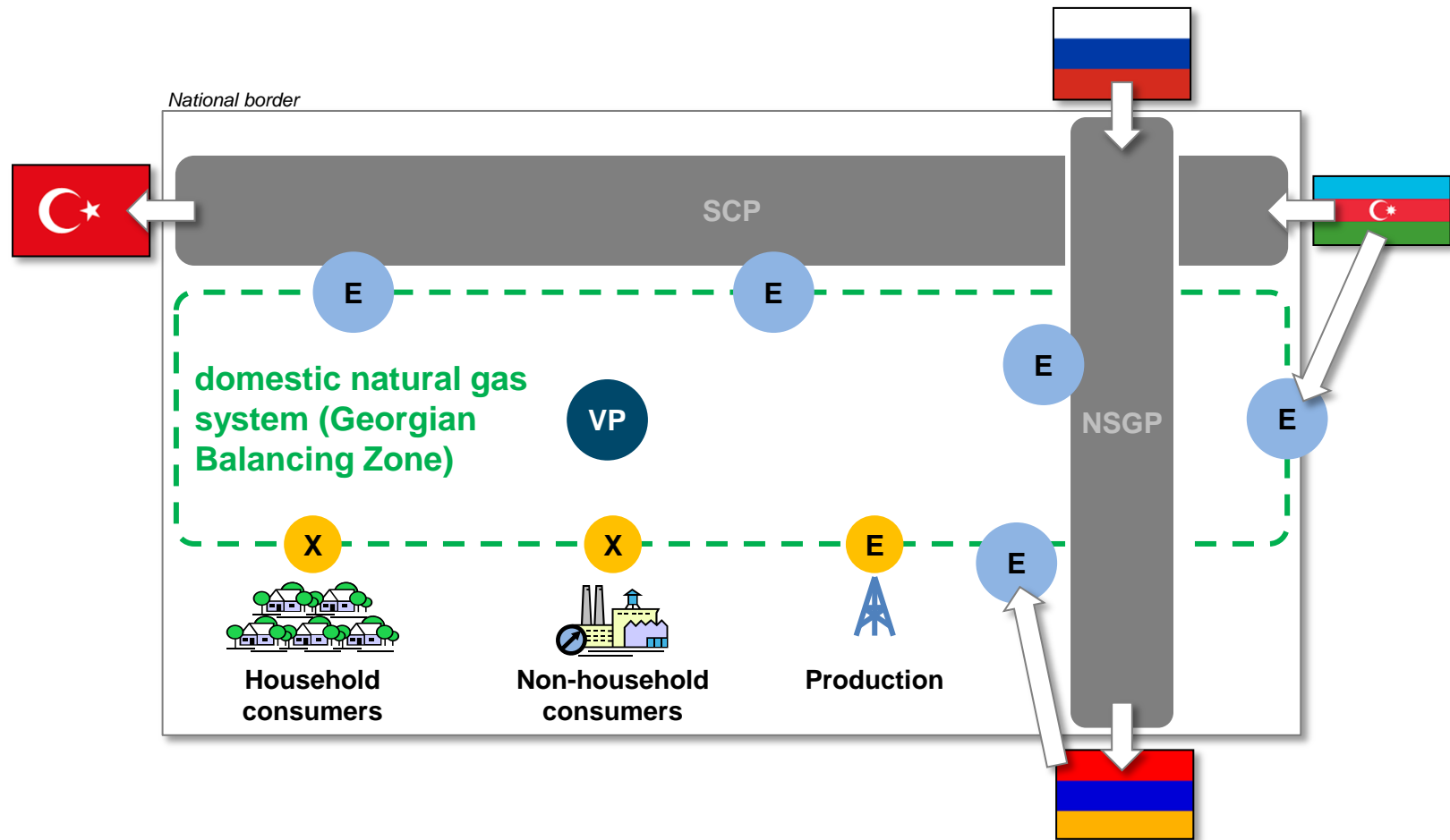
- JSC Georgian Oil and Gas Corporation
- Socar Georgia Gas LLC
- Gas Transportation Company of Georgia LLC
- Georgian International Energy Corporation LLC
- Socar Gas Export-Import LLC
- Geotransgas LLC



# 4. Specific conditions in Georgia

## Schematic view of the Georgian domestic natural gas system

based on initial draft Market Design (24.07.2018)



→ ...Import/export

E...Entry, X...Exit, VP...virtual point (for title transfer), SCP...South Caucasus Pipeline, NSGP...North-South Gas Pipeline

1. Reasoning for gas release programmes

2. Historical examples of GRPs in Europe

3. Learnings from European GRPs

4. Specific conditions in Georgia

**5. Properties of different potential GRP designs for the GE gas market**

## Potential approaches to improve competition

---

The following approaches were selected as (non-exclusive) prototypes that can be further developed to improve competition on the Georgian gas market:

1. Gas release programme

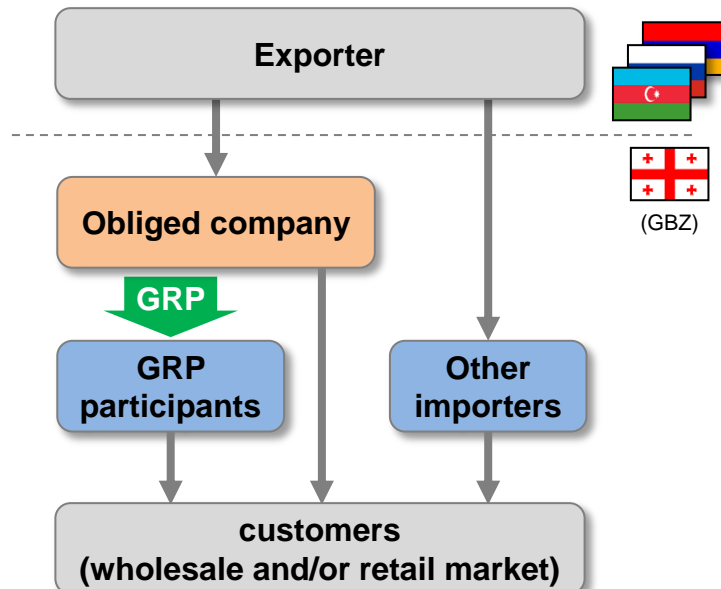
2. Exchange release obligation

3. Single Buyer model

## Gas Release Programme (EU-style)

→ A monopolistic company is obliged to sell (part of) its gas in Georgia under a predefined marketing procedure

### Schematic view



### Properties

- Comparably low change for market participants in general
- Large flexibility for product definition (delivery periods, lot sizes, flexibility constraints)
- Product definition crucial to competition benefits
- Counterparty risk managed by securities and/or rating requirements (usually no clearing)
- Allocation procedure can be outsourced to trustee (concealment of bids towards obliged company)
- Participation complexity depending on procedure details (generally lower compared to exchange release)
- Depending on released volume, participation rules can be tailored to exclude incumbent affiliates

## **Gas Release Programme (EU-style): Design questions**

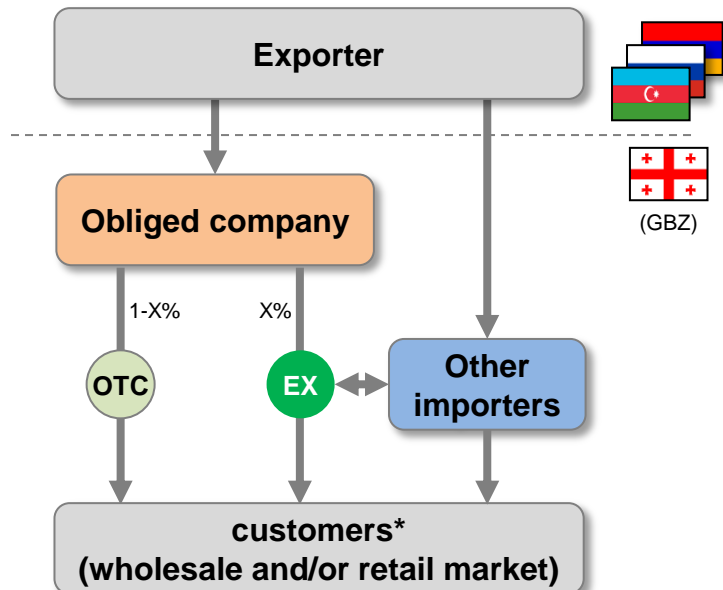
---

- Who shall become the obliged company?
- How shall the release volume be determined?
- What shall be the duration for the GRP?
- What products shall be part of the release (in terms of duration, lot sizes and flexibility parameters)?
- What shall be the delivery point(s)?
- Will import/entry capacity be part of the contract?
- What participation requirements shall be met? (Shall subsidiaries of the obliged company be allowed to participate?)
- What shall be the allocation mechanism and how is the contract price determined?
- ...

## Exchange Release Obligation

→ (A part of) imported gas is sold on the exchange as the anonymous and cleared market place for standard products

### Schematic view



### Properties

- Only possible after gas exchange established
- Provides initial liquidity on the exchange (market is forced to adapt to use exchange)
- Spot market and futures standard products only (no delivery flexibility for products) → significant process intensity
- Anonymous trades
- Incumbent affiliates cannot be excluded
- Transparent price signals for market
- Management of counterparty risk transferred to clearing entity
- Exchange-specific complexities, e.g.:
  - additional contracts (exchange membership, potentially non-clearing membership with clearing house and contract with clearing member)
  - technical requirements (connection to exchange systems)
  - regulatory requirements (FinReg compliance/transparency)
  - staff requirements (trader admission)

## **Exchange Release Obligation: Design questions**

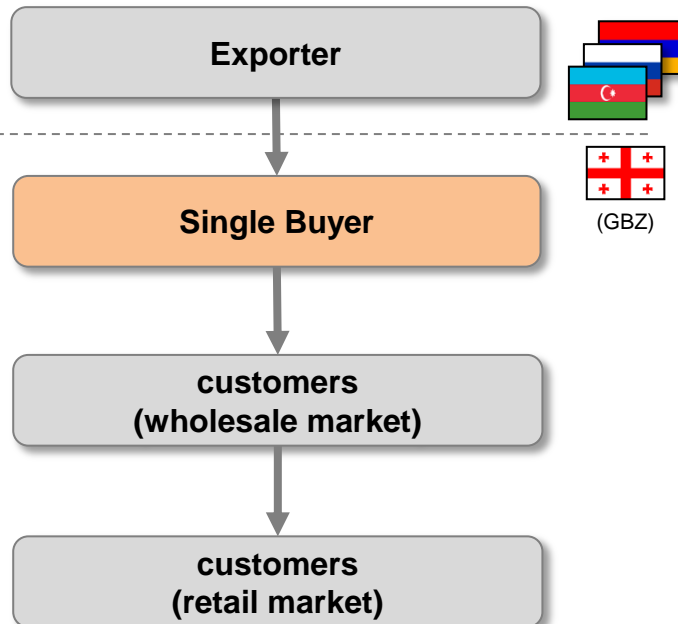
---

- Who shall become the obliged company?
- How shall the release volume be determined?
- What shall be the duration for the exchange release obligation?
- Shall it be gas release only or also a buy obligation (→ effectively market maker)?
- How shall the release be structured in terms of standard exchange products?
- What shall be the delivery point(s)?
- Shall there be an implicit allocation of import/entry capacity?
- Shall there be special rules for trading between obliged company and its subsidiaries?
- ...

## Single Buyer Model

→ *A single company is determined to negotiate sales&purchase agreements for total Georgian supply and provide it under predefined conditions*

### Schematic view



### Properties

- Full domestic demand channelled through one company
- High impact on operations of the monopolistic importer and also other wholesalers
- Product definition crucial to competition benefits
- Large flexibility for product definition (delivery periods, lot sizes, flexibility constraints)
- Effectiveness of Single Buyer negotiations determine import prices
- Transmission capacity (in non-exempted system) must be subject to TPA rules
- Counterparty risk managed by single buyer
- Risk exposure and upsides of Single Buyer to be defined
- Participation complexity depending on procedure details (generally lower compared to exchange release)
- Depending on released volume, participation rules can be tailored to exclude incumbent affiliates

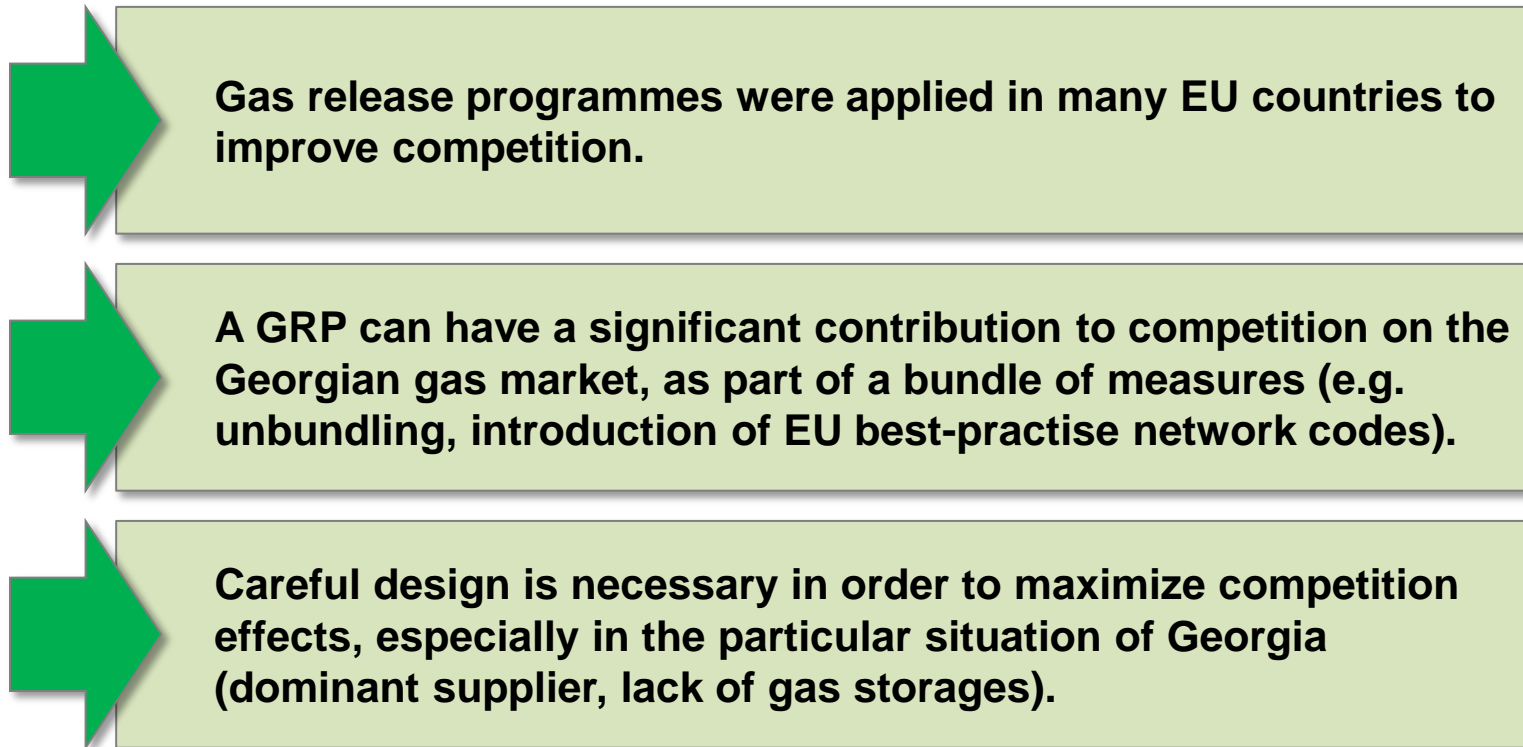


## Single Buyer: Design questions

---

- Who shall become the Single Buyer company?
- What sources shall be exclusively covered by the Single Buyer (incl. production)?
- How shall the volume to be procured under import contracts be determined?
- What shall be the duration for the Single Buyer regime and how shall it be phased out?
- What products shall be offered by the Single Buyer (in terms of duration, lot sizes and flexibility parameters)?
- How shall the allocation procedure be designed?
- How is the risk exposure of the Single Buyer managed?
- What shall be the delivery point(s)?
- Who shall hold/use import/entry capacities?
- ...

## Conclusions

- 
- Gas release programmes were applied in many EU countries to improve competition.**
  - A GRP can have a significant contribution to competition on the Georgian gas market, as part of a bundle of measures (e.g. unbundling, introduction of EU best-practise network codes).**
  - Careful design is necessary in order to maximize competition effects, especially in the particular situation of Georgia (dominant supplier, lack of gas storages).**



# Wagner, Elbling & Company

## Management Advisors

Georg Fischer  
Project Manager  
+43 664 849 58 05  
[georg.fischer@wecom.at](mailto:georg.fischer@wecom.at)