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SITUATION OF EMISSIONS AND ABSORPTION OF GREENHOUSE GAS AND ENERGY FROM RENEWABLE SOURCES IN ROMANIA

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Abstract: *The EU is at the forefront of the fight against climate change. Through its bold policies and actions, the EU sets global standards and sets ambitious climate targets around the world. As a global problem, climate change requires countries around the world to work together. Romania aims to make a fair contribution to achieving the decarbonisation target of the European Union and will follow the best environmental protection practices. In the process of setting objectives regarding energy from renewable sources, Romania follows the recommendations of the European Commission and the provisions of the "Clean Energy for All Europeans" package.*

• Introduction

In line with the requirements of the agreement, the EU presented its long-term emissions reduction strategy and updated climate plans before the end of 2020, committing to reduce its emissions by at least 55% below 1990 levels by 2030. In 2015, world leaders agreed on ambitious new targets to fight climate change. The Paris Agreement sets out an action plan to limit global warming. In line with this commitment, Member States agreed to put the EU on a path to become the first climate-neutral economy and society by 2050.

• Material and method

The modelling of the Romanian energy system was based on the expected developments of policies and measures, under various other technical and economic factors and indicators. In this respect, the proposed policies determined a series of input data and assumptions as well as output data of the modelling. The paper presents the links between various energy and non-energy parameters and their impact on the indicators analysed and presented.

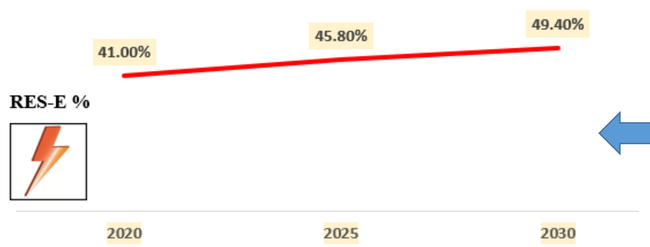

Figure 3. The indicative trajectory of the share of energy from renewable sources in the final gross electricity consumption (2020-2030)

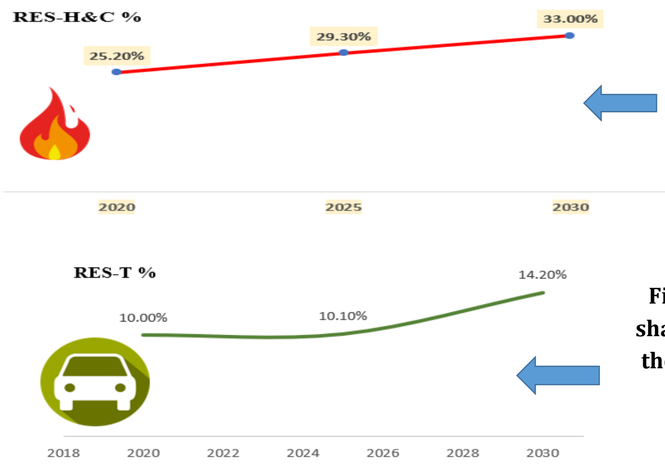

Figure 4. The indicative trajectory of the share of energy from renewable sources in the final gross energy consumption in the heating and cooling sector (2021–2030)

Figure 5. The indicative trajectory of the share of energy from renewable sources in the final gross energy consumption in the transport sector (2021–2030)

• Results and discussions

The implementation of the EU-ETS and compliance with the annual emission targets for non-ETS sectors are the main commitments to achieve the targets. For the sectors covered by the EU-ETS, Romania's overall emission reduction target is about 44% by 2030 compared to 2005

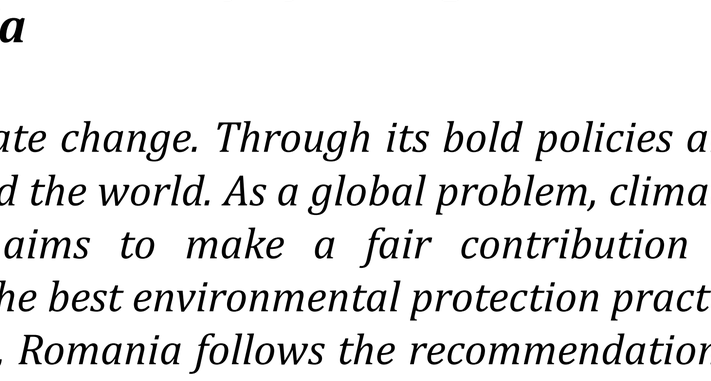

Figure 1. Evolution over time and expected emissions from the ETS and non-ETS sectors - the trading system for greenhouse gas emissions certificates in the EU

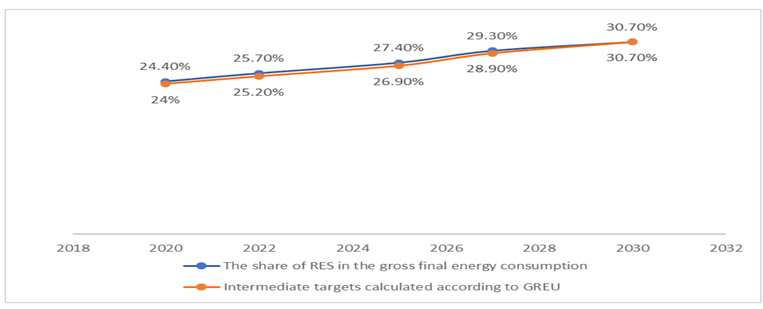

Figure 2. Indicative trajectory of RES share in final energy consumption

(2020–2030, %)

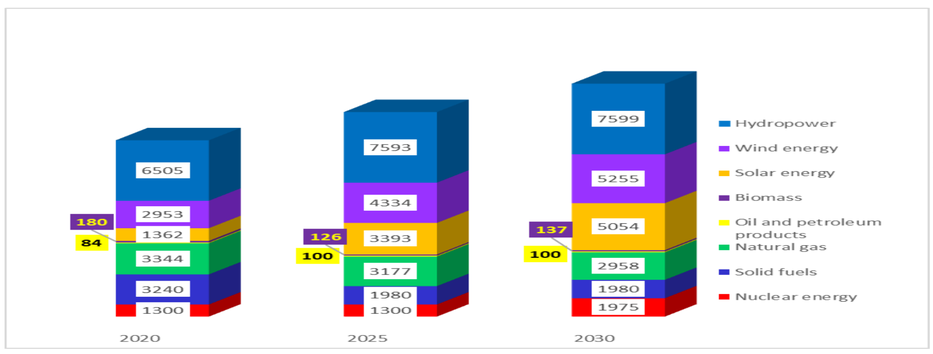

Figure 6. Indicative path of net installed capacity, by source [MW hour]

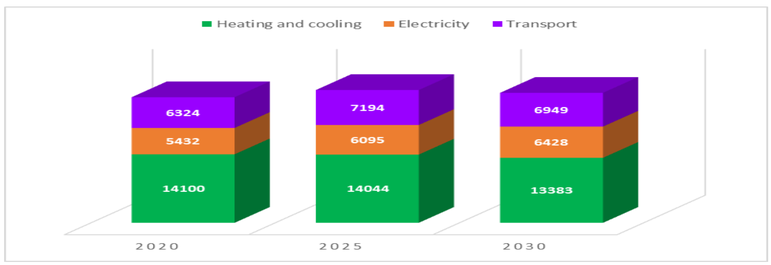

Figure 7. The indicative trajectory of final gross energy consumption, by sector (ktoe)

Conclusions

Romania has reached the 2020 target of 24% of total energy consumption from renewable sources. For 2030, the new target set by the Romanian government is 30.7%, achievable by adding 7GW in renewable capacity. In recent years, Romania has suffered a decline in attractiveness for renewable energy investment, partly due to a lack of regulation and adequate government support. Romania will therefore contribute to the EU decarbonisation process, as total greenhouse gas emissions in the national economy sectors will be reduced by about 50% in 2030 compared to 1990. In Romania, the decarbonisation of the energy sector relies heavily on the support provided by the European Green Pact. The potential of renewable energy in the local market can become the driver of decarbonisation of the Romanian energy sector, as long as public initiatives are synchronised with business intentions.