State of play of climate ambition in Southeast Europe

An Assessment of the Draft National Energy and Climate Plans

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BRUSSELS, NOVEMBER, 2019

The framework of this presentation:
South East Europe Energy Transition Dialogue project

The project is part of the European Climate Initiative (EUKI) of the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU)

Implementing organisation: Agora Energiewende, Germany

Partners:

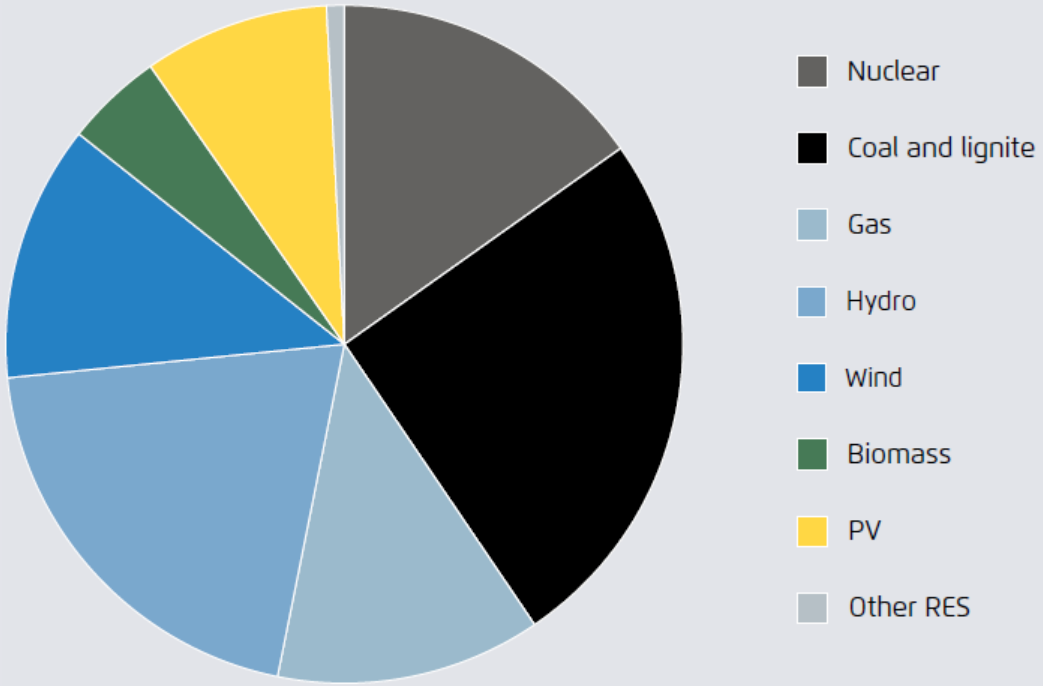
Center for the Study of Democracy, Bulgaria;

University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture, Croatia;

The National Observatory of Athens (NOA), IERSD, Greece; Energy Policy Group, Romania

50% of SEE coal generation capacity to be replaced by 2030. Huge opportunity for modernizing SEE energy systems

2030 power generation mix in SEE consistent with EU 2030 targets

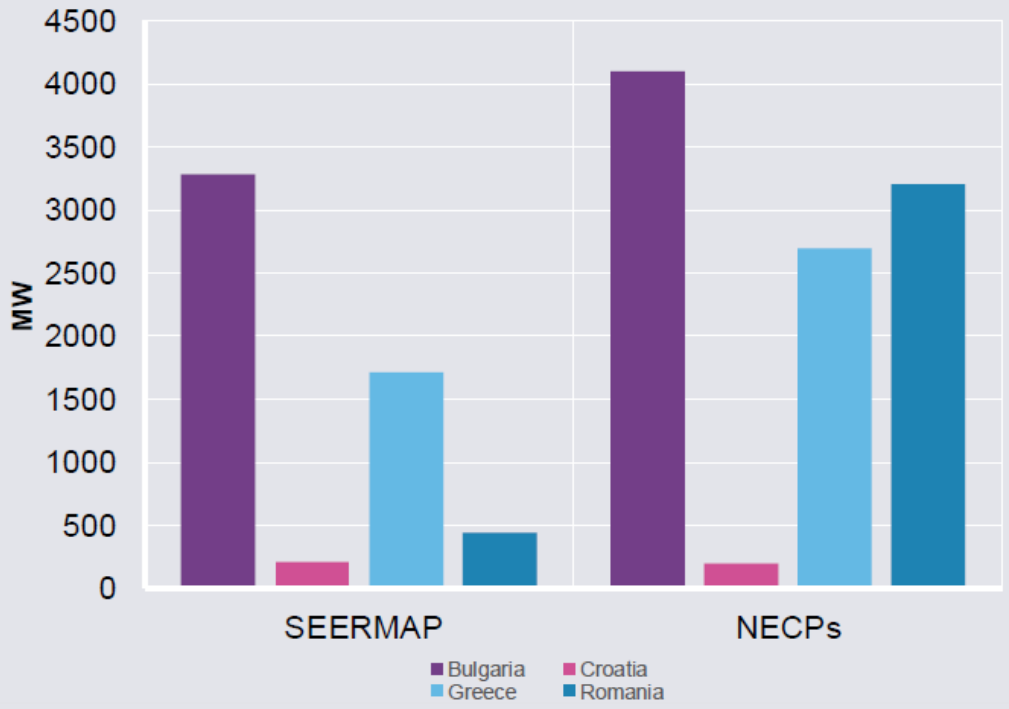


REKK (2019): The Southeast European power system in 2030: Flexibility challenges and benefits from regional integration

- The expected renewable electricity share under the EU 2030 climate and energy framework in the EU is at 55%
- Recent modelling suggests renewable electricity shares in SEE up to 50% by 2030 (SEERMAP 2017)
- The age structure of lignite plants in the region would support this transition as 50% of the region's generation capacity needs replacement due to their age and noncompliance to emission standards
- Solar photovoltaics (PV) and wind power – driven by significant cost reductions – will contribute to more than half of the RES-E production in Europe in 2030

NECPs project significant increases in the use of coal during the 2020 / 2030 period

Installed coal and lignite capacities in 2030: NECPs & SEERMAP decarbonisation scenarios



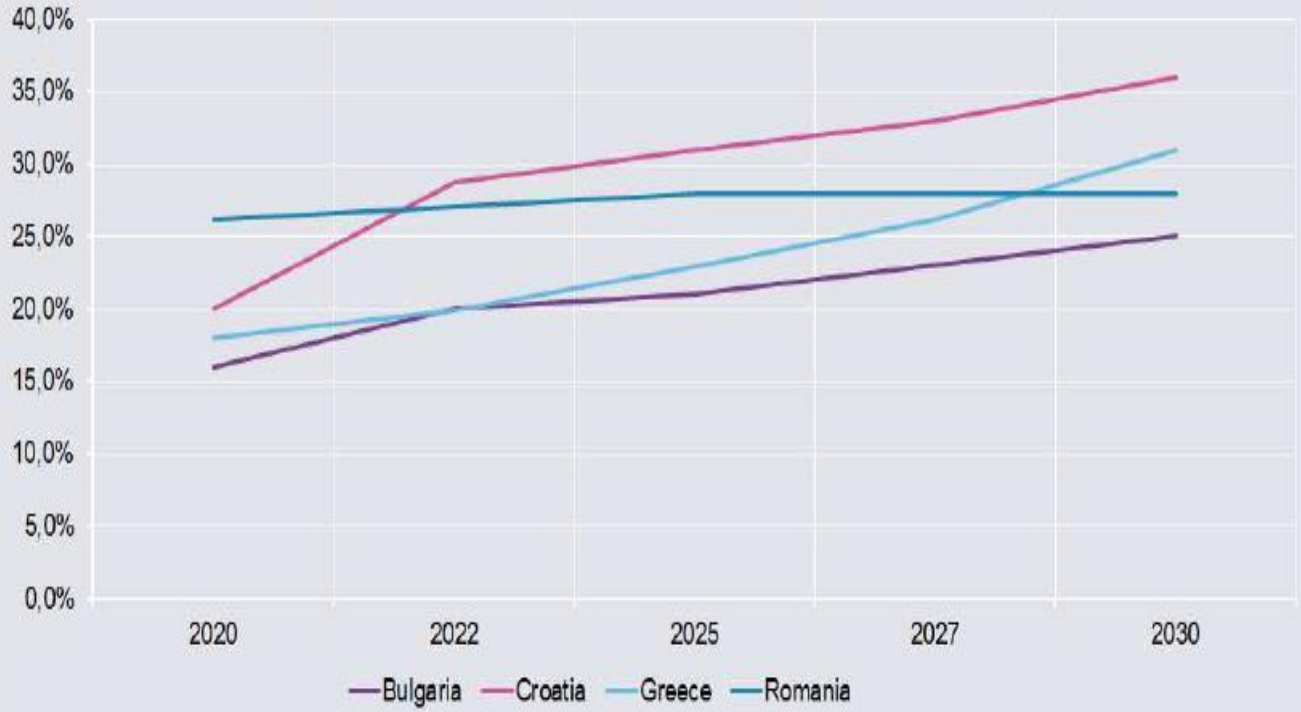
Draft NECPs BG, CRO, GR, RO (2019) and REKK (2017)

- The SEE-EU-MS do not project significant reductions in coal use during the 2020–2030 period. Three of the four countries envisage significant amounts of coal and lignite capacities in 2030*
- This puts doubt on an effective integrated approach to climate and energy planning
- It is important that the NECPs are evaluated in light of the EU's 2050 decarbonization target

*this was before the Greek announcement of a coal phase-out, where GR recently announced to phase-out lignite plants by 2028

Considerable divergence in RES targets between countries

Renewables as a share of total final energy consumption in Bulgaria, Croatia, Greece and Romania

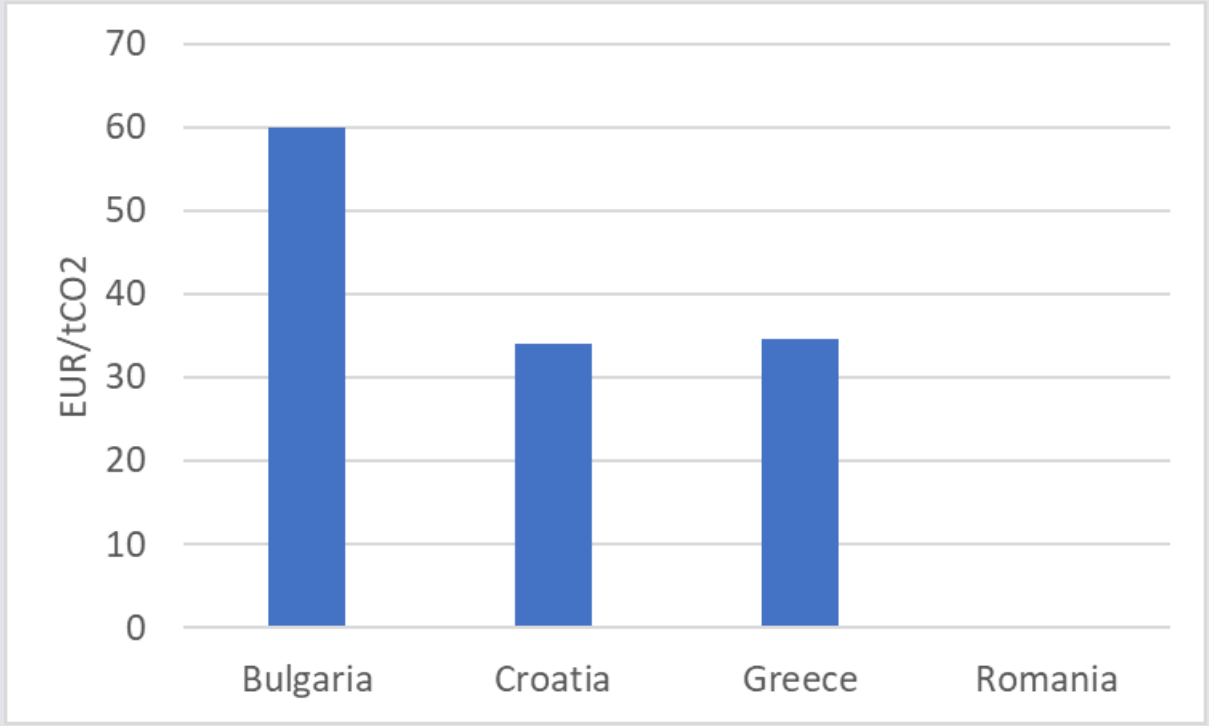


Draft NECPs of SEE-EU-MS

- In its entirety all countries should reach the EU-level target of 32% RES. Diverse picture w.r.t SEE-EU-MS targets
- While not all countries expected to adopt the same target, as their socio-economic development and resource potentials vary, generally RES potentials are not fully utilized:
- Croatia's additional cost-competitive wind potential ranges from 2 to 12 GW, depending on the cost of capital
- Bulgaria's potential is up to 18 GW of wind
- Recent developments:
  Bulgaria will raise RES target from 25% to 27%
  Greece will raise RES target from 31% to 35%

The role of CO2 pricing: Differing assumptions make fuel switch planning challenging

CO2 price assumptions for 2030

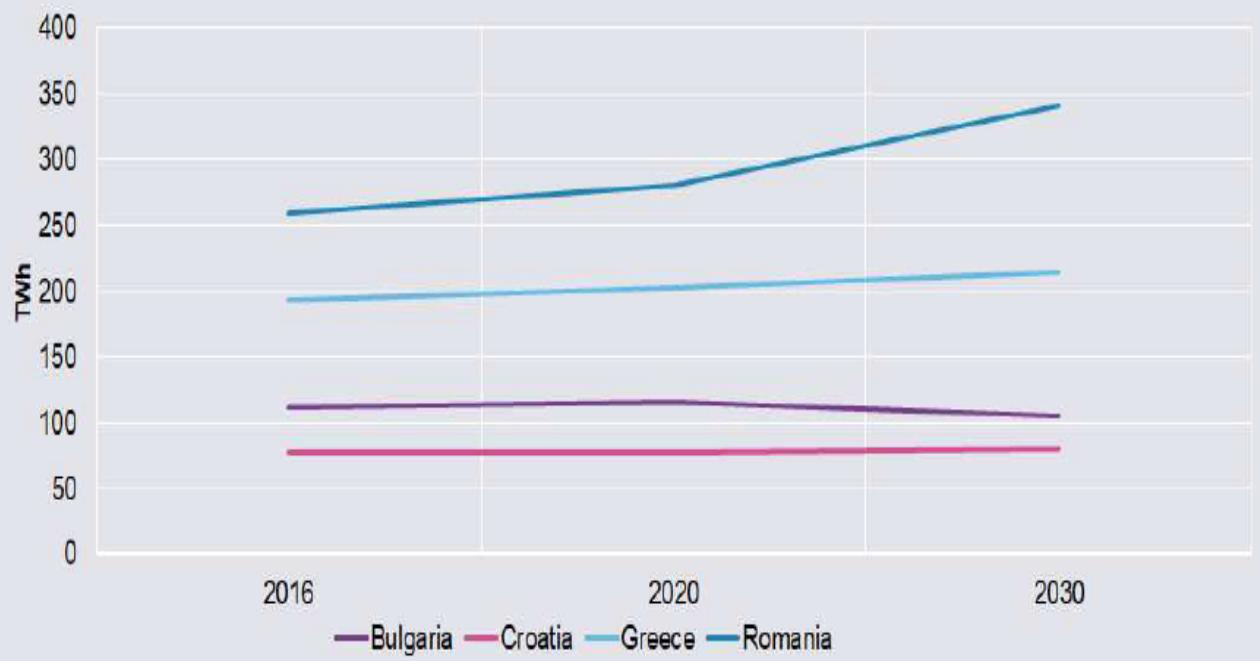


Draft NECPs of SEE-EU-MS

- Lack of modelling lead to varying emission price assumptions, from no CO2 price in Romania to 60 EUR/tCO2 in Bulgaria, 34.66 EUR/tCO2 in Greece and 34 EUR/tCO2 in Croatia
- The countries' divergent assumptions suggest limited regional consultation and coordination – and not taking into account actual EU ETS developments
- This divergence, alongside not considering implications of carbon pricing, cast doubt on the validity of the estimates in the NECPs particularly with regard to future of fossil generation capacity:
- Short-run generation cost of old lignite plant at 60 EUR/tCO2: 84 EUR/MWh

Projected final energy consumption growth varies considerably between SEE countries

Gross final energy consumption in TWh in Bulgaria, Croatia, Greece and Romania in 2016 and 2030 projections



Draft NECPs of SEE-EU-MS

- BG NECP assumes steep fall in energy intensity, which is expected to shrink 30% over the 2020s and by half up to 2050
- GR NECP envisages final energy consumption growth, mainly driven by higher economic growth and associated rises in household income (energy savings investments of ca 500 million EUR per annum)
- The growth in RO consumption is not based on integrated energy system modelling
- CRO energy efficiency target for 2030 is to keep final energy consumption to 79.7 TWh based on current trends

Buildings: mixed targets, ambiguous measures and milestones, heavy reliance on biomass

Selected indicators for the buildings sector

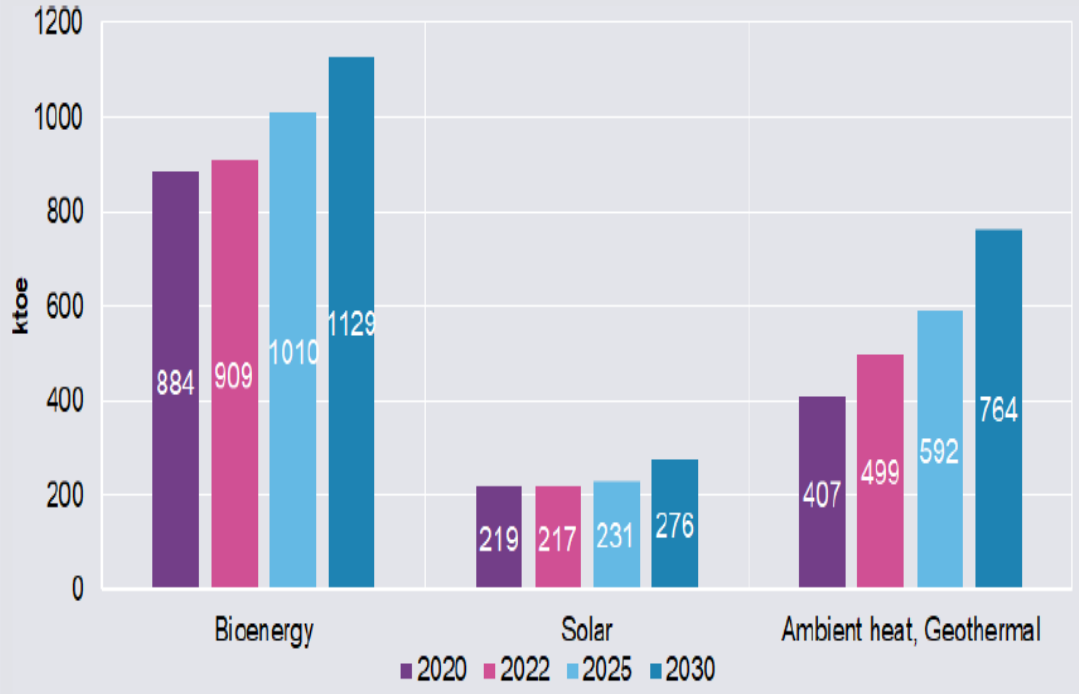
Country	Specific energy consumption, new residential buildings (kWh/m2a)	RES share, new residential buildings (%)	Annual renovation rate, public buildings (%)
BG	n.a.	15 %	5 %
GR	18-88 kWh/m2a depending on climate zone	n.a. 60 % for water heating at least 30% for heating and cooling nationally, including existing buildings	3 %
HR	34 kWh/m2a	n.a.	3 %[38]
RO	By 2030: 70-100kWH/m2a in BaU scenario	By 2030: 0 % in BaU scenario 40-50% in Transformation scenario	n.a

Draft NECPs of SEE-EU-MS

- → None of the four NECPs analysed contain quantitative targets or milestones related to the building stock as a whole
- → Looking across sectors, Bulgaria's 25% RES target for 2030 is based largely on the high level of ambition with respect to renovating public buildings
- → Romania confirms large nascent potential to reduce energy usage and expand renewables in the buildings sector, but has not committed itself to implementing the Transformation scenario set forth by the Romanian NECP.
- → Croatia has no RES share for new buildings.

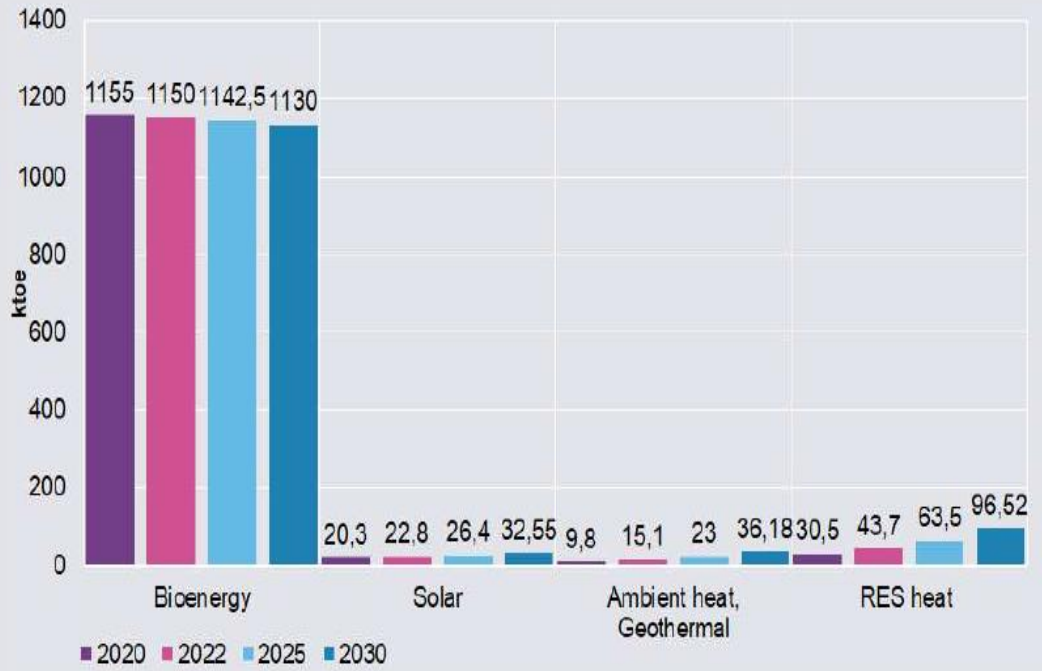
Biomass dominates the heating sector in the NECP scenarios

Greek RES share in final thermal consumption of residential sector, 2020 to 203039



Greek draft NECP

Croatian RES share in final heating and cooling demand, 2020 to 2030



Croatian draft NECP

Recommendations

- Thorough review of data and methodologies used for NECP development indicated and critically reflect upon unrealistic and/or inconsistent assumptions
- Countries should augment the transparency of data, assumptions and models that inform NECPs
- A broad-based consensus among society on NECPs should be sought as well as a trusting dialog with neighbouring countries regarding the challenges posed by climate change and how to address them
- Increased reflection of adhering to the targets set for the European Union in terms of RES, GHG reduction (both ETS and non-ETS) and energy efficiency would increase robustness of energy system planning
- Strong opportunity if Member States show in their NECPs how they will use available EU funding to achieve decarbonisation and just transition in affected regions
- Coal sectors will need to go through transition due to climate, energy and economic reasons. Starting to plan for phasing-down coal is key for avoiding disruptions. Sound methodologies, integrated modelling and policy design and measures required to ensure security of supply, energy affordability, and just transition conditions for coal mining regions and regions reliant on energy intensive industries
- Countries should focus on setting more ambitious targets for non-ETS sectors (only six EU MS will meet 2030 national reduction targets under EU Climate Action Regulation based on current trajectories)

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Agora Energiewende is a joint initiative of the Mercator Foundation and the European Climate Foundation.