



**SOUTH EAST EUROPE:
INTEGRATING RENEWABLES,
SYSTEM FLEXIBILITY**

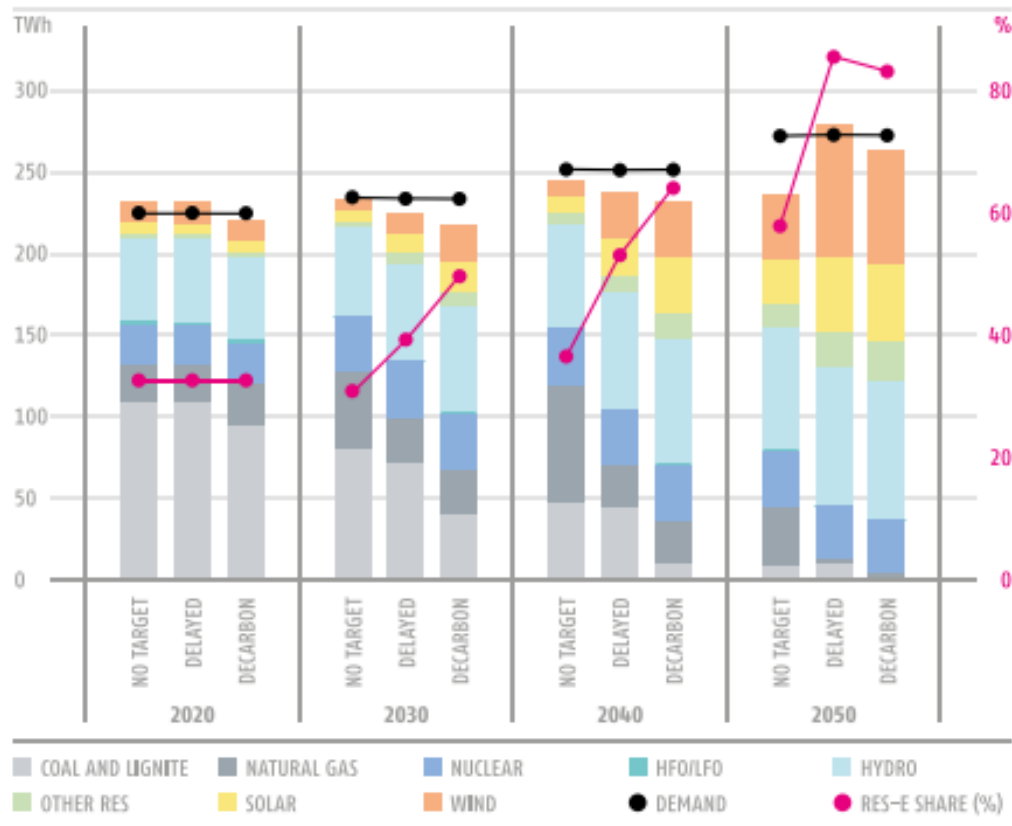
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director
REKK

Tirana, Albania, 12-13 June 2019

**Tirana International Energy Charter
Forum**

SEERMAP scenarios - Gross electricity mix



- Coal based generation disappears from electricity mix
- Gas consumption peaks in 2030-2040, and downward trend afterwards.
- Trade position of the region slightly deteriorates
- RES domination in the generation mix after 2030

SEE flexibility

- The Southeast European power system in 2030: Flexibility challenges and regional cooperation benefits
- The Agora project (Energy Transition Dialogue) assessing the flexibility SEE region faces in the future
- EPMM - a unit commitment model was developed to check sector integration issues over a full year
- With highly detailed characterisation of various weather regimes and flexibility providers (ramp up rates, switching costs)
- Covering the whole integrated ENTSO-E network



Western Balkans Energy Transition Dialogue project

Donor: Austrian Federal Ministry of Sustainability and Tourism
 Implementing organisation: Agora Energiewende, Germany

Partners:
 NERDA, Bosnia and Herzegovina; INDEP, Kosovo;
 MACEF, Macedonia, Green Alternative, Montenegro;
 ASOR and RES Foundation, Serbia

Logos: Agora, SE3T-NET, Federal Ministry Sustainability and Tourism, ASOR, terdc, INDEP, ZELENA ALTERNATIVA, RES, RES Foundation Partnerships for Resilience, MACEF.



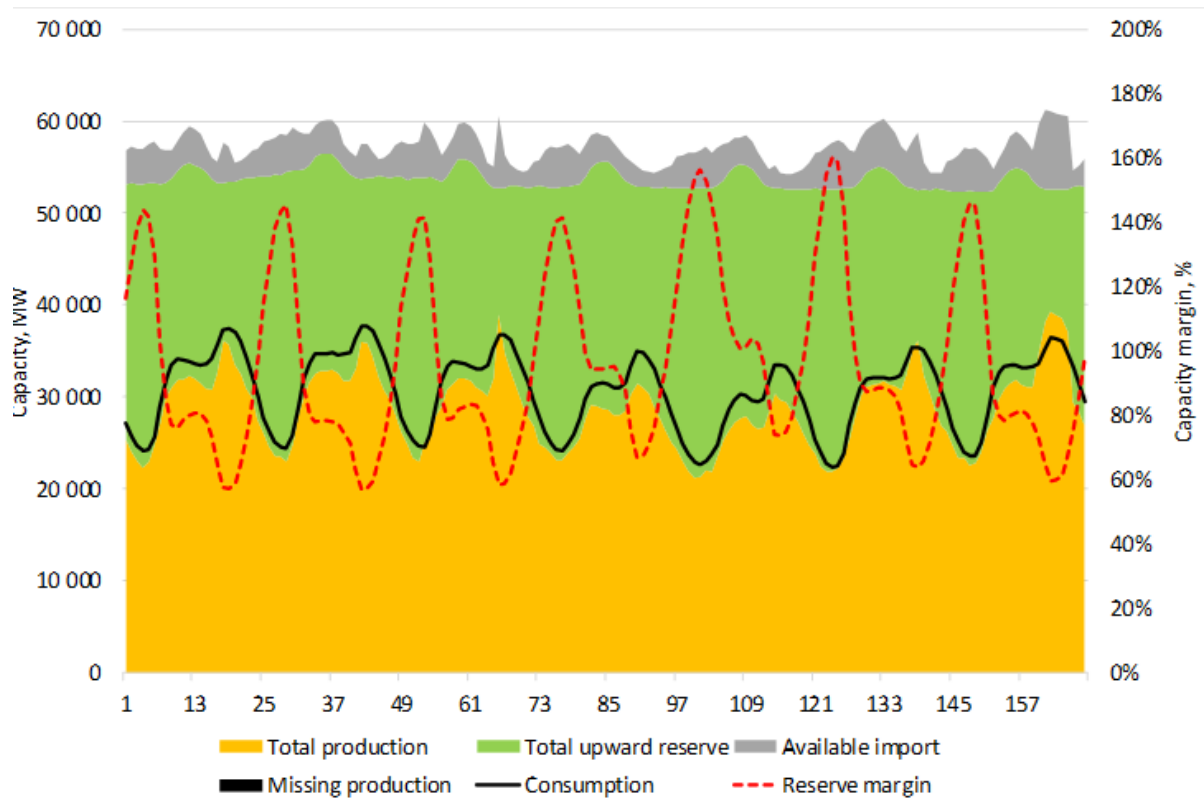
South East Europe Energy Transition Dialogue

Donor: German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMUB); The European Climate Initiative (EUKI)
 Implementing organisation: Agora Energiewende, Germany

Partners:
 Center for the Study of Democracy, Bulgaria;
 University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture, Croatia;
 The National Observatory of Athens (NOA), IERSD, Greece; Energy Policy Group, Romania

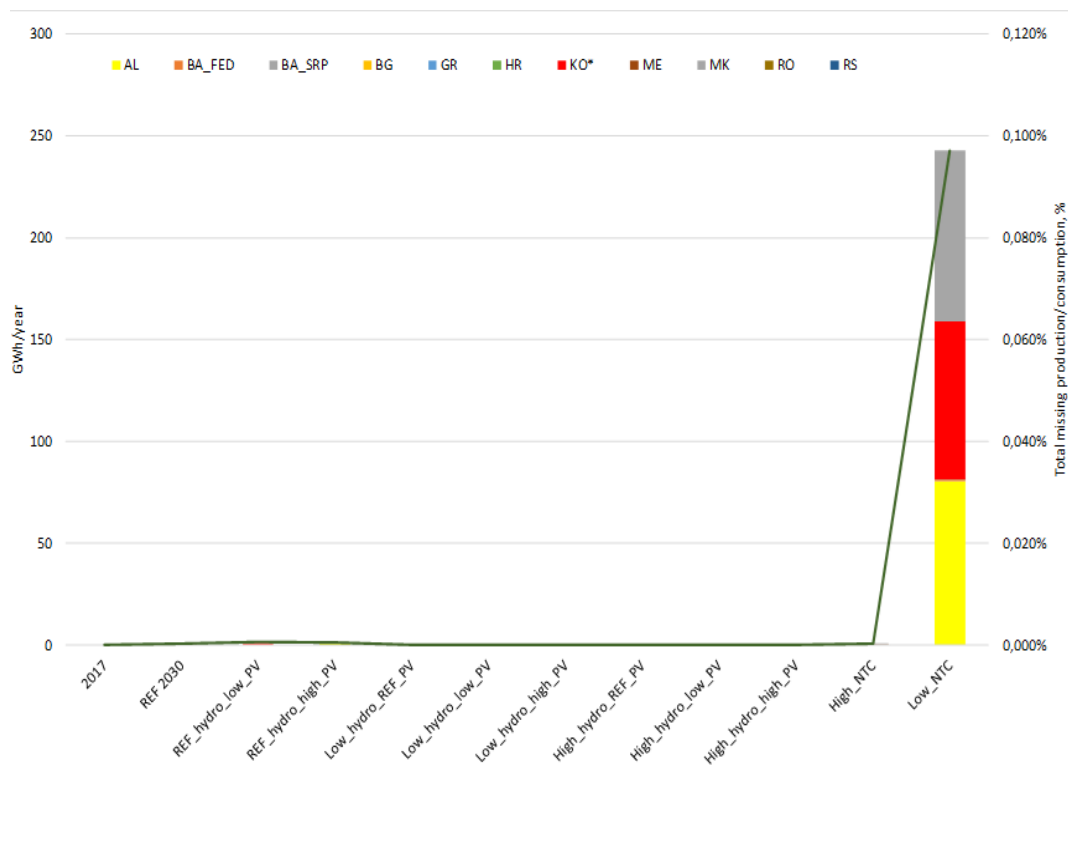
Logos: Agora, SE3T-NET, CSD, EPG, FSB, European Climate Initiative EUKI.

SEE Region, Autumn 2030: Critical week assessment



- Detailed study on the system flexibility for 2030 is carried out. (Full year modelling of 2030)
- Results suggest system reliability is maintained in SEE in 2030
- Improved level of interconnections (TYNDP level) and market institutions are also needed to increase security of supply

2030: Missing production values



- Missing production only appears in the case, when NTC values are reduced
- Underlines the importance of ongoing interconnection developments
- In this case Kosovo*, North Macedonia, Albania are affected

Conclusions

Market Integration

- Introduction of competitive market is a key driver for the SEE electricity sector: supports integration, price equalisation.
- For cross border capacity increase - present TYNDP plans are sufficient + functioning market institutions.

RES Deployment

- RES deployment increases in all scenarios, even without support significant growth after 2040
- RES support level reduction helped by increased wholesale prices and reducing technology costs

System Flexibility

- 2030 system with high vRES deployment is feasible, system reliability is maintained under the various weather scenarios
- Cross-border capacities and system integration plays a key role

Thanks for your attention!

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