

# Romania energy saving solutions

Does Romania need a strategy for energy storage?

Based on the EU context and planning a significant uptake of renewable energy sources in its electricity mix over the following decades, Romania must also develop a strategy for the deployment of energy storage technologies.

Can storage technologies improve energy security in Romania?

Such enhanced legislation is needed for implementing the Romanian National Energy and Climate Plan (NECP), which lists 'developing storage capacities' as an instrument to improve energy security but lacks detail on how storage technologies will be deployed until 2030.

Is ETES a viable solution for the Romanian energy sector?

With only one ETES large-scale facility currently operating in Hamburg, Germany, there is significant potential for replication. Versatility and scalability make ETES a solution for increased flexibility in the Romanian energy sector.

Does Romania need a strong renewables supply chain?

The EU, including Romania, needs to develop a strong renewables supply chain in order to avoid having to rely in imports from third countries. Recognizing the status of wind energy as a sector of strategic importance is key.

Why does Romania need a new energy system?

The Romanian energy system is currently highly dependent fossil fuels, centralised, and to a good extent technically obsolete, being in serious need of overhaul in order to sustain the upcoming energy transition.

How much money does Romania get from the EU modernization fund?

In 2022, Romania received 1.4 billion Euro from the EU Modernization Fund for transition towards clean energy. The amount will cover construction of new eight solar parks and two electric power plants with gas turbines in combined cycle, to replace lignite with renewable sources and gas.

The Government of Romania adopted the National Energy Strategy 2025-2035, with the perspective of 2050 - the first programmatic document of this kind passed by the Government in the last 17 years. The strategy defines the directions for the development of the national energy sector, with an emphasis on security, accessibility and sustainability ...

o The electricity demand evolution in Romania towards 2030 - update and impact of COVID-19 for the long-term evolution; o New capacity potential for 2030 (retirement, increased demand, repowering etc.) and cost-benefit analysis of available options;

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The strategy determines six pillars for the development of the energy sector: Energy security, Low-carbon energy, Energy efficiency, Physical access to energy for all consumers and financial affordability and economic competitiveness of energy, Efficient energy markets, Digitalization, smart grid development and cybersecurity.

Energy consumption in transport almost doubled (+186%) since 2000 to reach 6.26 Mtoe in 2018. Energy savings, which tend to decrease the energy consumption, represent 2.67 Mtoe. The growth in both passenger and freight traffic and modal shift (mainly from rail to road) more than offset the energy savings, explaining the consumption increase.

Figure 1 - Elements defining the Energy Strategy of Romania for 2016-2030, with an outlook to 2050 Key strategic goals The Strategy has five key strategic goals (briefly presented in section I.2 and detailed in chapter II): energy security, competitive energy markets, and clean energy, along with good governance in the

Romania has committed in its LTS (Romania's Long-Term Strategy for Reducing Greenhouse Gas Emissions - Neutral Romania in 2050) to an installed wind and solar energy capacity of about 24 GW by 2035, indicating a 5-fold increase compared to the installed wind and solar energy capacities by 2021 (3 GW wind energy and 1.4 GW solar energy ...

For Romania to reach its target of 30.7% renewable energy of total consumption by 2030, the Ministry of Energy informs that the country plans to install net capacities of 5.1 GW solar and 5.3 GW wind, i.e., to install additional capacities of 6.9 GW out of renewable sources.

Apart from the traditional way of producing energy - the BIPV systems - or saving energy, wrapping the building in a thermal blanket and diminishing the heat loss through windows, we would propose an approach that saves energy while providing well-being and a better quality of air: greening the building envelope.

Romania's Energy Storage: Assessment of Potential and Regulatory Framework transition reduced. For example, the smart charging of electric vehicles and vehicle-to-grid (V2G) solutions could provide flexibility for the power sector, assist in congestion management, and limit costly investments in additional grid capacity.

