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CLIMATE CHANGE MITIGATION AND ITS IMPLICATIONS FOR FOOD SECURITY IN ROMANIA

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Abstract: Eurostat and EEA indicators reveal Romania’s low emissions and limited energy import dependency, alongside weak circular economy performance. Comparison with EU-27 benchmarks identifies climate-smart agriculture and food waste prevention as priorities for linking mitigation with food security.

Introduction

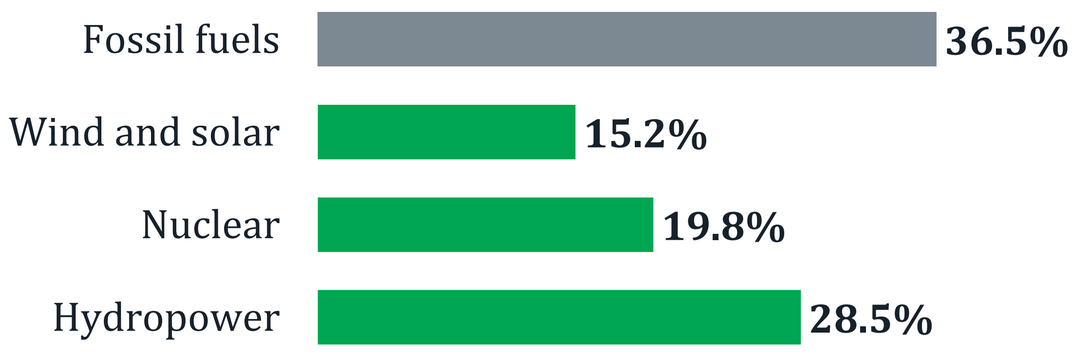
Climate change affects food production and prices. This study compares Romania with EU-27 benchmarks to identify mitigation priorities that support food availability, economic access and stability.

Material and method

Secondary Eurostat and EEA data, mainly from 2020–2023. Descriptive statistics and Romania–EU comparisons cover emissions, energy, carbon sinks and circular economy indicators. Interpretation considers the four dimensions of food security.

Different reference years and accounting methods limit comparability. The findings describe structural patterns rather than causal effects.

Electricity generation mix (%)

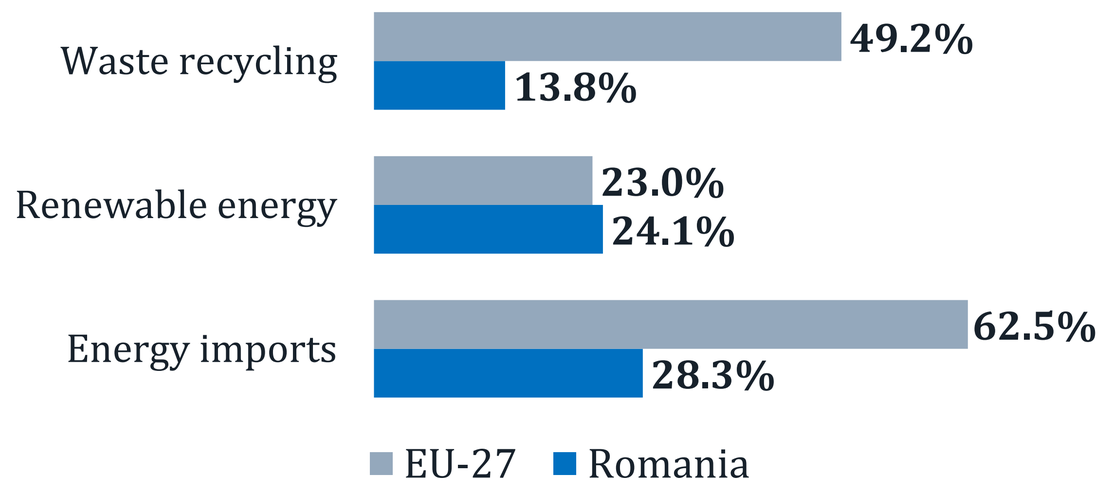


Low-carbon sources provide 63.5% of generation.

Results and discussions

Per capita GHG emissions: Romania 5.5 vs EU-27 6.9 t CO_2eq.
Net GHG emissions fell by about 75% vs 32% in 1990–2022 (including LULUCF).

Romania and EU-27 benchmarks (%)



Renewable energy: share in gross final consumption.
Waste recycling: municipal waste.

Agriculture generates 17% of national emissions. Low energy import dependency can support stable food production costs.

Conclusions

Reduce agricultural emissions per unit of food while sustaining production. Prevent food waste, recover nutrients and protect forests to strengthen food-system resilience.