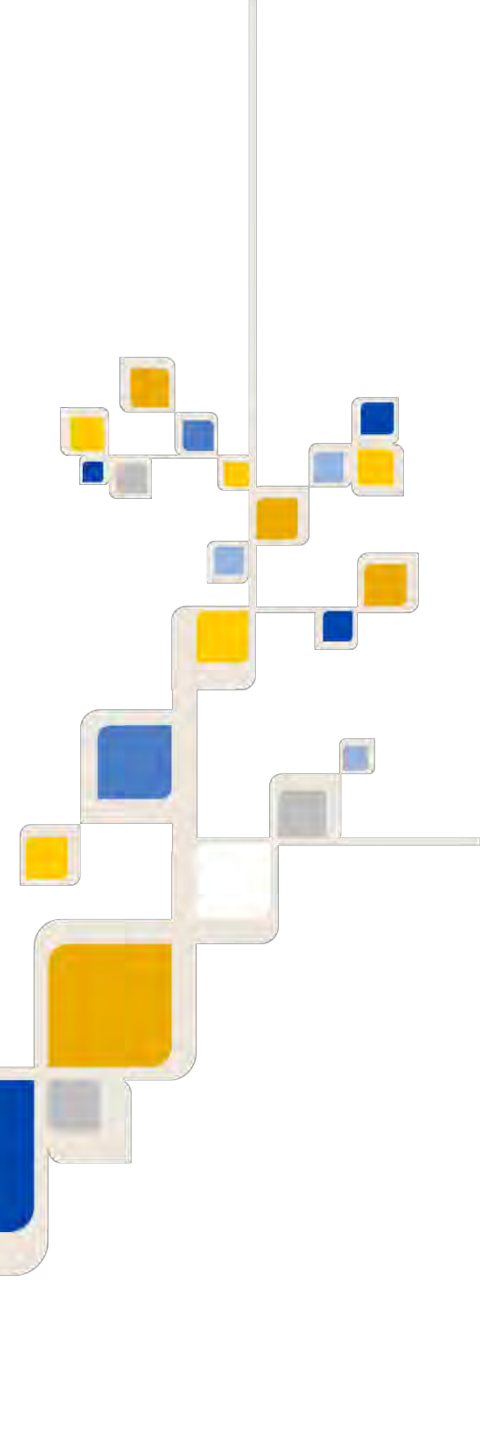


## LNG possibilities for the SEE region

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## Study on the CESEC Projects



### The List of Projects:

1. IGB
2. Interconnector Bulgaria – Serbia
3. Reinforcement of the Bulgarian System
4. BRUA
5. Krk LNG
6. Evacuation line to Hungary
7. Expansion of BRUA to Black Sea
8. Interconnector Croatia – Serbia
9. LNG Alexandroupolis

The Task was to identify their feasibility

## The two clusters



### Eastern Cluster:

1. IGB
2. Reinforcement of the Bulgarian System
3. BRUA
4. LNG Alexandroupolis
5. TAP and the Greek NGTS (including Revythoussa and the existing interconnector in unilateral direction)

## The two clusters



### Western Cluster:

1. Krk LNG
2. Evacuation line to Hungary

## Economic flow simulations and results (1/3)

- The TYNDP of ENTSO-G was used as the reference demand scenario
- The TIGER model of EWI has been used for the economic simulation of the flows
- Two sets of global gas prices have been used, including one with more favorable LNG prices.
- The flows through the two clusters were estimated

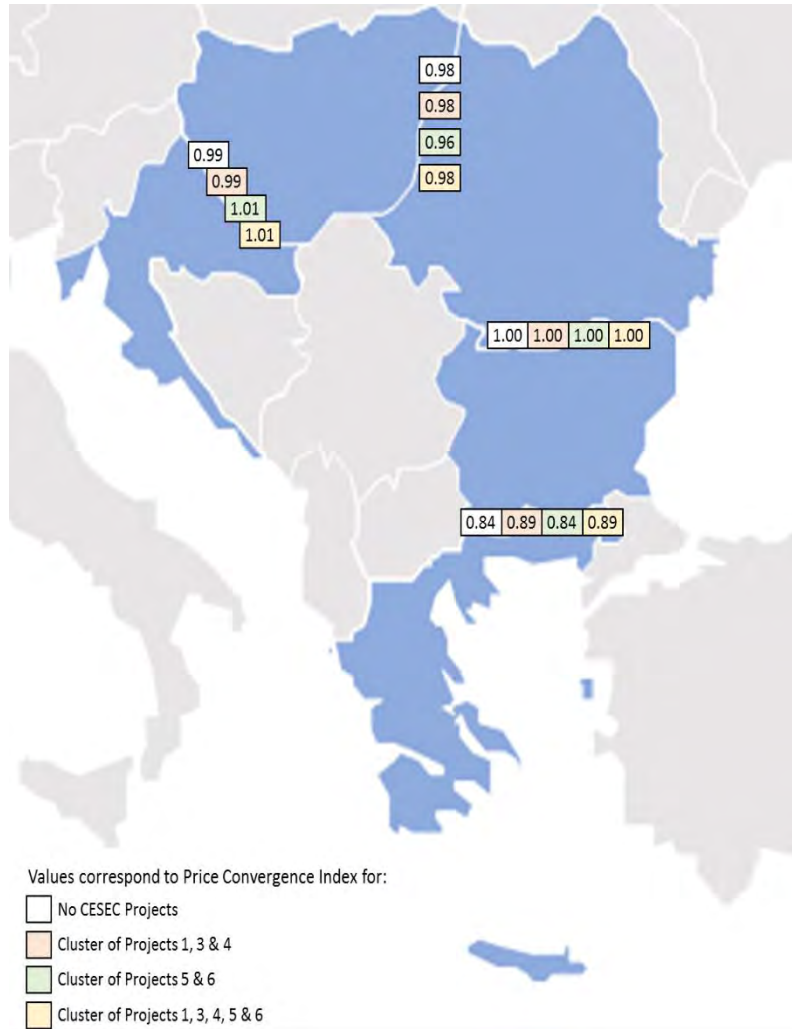
## Economic flow simulations and results (2/3)

- Two scenarios regarding tariffs were used:
  - The one provided by project sponsors and the existing published tariffs of the interconnected systems; These are based on very conservative assumptions, which do not take into account long term use of the infrastructure, especially for transit purposes
  - One which assumed long term commitment of the infrastructures, compatible with the transit nature of the projects under study and the national networks connected to those.
  - In both tariff scenarios, all infrastructures were fully remunerated either at the rate considered by the sponsors and the national TSOs, or at a reasonable WACC (8%, nominal pre-tax)

## Economic flow simulations and results (3/3)

- The results in brief:
  - With the usage of the conservative tariff estimations of the sponsors and the tariffs of the adjacent networks, market simulation resulted in very limited use of the Western Cluster (no flows to Hungary at all).
  - With Eastern cluster things were more optimistic (IGB was fully used), but gas from the South could not penetrate much to the North
  - When the more favorable tariff scenarios were used, both clusters were used to their maximum possible extent, indicating the importance of the tariff level
  - LNG from Krk reached the level of 4bcm, towards Hungary
  - IGB and TAP were used to their maximum (future) capacity and more gas could flow from Greece to the North, if the existing interconnector was considered as a bidirectional one.

# The effect on prices for the favorable tariff scenarios



## Current situation:

- The marginal prices of Greece and Bulgaria are currently divergent (no northward flows)
- The addition of the ICGB allows such flows and bring greater price convergence;
- The marginal prices of Bulgaria and Romania are convergent, driven mainly by the cross-border tariff between the two markets;
- Limited flows from Hungary to Croatia and Romania

## With clusters:

- Prices between Gr-Bg will enhance due to gas to North
- The operation of the two clusters under reasonable tariffs (mainly the Western one) will lead to a strong convergence of the prices in Hr-Hu-Ro-Bg
- There is further room for flows from Gr to the North, i.e. more interconnection capacity could be used



## Conclusion

- Low LNG prices are not sufficient on their own merit to enhance the penetration of LNG into the SEE
- The development of commercially viable infrastructure is also important
- TSOs and NRAs should apply appropriate tariff methodologies, which would permit the efficient use of the infrastructures, without distorting gas flows and without affecting the financial health of the TSOs

# Thank you!



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