

26th World Gas Conference

1 – 5 June 2015, Paris, France



THEMATIC SESSION PGC B-2

Potential for a Gas Hub in South East Europe & Turkey

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Summary

North West Europe has developed gas hubs

- reliable pricing signals
- driven by market forces

SEET Region (South East Europe and Turkey) gas markets

- not yet developed to form a liquid trading hub.

Countries in the region have started showing **intentions for hub formation** driven by

- security of supply; and
- commerciality

SEET: Far from European Trading Hubs (?)

- **South East Europe is behind in meeting the requirements of ACER¹ and EFET² towards a liquid trading hub.**
- Turkey **has the potential to host a liquid hub on its own**, due to market size and variety of sources, existing and potential.
- Greece, Bulgaria and Romania can host **one SEE hub jointly**, to exploit individual advantages.
- **A hub could be located at the Turkey/Greece border** to benefit from traded gas volumes, if bi-directional flow is allowed at the border.
- **Two major obstacles** prevent such developments:
 - **Limited infrastructure / connectivity** allowing limited supply diversification
 - **A regulatory gap** against EU 3rd Energy Package

¹ Agency for the Cooperation of Energy Regulators

² European Federation of Energy Traders

A Hub in Turkey

ACER Gas Target Model	Value	Target	What can Turkey do?	Source: ACER, BOTAS
Herfindahl Hirschmann Index (market concentration measure)	N.A.	< 2000	● More market share to independents – addressed by Regulations	
Number of Sources	> 6	≥ 3	● Supply diversification is the major advantage	
Residual Supply Index (capability to replace largest supplier)	N.A.	≥ 110%	● Infrastructure challenges Removal of infrastructure bottlenecks and new storage capacity	

EFET Roadmap	What can Turkey do?	Source: EFET, EMRA
Consultation Mechanism	● In place. More support from Regulator helps	
Entry-Exit System with VTPs	● Entry-Exit with VTP developed.	
Clear access terms	● Network Code in place	
Resolution of structural market issues	● Regulatory challenges / Continued liberalization agenda to allow free market access ● Transparent pricing and tariff mechanisms required Establishment of the incumbent as a market maker and liquidity provider	
Establishment of a Hub Operator	● BOTAS	
Reference prices for imbalance	● Lack of daily pricing based on supply/demand	
Standard contracts	● Traders should adopt standard contracts	
Reporting agencies, brokers	● One reporting agency	
Establishment of Exchange	● Not established	

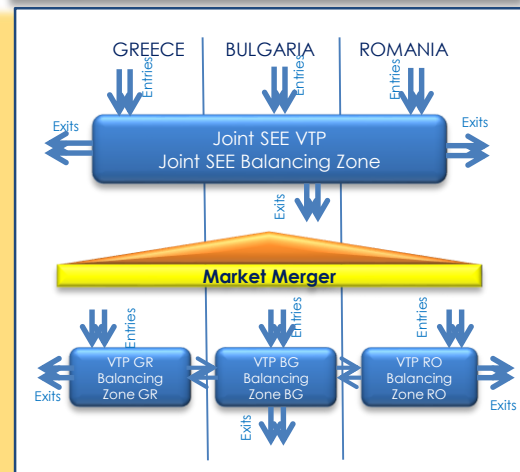


A joint hub in SEE (Greece-Bulgaria-Romania)

ACER Gas Target Model	Value	Target	What can Greece - Bulgaria - Romania do?	Source: ACER, BP Review, DEPA
Herfindahl Hirschmann Index	4200e	< 2000	● More market share to independents - regulatory	
Number of Sources	>6	≥ 3	● Hampered by lack of available interconnectivity, common upstream dependence, LNG vs Pipeline gas prices	
Residual Supply Index	89%	≥ 110%	● Increase interconnectivity between markets Reduce share of dominant source of import	

EFET Roadmap	What can SEE markets do?	Source: EFET, DEPA, RAE
Consultation Mechanism	● In place	
Entry-Exit System with VTPs	● Bulgaria is still pending	
Clear access terms	● National NCs In place. EU NCs paramount.	
Resolution of structural market issues	● Pricing still regulated in BG, RO. ● Rules for cross-border trade need harmonisation. ● Incumbents must make market & provide liquidity.	
Establishment of a Hub Operator	● None exists in Bulgaria.	
Reference prices for imbalance	● In place.	
Standard contracts	● Partly in place	
Reporting agencies, brokers	● None covers the region fully	
Establishment of Exchange	● Not established	

Integrated SEE Hub (ACER model)
Market Coupling → Trading Region → Market Merger



Source: ACER, DEPA

A hub at the Turkey/Greece border?

If bi-directional flow is allowed across the Turkish-Greek border, a new hub can emerge there to also dispense volumes in excess of SEET needs.

▪ **Strong feature: Geographical confluence of several pieces of large infrastructure**

- Existing BOTAS and DESFA networks
- The Southern Gas Corridor (TANAP & TAP)
- IGB and the Vertical Corridor
- Turkish Stream and its westward continuation

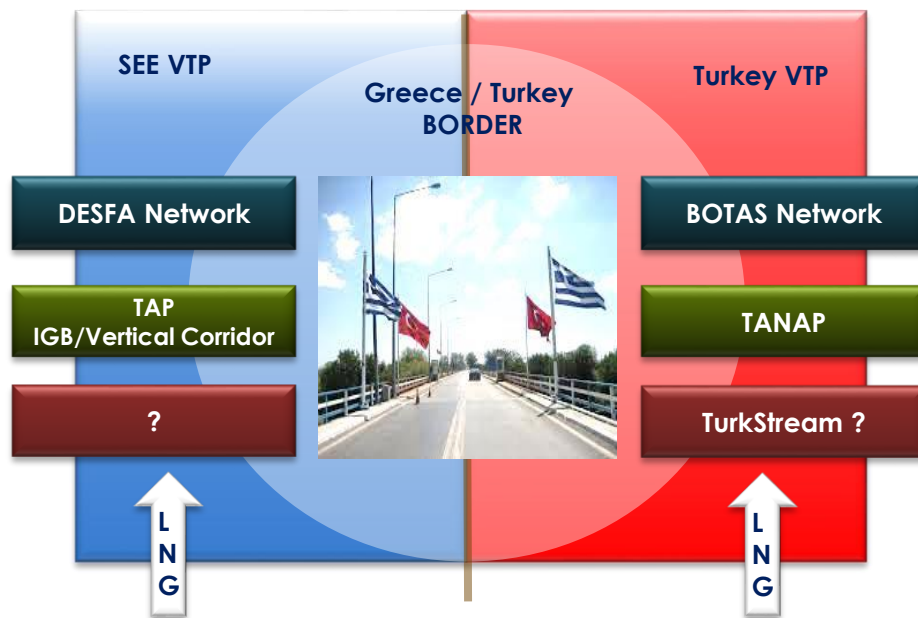
▪ **Independent of SEE Hub and Turkish Hub**

▪ **Some Volumes pre-2020:**

- Greek, Turkish, Bulgarian surpluses
- Short-term, balancing, peak shaving
- LNG

▪ **Main Volumes post-2020:**

- Short-term Southern Corridor
- TurkStream?
- Others (e.g. Iraq, East Med, more LNG)



Closing Remarks

Security of Supply in Europe and potential welfare gains in the region can be duly served by trading hubs, after bold moves. Momentum is building up.

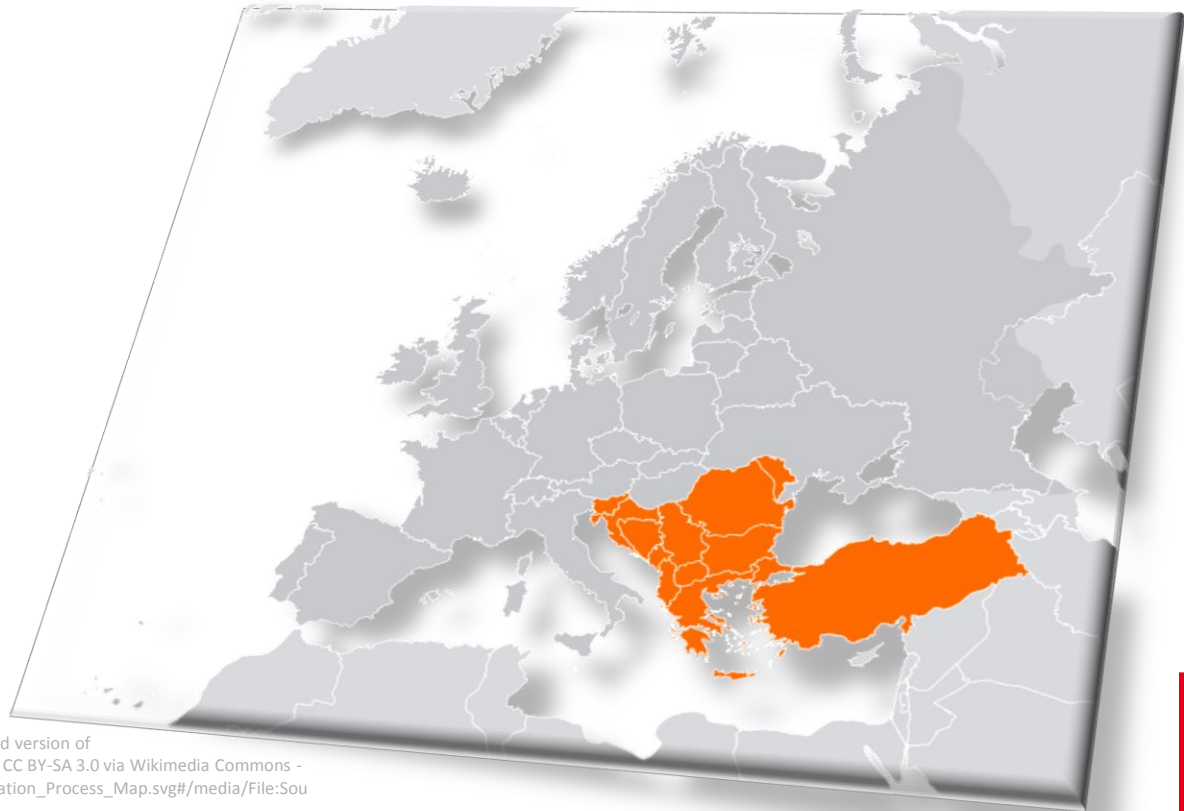
- SEET gas markets appear isolated and opaque, leading to negative implications on security of supply, competitiveness and welfare. They need
 - Functioning and available infrastructure
 - Trading liquidity and transparency
- EU's **Projects of Common Interest (PCIs)** in SEET help meet the first requirement.
- **Robust regulatory advances** to meet 3rd EU Energy Package will cater for the second.
- Pivotal ingredient for progress:

Strong commitment of Governments, Incumbents and Regulators

Thank You!

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"Southeast European Cooperation Process Map" by MrWim - Vectorised version of http://en.wikipedia.org/wiki/File:SEEC_members.png. Licensed under CC BY-SA 3.0 via Wikimedia Commons - http://commons.wikimedia.org/wiki/File:Southeast_European_Cooperation_Process_Map.svg#/media/File:Southeast_European_Cooperation_Process_Map.svg