

# Balkan Gas Hub Concept

and its role in the EU's Internal  
Energy Market

**European Commission**



# A warm welcome to Varna – Thank you for your interest in the 'Balkan Gas Hub' project

## Agenda



**A.**

### **The Gas Market**

How to meet  
Europe's future  
demand



**B.**

### **EU Energy Policy**

Why gas market  
integration is key



**C.**

### **The Balkan Gas Hub**

Why the project is so  
important for Europe



**D.**

### **Outlook**

How to mature the  
concept

## **A. The Gas Market**

How to meet Europe's  
future demand

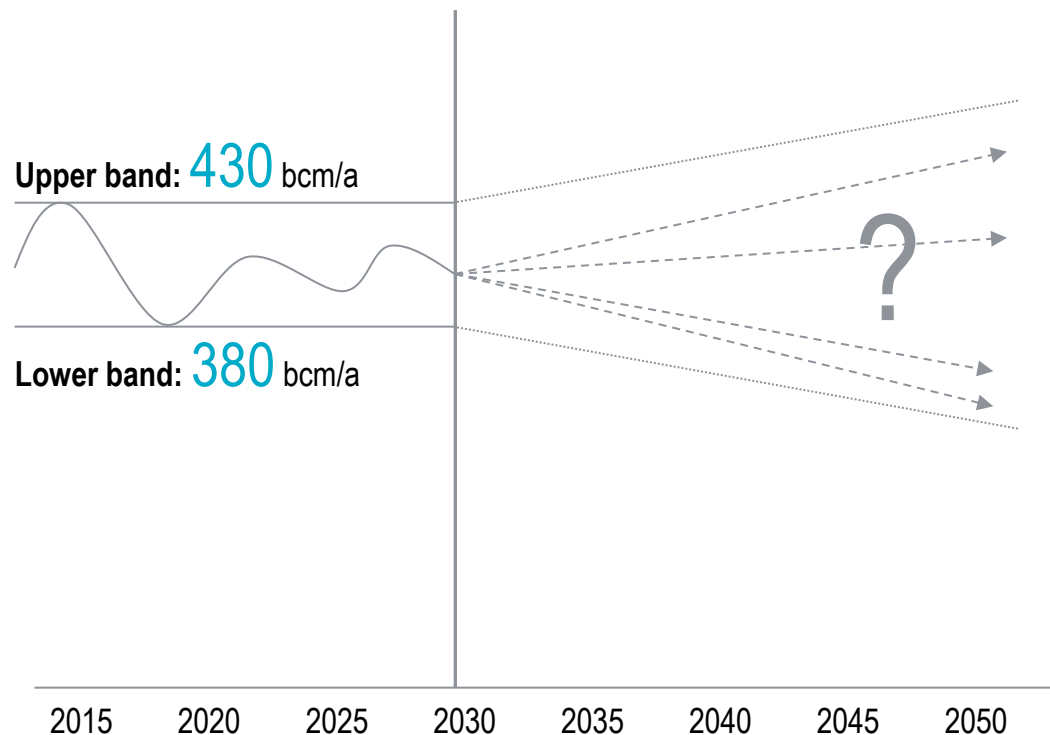
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# The Commission expects natural gas demand in Europe to remain fairly stable until 2030

## Development of natural gas demand in Europe

### Projected natural gas demand in Europe



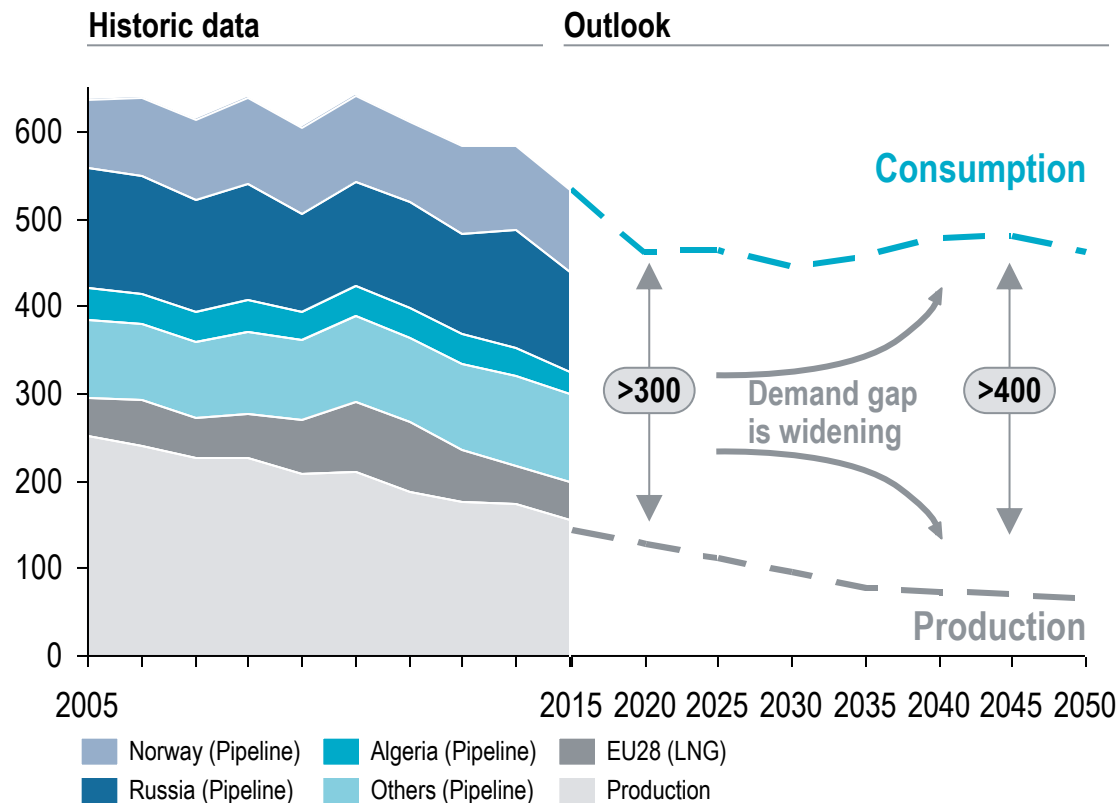
### Drivers of natural gas demand

- Europe-wide shift to renewable energies
- Natural gas as a low carbon energy source
- Improvements in energy efficiency

As the EU's production is expected to decline significantly, natural gas imports need to increase in order to meet demand

## Composition of the European gas supply

### Natural gas consumption and production in Europe (in bcm/a)



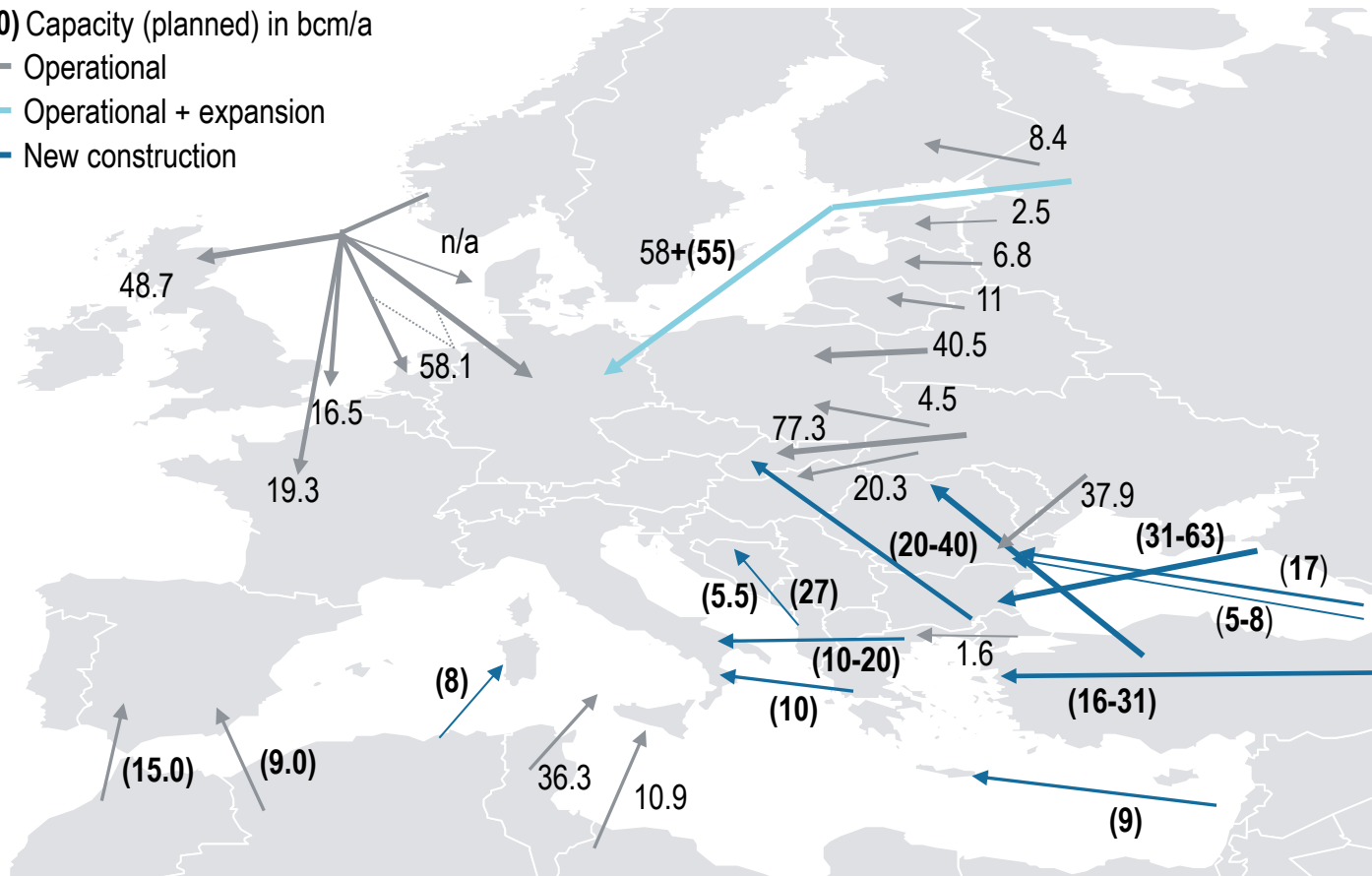
- > European natural gas **production is expected to deteriorate** faster than consumption
- > Consequently an **increase in natural gas imports** is required to fill the widening demand gap

# Ongoing pipeline projects in Southern Europe will add considerable volumes to the EU's overall import capacities

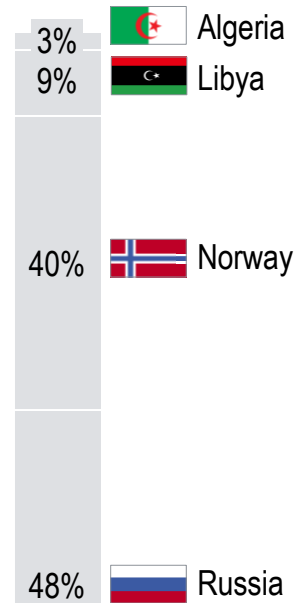
## Existing and planned import pipelines to Europe

0 (0) Capacity (planned) in bcm/a

- Operational
- Operational + expansion
- New construction

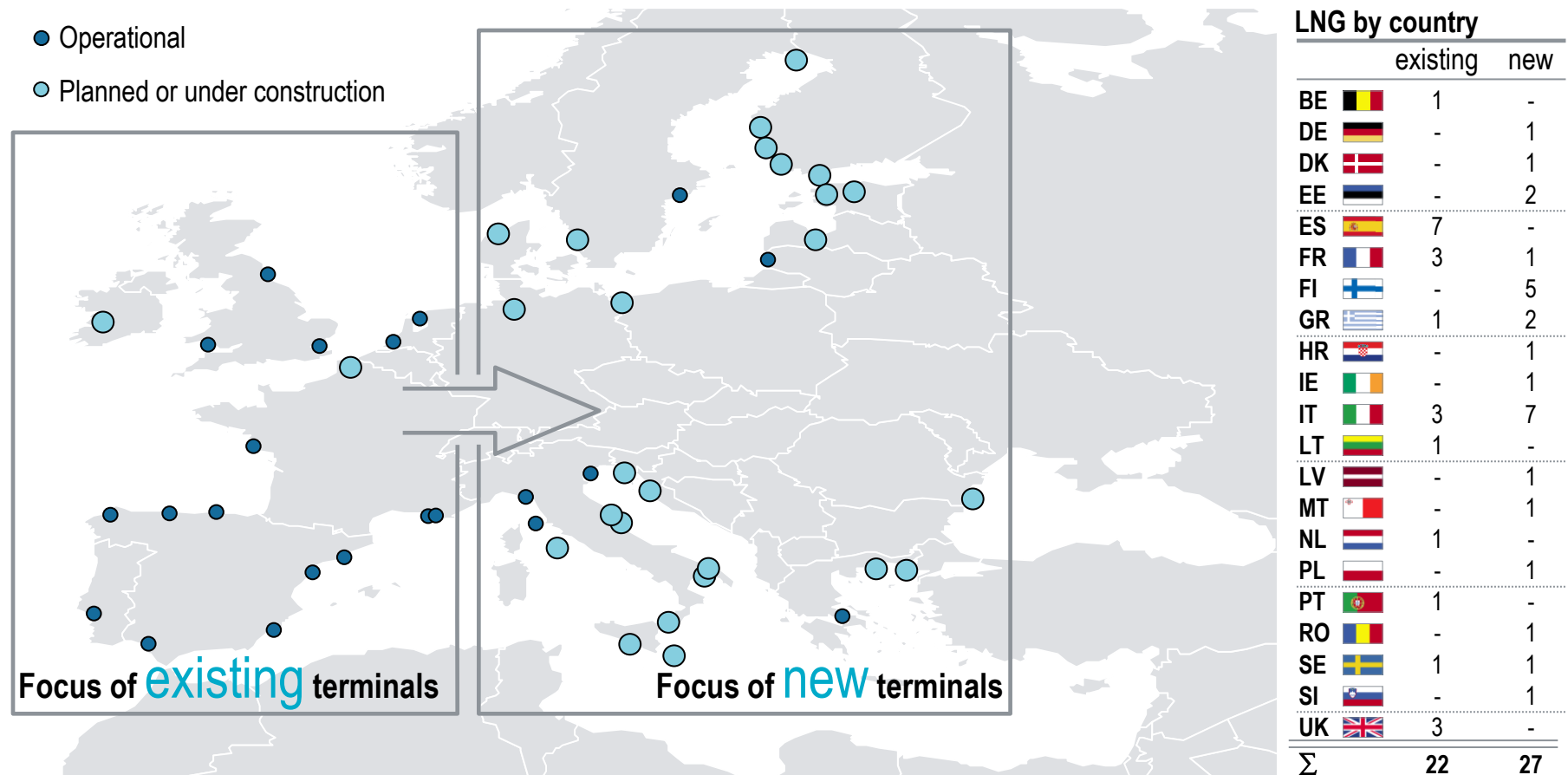


## Origin of pipeline imports by country



# The increasing number of LNG regasification terminals is developing into a real alternative to pipeline-based imports

## Existing and planned LNG terminals (regasification) in Europe



## **B. EU Energy Policy**

Why gas market  
integration is key

**European Commission**





# All natural gas flows entering the EU through existing or new import channels need to be fully compliant with energy market regulation

## 1 Security of supply

Ensure reliable provision of energy whenever and wherever needed

- \* Work closely with suppliers and transit countries
- \* Reinforce security of supply laws
- \* Build new transit routes
- \* Diversify supplies

## 2 Competition

Ensure that energy providers operate in a competitive environment ensuring affordable prices

- \* Open energy market for the benefit of consumers
- \* Stimulate investment in clean energy and efficiency
- \* Keep Europe at the cutting edge of energy technologies

## 3 Sustainability

Ensure that energy consumption is sustainable

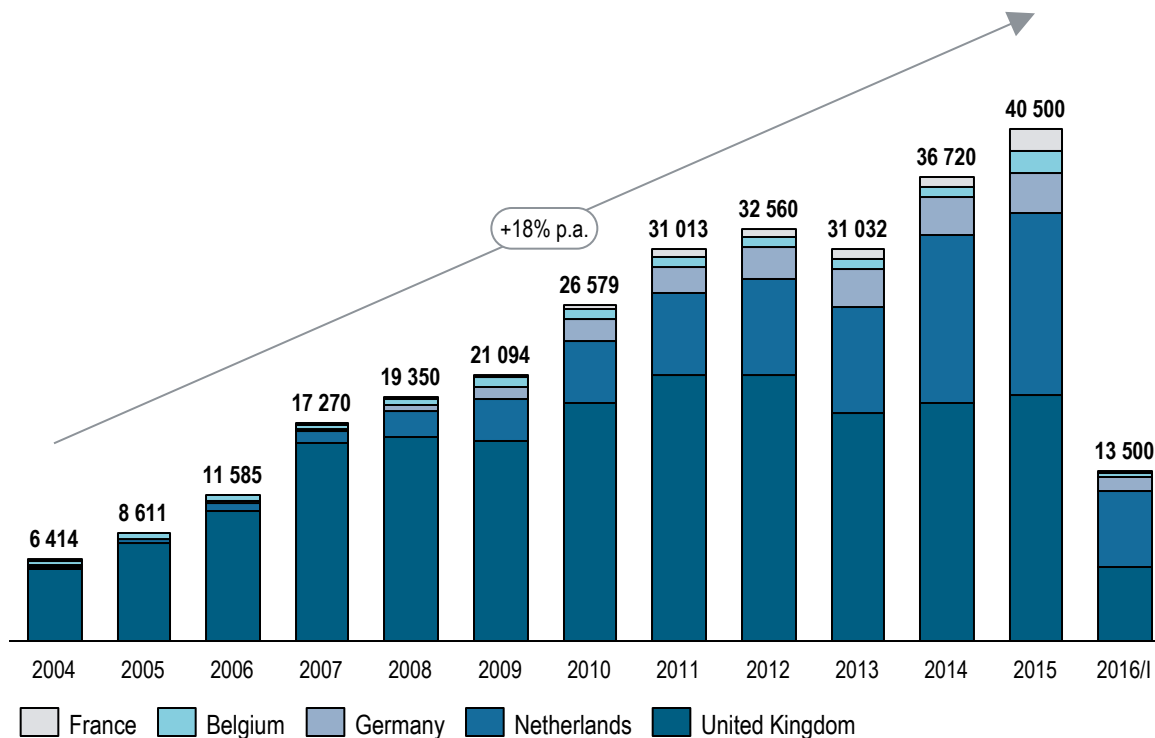
- \* Develop renewable and other low carbon sources of energy
- \* Curb energy demand within Europe
- \* Lead global efforts to halt climate change and improve air quality

Full compliance with EU policy is essential for every new gas supply project

# Liquidity in Europe's natural gas trading points increased steadily since markets opened in early 2000s – consumers benefit

## Wholesale trade volumes

### Traded volumes (in TWh)

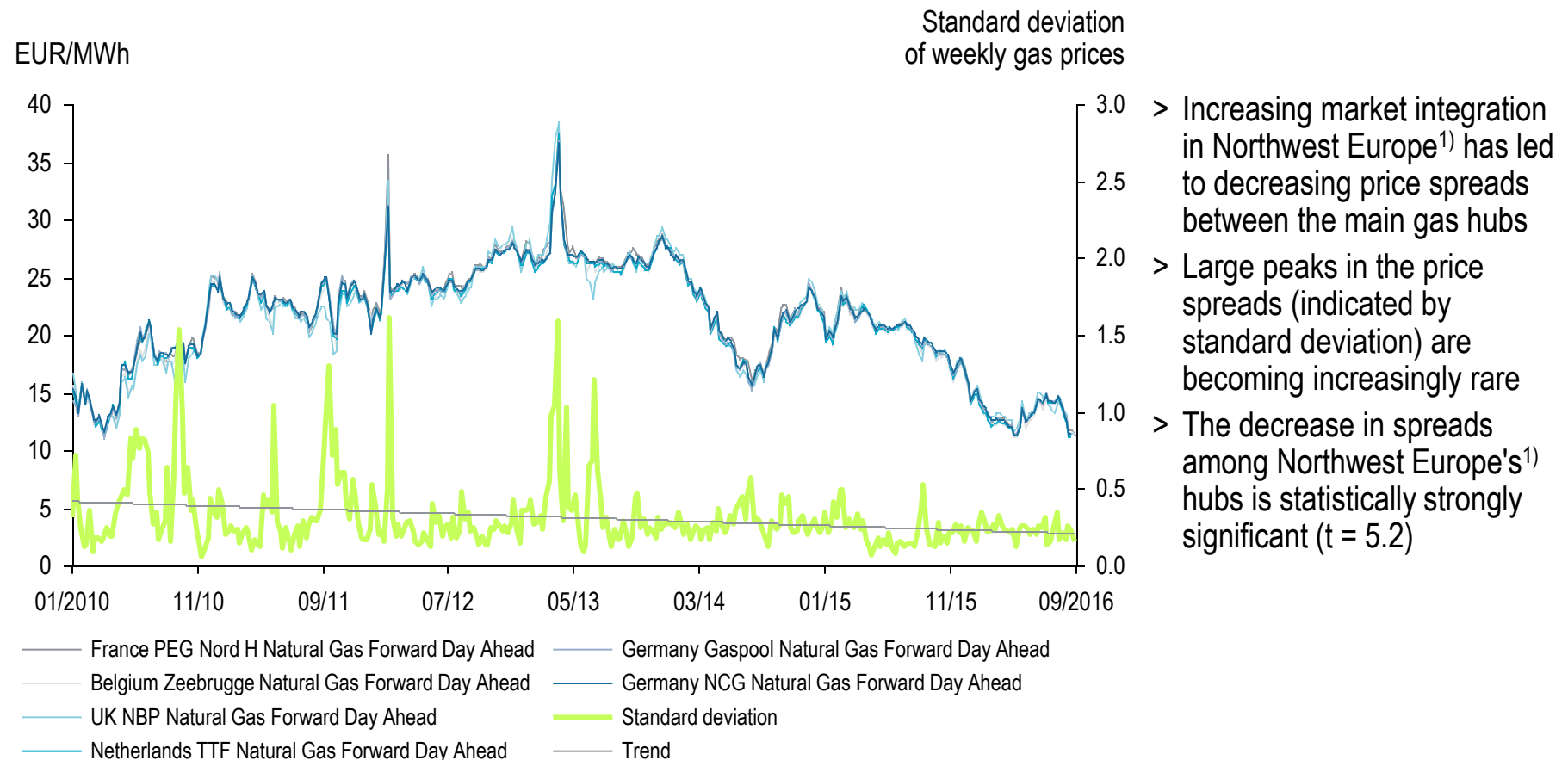


- > From 2004 to 2015, gas trading volume in Western Europe increased more than six fold (CAGR: 18% p.a.)
- > The British gas market developed first and already shows clear signs of saturation
- > The Dutch and to a lower extent the German market contributed to most of the increase in more recent years

- > Industrial customers have benefited strongly from increased competition in the wholesale market
- > According to Bundesnetzagentur, **Germany's national regulator, prices fell by 12% between 2013 and 2015**

# New interconnections and increasing natural gas trade bear fruit – Price differences between integrated market areas have decreased

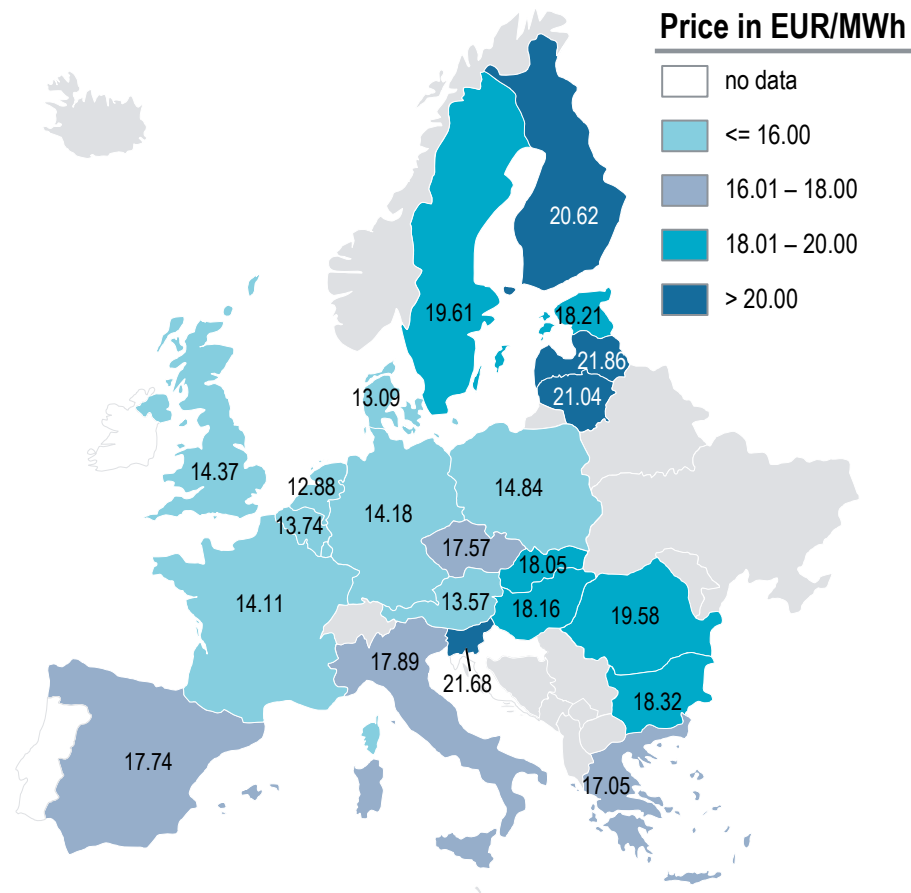
## Effect of market integration on prices



1) France, Belgium, United Kingdom, Netherlands and Germany

# Being one of the least integrated parts of the EU gas market, prices in the Balkans are considerably higher than in Western Europe

## Wholesale gas prices in the EU (Q1/2016)



- > Wholesale prices of natural gas in the EU show strong regional differences
- > Price levels tend to increase from North to South and from West to East
- > The main drivers underlying these strong regional discrepancies are:
  - Proximity to major natural gas producing EU member states (i.e. Netherlands and United Kingdom)
  - Access to multiple, high volume supply sources (pipeline and LNG)
  - Development of natural gas trading facilities in the respective market area
- > As many of these conditions are not fulfilled in the Balkans, gas prices tend to be higher than in the more integrated and more trading intense market areas

## **C. The Balkan Gas Hub**

Why the project is so important for Europe

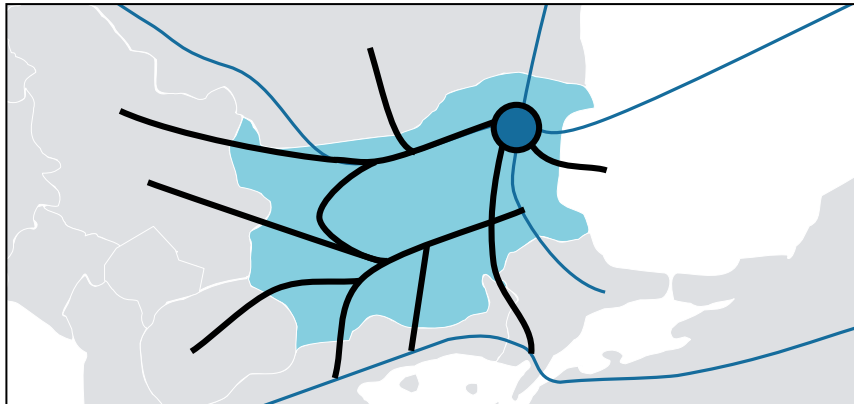
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# The Balkan region and Europe as a whole would strongly benefit from a realization of the Balkan Gas Hub concept

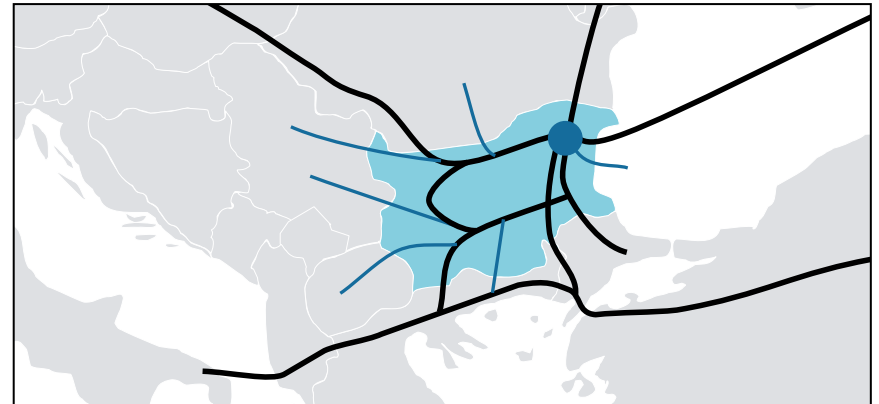
## Benefits of the Balkan Gas Hub

### Regional benefits



- > Supply diversification of former single source countries
  - Increased security of supply for Bulgaria and Balkans
  - Lower prices for household and industrial customers
  - Enhanced access to clean natural gas
- > New business opportunities and high-skill job creation

### Europe-wide benefits



- > Enhanced security of supply through access to additional, high capacity supply streams
- > Deeper integration of the Southern Gas Corridor into the European gas transmission system
- > Continued liberalization of the European gas market

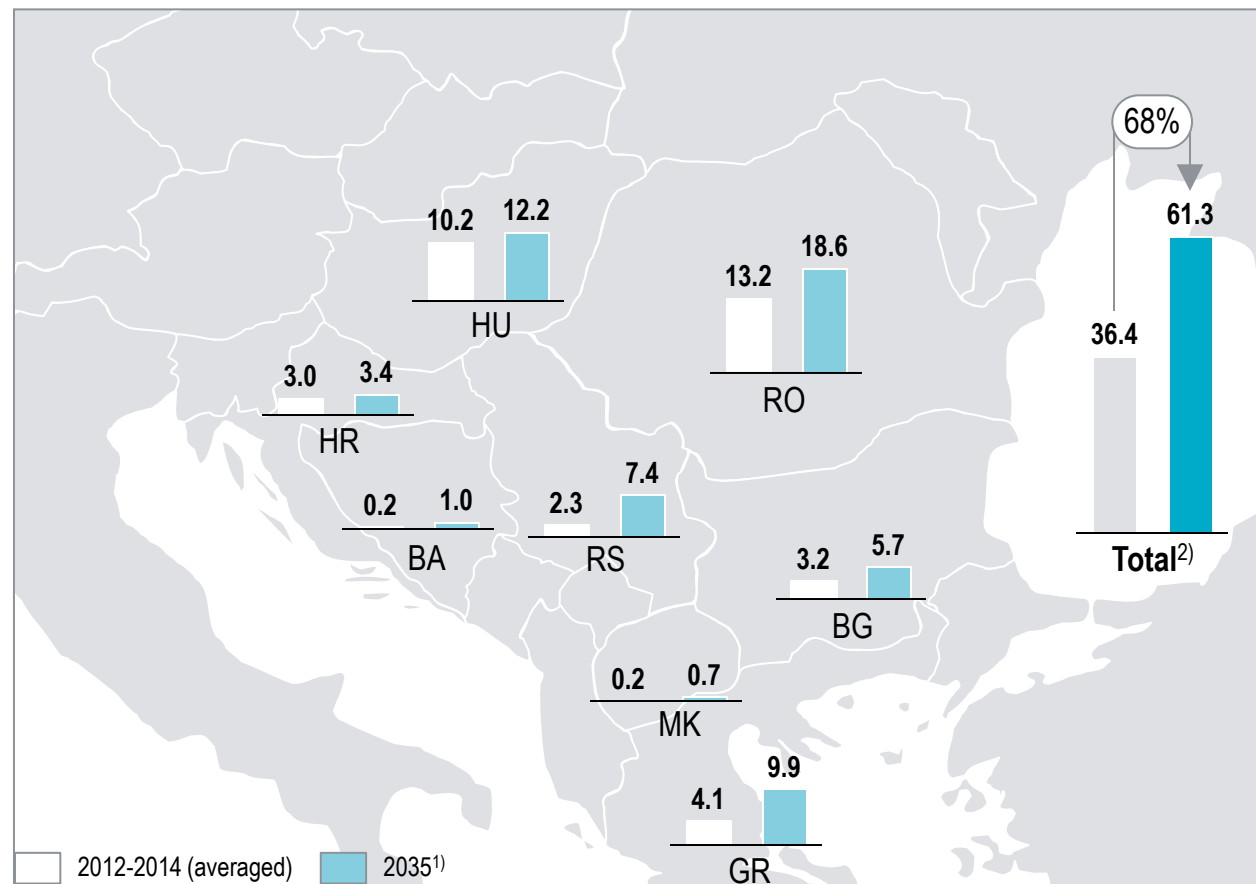


The combination of regional and Europe-wide benefits provides strong economic and political justifications for the Balkan Gas Hub



# Natural gas demand on the Balkans is expected to grow by 24.9 bcm/a (+ 68 %) to reach 61.3 bcm/a in 2035

Current (2012-'14) and future<sup>3)</sup> (2035) gas demand by country (in bcm/a)

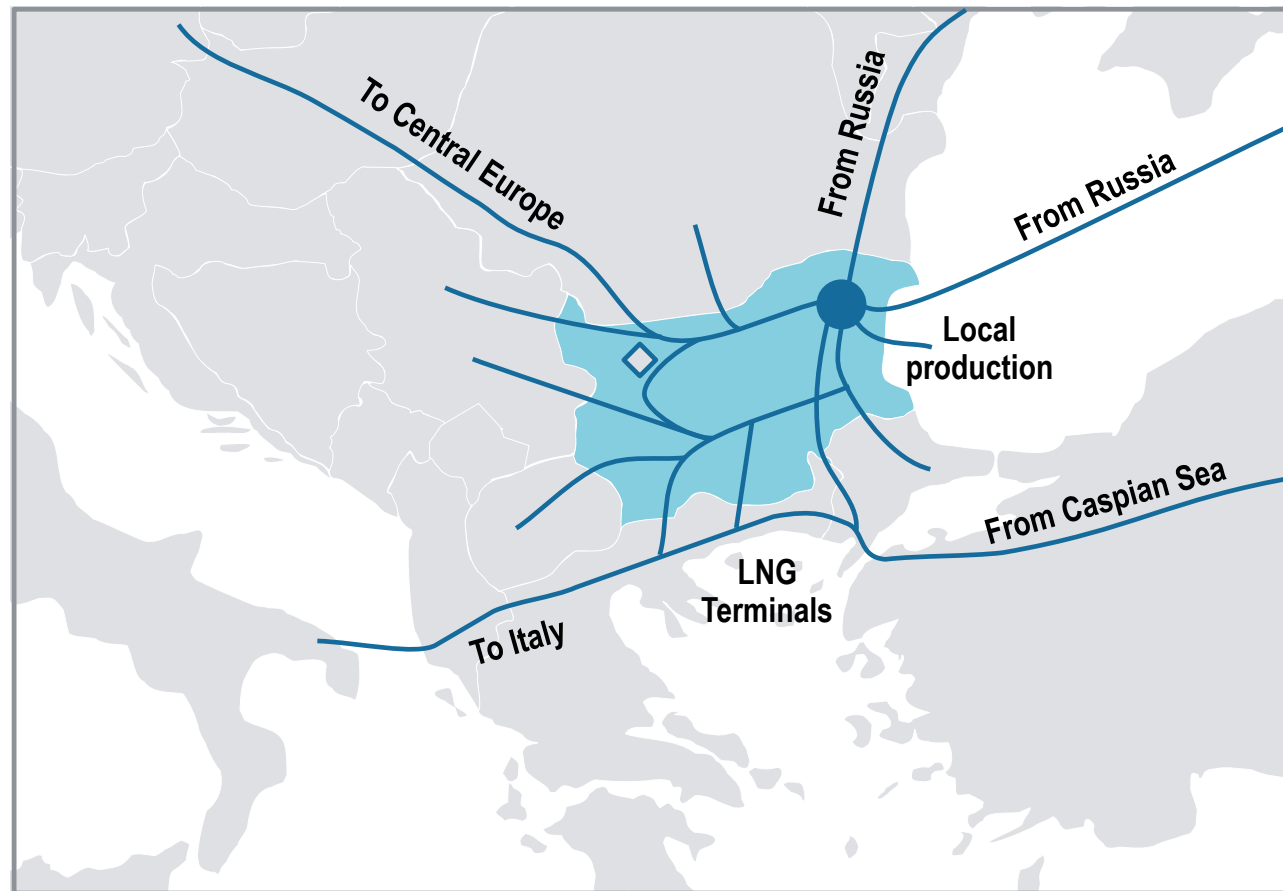


- > Over the next two decades, the natural gas demand on the Balkans will increase by 24.9 bcm/a (+ 68 %)
- > Most of this growth comes from just three countries:
  - Greece: + 5.8 bcm/a
  - Romania + 5.4 bcm/a
  - Serbia: + 5.1 bcm/a
  - Bulgaria: + 2.5 bcm/a
- > While Macedonia and Croatia grow strongly in relative terms, their absolute contribution is negligible (sum: + 0.9 bcm/a)
- > Bosnia-Herzegovina and Hungary grow moderately (in sum: + 5.2 bcm/a)

1) Based on the average of the two scenarios "Green" and "Grey" developed within the Ten Year Network Development Plan 2015 (TYNDP2015) published by ENTSG; 2) No data available for Montenegro, Kosovo and Albania; 3) Projections are subject to uncertainty and do not represent an official forecast of the European Commission

# The Balkan Gas Hub connects all major gas supply projects of Southeast Europe and facilitates source and market diversification

## Major planned and operational pipelines in Southeast Europe



- > The Balkan Gas Hub is located at the cross-road of Southeast Europe's current and future pipeline systems
- > The hub enables trading of natural gas from a wide range of alternative sources:
  - Russia (via on- and offshore)
  - Southern Gas Corridor (East Med, Middle East, Caspian)
  - LNG terminals in Greece and Turkey, as well as
  - Local production of Romania and Bulgaria
- > The main markets for the gas flowing through the hub are West and Central Europe as well as the Balkans itself



# Regulation reform and infrastructure investment inside and outside Bulgaria are necessary pre-conditions for the hub development

## Necessary pre-conditions



### **'Hub Hardware' – Transmission, storage and trading infrastructure**

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- > Completion of the ongoing upgrade and modernization projects inside Bulgaria
- > Completion of the four ongoing interconnector development projects
- > Construction of large-scale entry and exit infrastructure outside Bulgaria



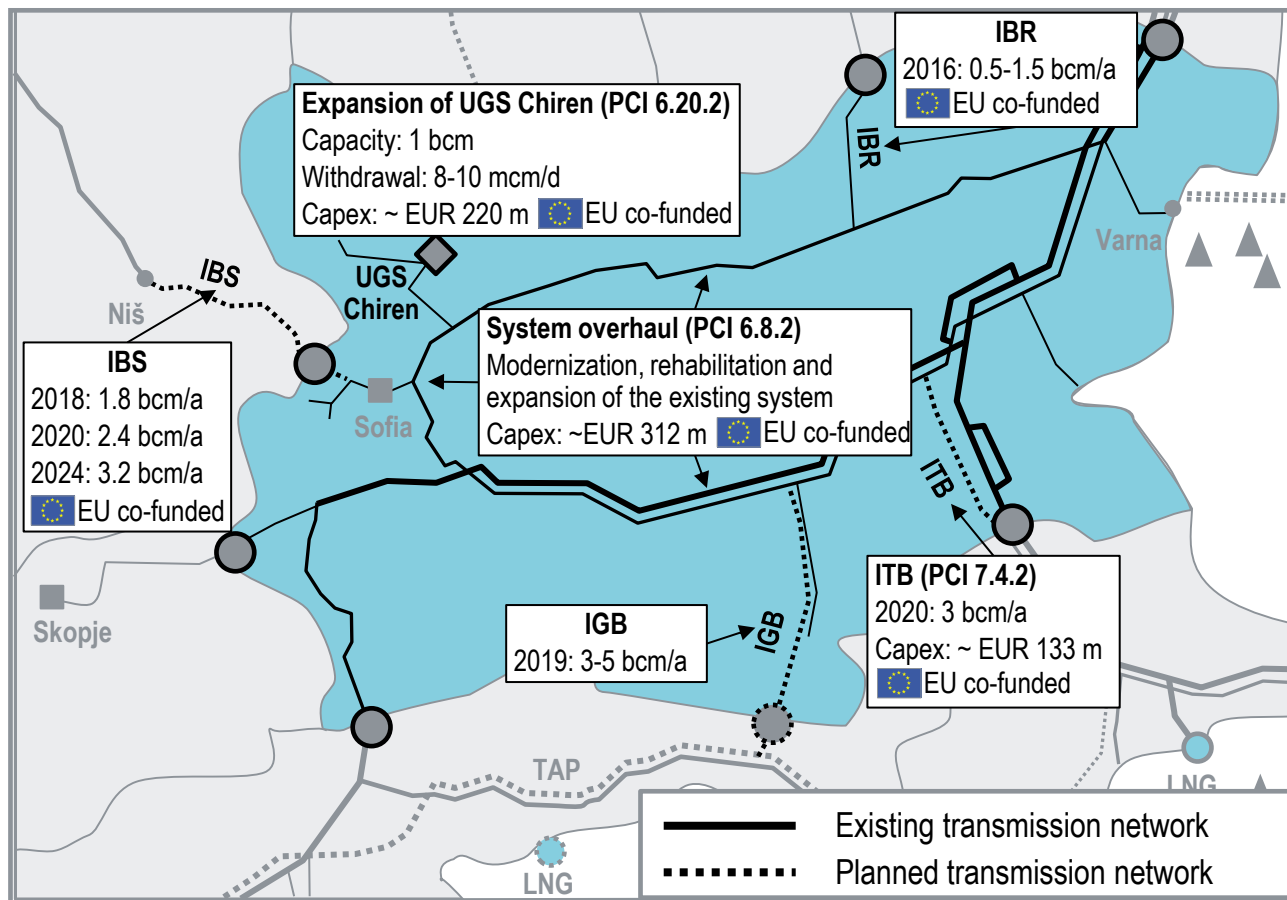
### **'Hub Software' – Regulation reform & contract amendments**

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- > Full implementation of the European Acquis, in particular the Third Energy Package
- > Preparation of Bulgarian regulation for the commencement of natural gas trading
- > Amendment of the intergovernmental agreement on the Trans-Balkan Pipeline

# The ongoing infrastructure projects and the existing infrastructure represent the basis for the hub development inside Bulgaria

## Infrastructure projects inside Bulgaria



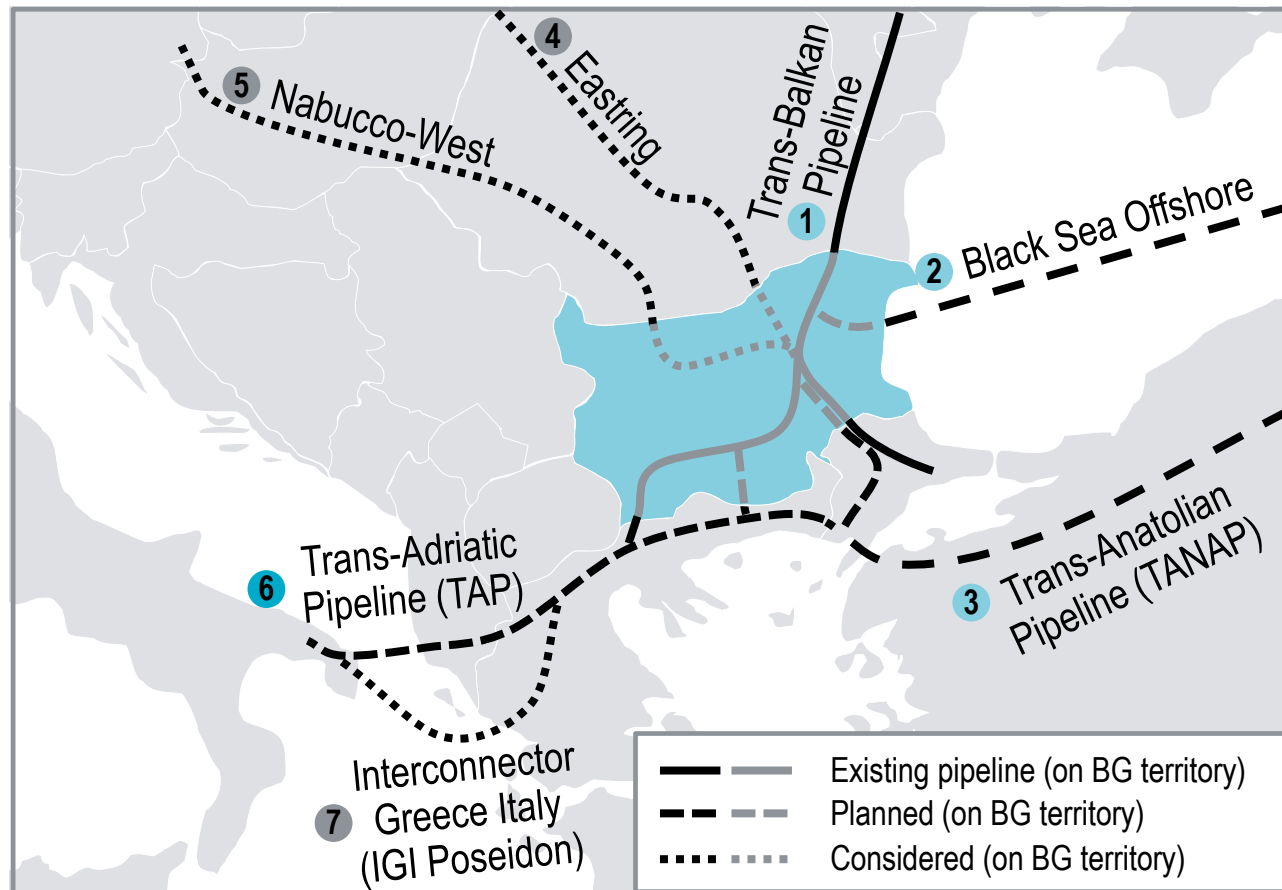
> The on-time completion of ongoing gas infrastructure projects is crucial for the development of the hub:

- Interconnection projects with Romania, Serbia, Greece and Turkey
- General transmission system overhaul
- Storage expansion

 **EU co-funding**  
The European Union has provided financial support to five out of six projects

The development of some additional projects outside Bulgaria is a critical prerequisite without which the hub cannot be realized

### Infrastructure projects outside Bulgaria



- > The realization of the Balkan Gas Hub critically depends on pipeline projects outside Bulgaria
- > The construction of the new Russian Black Sea Offshore pipeline (2) is essential to the concept
- > Exit options are Eastring (4), Nabucco West (5) and IGI/TAP (6 7)
- > **Either option would suffice as exit route**

# Full implementation and compliance with the European Acquis is a key prerequisite for the development of the Balkan Gas Hub

## Elements of regulation reform and contract amendments

### §§ European Acquis

A necessary prerequisite for the realization of the Balkan Gas Hub is the full implementation of the European Acquis by 2020

- > **Interoperability and data exchange rules**
- > **Gas balancing of transmission networks**
- > **Capacity allocation mechanisms** in transmission systems
- > **Notification** to the Commission **of investment projects in energy infrastructure** within the EU
- > **Guidelines for trans-European energy infrastructure**
- > **Conditions for access to natural gas networks**
- > **Wholesale energy market integrity and transparency**
- > Measures to **safeguard security of gas supply**
- > **Common rules for the internal market in natural gas**

### Natural gas trading in Bulgaria

- > The full implementation of the European Acquis will allow for the development of a transparent, liquid and efficient natural gas trading point with low entry barriers and reliable price reporting
- > Such trading activity should start with the physical day-ahead market and be progressively expanded to forward as well as financial trading, allowing market players to undertake hedging operations



### Trans-Balkan Pipeline

- > It has to be granted that the operation of the Trans-Balkan pipeline is in full compliance with EU rules (esp. Regulation (EC) No 715/2009)
- > Amendments to the existing intergovernmental agreement shall be agreed upon in trilateral discussions between Russia, Bulgaria and the EC
- > Execution of the forthcoming Memorandum of Understanding between DESFA, Bulgartransgaz, Transgaz, Ukrtransgaz and Gazprom

## **D. Outlook**

How to mature the  
concept further

**European Commission**



# Bulgartransgaz and the European Commission have developed a road map to prepare the Bulgarian market for natural gas trading

## Road map as per concept paper – Action items (1/2)

1	Activities	Time schedule / Status	
1	Sign interconnection agreements: <ul style="list-style-type: none"> <li>&gt; IP Negru Voda 1 / Kardam (Romania)</li> <li>&gt; IP Negru Voda 2,3 / Kardam (Romania)</li> <li>&gt; IP Kulata / Sidirokastro (Greece)</li> <li>&gt; IP Zikilovo (FYRO Macedonia)</li> <li>&gt; IP Malovlar (Turkey)</li> </ul>	Completed Oct 2016 Completed Aug 2016 Aug 2016	Signing of agreement (for the test period (Jul 1 till Oct 1, 2016)) Initiate negotiations Initiate negotiations
2	Amend rules for access to gas storage and introduce pro rate principle for commercial storage capacity allocation	Completed	(effective from gas year 2016-2017)
3	Introduce documents for the gas market balancing: <ul style="list-style-type: none"> <li>&gt; Rules for Balancing the Natural Gas Market</li> <li>&gt; Daily Imbalance Charge Calculation Methodology</li> <li>&gt; Gas Purchase and Sale Contract for Balancing Purposes</li> </ul>	Completed	
4	Introduce an entry-exit tariff model for natural gas transmission	Dec 2016 Oct 2017	Deadline for submission to EWRC <sup>1)</sup> Effective date

1) EWRC: Energy and Water Regulation Committee

# Bulgartransgaz and the European Commission have developed a road map to prepare the Bulgarian market for natural gas trading

## Road map as per concept paper – Action items (2/2)

5	Activities	Time schedule / Status	
5	Amend the tariff model for natural gas storage	Dec 2016	Deadline for submission to EWRC <sup>1)</sup>
		Apr 2017	Effective date
6	Introduce a capacity booking platform for interconnection points with Greece and Romania	Sep 2016	First capacity auction
7	Prepare and introduce conjunction management procedures	Aug 2016	Deadline for submission to EWRC <sup>1)</sup>
8	Sign a Memorandum of Understanding on an action plan to enable bi-directional natural gas transportation via Tranzit-1 pipeline with DESFA (GR), Transgaz (BG) and Ukrtransgaz (UA)	Sep 2016	Signing of Memorandum of Understanding
9	Abandon regulated gas price regime	Completed 2019	Interim measures to balance the gas market Full implementation of Commission Regulation (EU) No 312/2014

1) EWRC: Energy and Water Regulation Committee

With the concept paper available, the next step is the preparation of a feasibility study including a detailed business model

## Way forward



### High-level concept developed

- ✓ **Identification of**
  - ... solutions for the required technical infrastructure
  - ... sources of natural gas
  - ... exit directions and potential markets
- ✓ **Roadmap** for the establishment of a stable regulatory framework and commercial environment
- ✓ **First ideas** on business management model and financing sources

### NEXT STEP: Feasibility study and project financing

- > **Assess technical feasibility**
- > **Assess commercial viability**
- > **Define business model:** Revenue streams (commercial, regulatory)
- > **Assess project risk**, incl. volume, regulatory, change, development of up- and downstream pipeline projects, and flow patterns
- > **Finalize regulatory design:** Allocation of revenues to new and existing assets, definition of a stable long-term methodology to calculate tariffs
- > **Structure project financing:** Ownership structure, financing sources, general terms

**BULGARTRANGAZ can apply for co-funding of the feasibility study until Nov 8, 2016 (current CEF call)<sup>1)</sup>**

1) Next CEF call in 2017