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From Targets to Delivery: Securing Romania's Energy and Climate Transition under the NECP

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Title

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A study by

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About EPG

EPG is an independent, non-profit think tank focused on energy and climate policy in Romania and the European Union. Founded in 2014, EPG operates as a policy research institute primarily financed through competitive grants, philanthropic organisations and, to a limited extent, private sector projects. EPG aims to promote an evidence-based dialogue on how to balance decarbonisation, economic competitiveness and social fairness, engaging decision-makers, industry, and the public.

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Jędrzej Koralewski on Pexels via Canva

Key findings

- Romania's updated Integrated National Energy and Climate Plan (NECP) sets clearer targets, but delivery remains the main test. The plan is more coherent and better aligned with European objectives, yet its impact will depend on implementation capacity, institutional coordination, and the ability to use available funding on time.
- Romania's risk profile has shifted. Traditional energy security risks linked to external supply have declined, but new pressures related to affordability, electricity system readiness, climate impacts, and dependence on global supply chains are now more prominent.
- Energy affordability is the central constraint across the transition. High energy poverty and price volatility have exposed the limits of crisis-driven measures and highlighted the need for structural solutions based on efficiency, grids, and predictable revenue recycling.
- Tight timelines for European Union funding amplify implementation risks. The National Recovery and Resilience Plan (NRRP) is a key financing source identified in the NECP, but its 2026 deadline and conditional disbursements make prioritisation and delivery capacity decisive for reaching 2030 objectives.
- Public support for climate action exists, but it is conditional. People tend to support decarbonisation when it strengthens energy security and keeps costs manageable. Perceived unfairness, unstable policies, or rising household costs risk weakening this support.

Mesaje cheie

- Planul Naţional Integrat în domeniul Energiei şi Schimbărilor Climatice (PNIESC) actualizat al României stabileşte obiective mai clare, dar punerea în aplicare rămâne principala provocare. Planul este mai coerent şi mai bine aliniat la obiectivele europene, însă impactul său va depinde de capacitatea de implementare, de coordonarea instituţională şi de capacitatea de a utiliza la timp fondurile disponibile.
- Profilul de risc al României s-a modificat. Riscurile tradiţionale legate de securitatea energetică asociate aprovizionării externe au scăzut, dar noile presiuni legate de accesibilitatea preţului la energie, pregătirea sistemului energetic, impactul climatic şi dependenţa de lanţurile de aprovizionare globale sunt acum mai pronunţate.
- Accesibilitatea preţului la energie este constrângerea centrală pe parcursul tranziţiei. Sărăcia energetică ridicată şi volatilitatea preţurilor au scos la iveală limitele măsurilor luate în contextul crizei şi au evidenţiat necesitatea unor soluţii structurale bazate pe eficienţă, reţele şi redistribuirea previzibilă a veniturilor din alte surse.
- Termenele strânse pentru finanţarea din partea Uniunii Europene amplifică riscurile de implementare. Planul Naţional de Redresare şi Reziliență (PNRR) este o sursă cheie de finanţare identificată în PNIESC, dar termenul limită din 2026 şi plăţile condiţionate fac ca prioritizarea şi capacitatea de livrare să fie decisive pentru atingerea obiectivelor din 2030.
- Există sprijin public pentru acţiunile climatice, dar acesta este condiţionat. Populaţia tinde să sprijine decarbonizarea atunci când aceasta consolidează securitatea energetică şi menţine costurile la un nivel gestionabil. Percepţia faţă de nedreptate, politicile instabile sau creşterea costurilor gospodăriilor riscă să slăbească acest sprijin.

Contents

Introduction

Romania's updated Integrated National Energy and Climate Plan (NECP) sets the framework for the country's energy and climate transition to 2030. Compared to previous versions, the plan defines clearer targets, expands the range of policies and measures, and strengthens alignment with European Union objectives. At the same time, the plan is set to be implemented in a context marked by persistent affordability pressures, tight investment timelines, infrastructure constraints, and growing exposure to climate-related and transition-related risks.

This policy paper builds on the findings of the report Securing Romania's Energy and Climate Future: Policy Choices, Risk Exposure, and Public Support which provides an in-depth assessment of the plan's design, risk alignment, and social dimensions. It synthesises and interprets those findings to focus on the practical conditions for delivery, highlighting how Romania's evolving risk profile, the timing and structure of European Union funding instruments, and public sensitivity to costs and fairness interact to shape the feasibility of NECP implementation.

Rather than reassessing targets set in the NECP, this short analysis concentrates on implementation dynamics. It sets out the analytical basis for the key findings and provides the foundation for the policy priorities discussed in the following sections, with a focus on delivery capacity, financing constraints, and social acceptance aspects.

Main findings

NECP assessment: ambition, gaps, and stakeholder engagement

Romania's updated NECP[1] marks clear progress compared to previous planning cycles. The plan has a stronger analytical structure, more coherent decarbonisation pathways, and better-defined sectoral targets. It expands the policy portfolio to 89 measures and places greater emphasis on regional cooperation and coordination across institutions.

However, methodological quality remains uneven. While energy supply and electricity generation pathways are relatively well specified, other areas lack the same level of detail. The most visible weakness is in the land use, land-use change and forestry sector. The sharp increase in the removals target is not matched by clear implementation measures or robust modelling. This gap raises questions about feasibility and weakens confidence in economy-wide targets.

The plan also relies heavily on a limited number of large projects, including offshore gas development, nuclear expansion, and major grid investments. These projects are considered strategically important, but their central role increases exposure to delays, financing risks, and political uncertainty. Delivery risks therefore matter as much as policy design.

Stakeholder engagement has improved compared with earlier NECP versions, with consultations bringing together public authorities, industry, civil society and research organisations. Despite this progress, it remains difficult to trace how the contributions received during consultations shape the final policy choices. In several cases, consultation inputs appear to be mainly documented rather than clearly reflected in decisions, which may weaken stakeholders' sense of ownership and the perceived value of the consultation process. Overall, the NECP is more ambitious and better structured, but its effectiveness is constrained by gaps in modelling, a project-heavy approach, and limited operational clarity in key areas.

Risk profile (ECSRI): key vulnerabilities and drivers[2]

The Energy and Climate Security Risk Index (ECSRI)[3] indicates that Romania has reduced several traditional energy security vulnerabilities over the past decade, particularly along the geopolitical dimension.[4] Higher domestic production, diversification of supply routes, expanded regional interconnections, and substantial natural gas storage capacity have lowered exposure to external suppliers and short-term supply disruptions. In this respect,

1 EPG, 2025, Securing Romania's Energy and Climate Future: Policy Choices, Risk Exposure, and Public Support

2 EPG, 2025, Securing Romania's Energy and Climate Future: Policy Choices, Risk Exposure, and Public Support

3 Centre for the Study of Democracy, 2025, Energy and Climate Security Risk Index – CES

4 EPG, 2025, Securing Romania's Energy and Climate Future: An EPG Assessment Using the Energy and Climate Security Risk Index

Romania enters the current transition phase from a more resilient position than in earlier planning cycles. Prospective offshore gas production after 2027 could further consolidate this position in the medium term, strengthening Romania's role within regional gas markets.

However, the ECSRI also shows that Romania's overall risk profile is evolving rather than uniformly improving. As exposure to classical supply-side **geopolitical risks** declines, new forms of vulnerability linked to the energy transition itself become more salient. These include affordability pressures, infrastructure constraints, growing exposure to climate impacts, and emerging dependencies on global supply chains for critical materials. Importantly, these risks interact across dimensions and tend to reinforce one another, making them harder to address through sector-specific interventions.

Affordability emerges as the most acute and cross-cutting vulnerability. Energy poverty remains widespread, and energy expenditures account for a high share of household income. The price spikes of 2021–2023 exposed both households and industry to abrupt cost shocks, revealing the limits of Romania's ability to absorb volatility. Emergency price caps and compensation schemes softened the immediate impact but at the cost of fiscal pressure, regulatory uncertainty, and distorted price signals. At the same time, rising carbon-related costs under the European Union Emissions Trading System (EU ETS)[5], combined with the limited and uneven recycling of revenues into energy efficiency and system upgrades, continue to weigh on affordability and competitiveness. In this sense, affordability risks are no longer episodic, but structural.

Reliability risks are increasingly driven by infrastructure readiness rather than by a lack of generation capacity. Romania benefits from a diversified electricity generation mix and sufficient installed capacity, which limits the risk of outright supply shortages. Yet underinvestment in electricity transmission and distribution networks, limited system flexibility, and persistently low energy efficiency in the building stock constrain the system's ability to manage peak demand, integrate variable renewable generation, and respond to operational stress. These weaknesses are amplified by more frequent and intense extreme weather events, which simultaneously strain supply-side infrastructure and increase demand, particularly for cooling and heating. As electrification accelerates, these reliability constraints risk becoming a binding condition for both decarbonisation and affordability.

Sustainability related risks extend well beyond emissions performance. Romania exhibits a high material footprint, low circular material use, and weak waste management outcomes. These structural characteristics increase exposure to global commodity markets and heighten sensitivity to price volatility and supply disruptions for critical raw materials essential to the energy transition, including those used in batteries, electricity networks, and renewable technologies. Although these risks are not traditionally framed as energy security concerns, they increasingly shape long-term resilience and strategic autonomy. Climate adaptation remains weakly integrated into energy and infrastructure planning, despite growing climate-related economic losses and clear signals of rising physical risk.

[5] European Commission, EU Emissions Trading System (EU ETS)

These risks interact across sectors and policy domains, implying that isolated measures are unlikely to deliver sustained risk reduction. Instead, the effectiveness of the transition will depend on coordinated responses that address underlying system constraints and distributional impacts alongside decarbonisation objectives.

Financing: constraints shaping delivery

Financing conditions further shape how these risks translate into implementation outcomes. The updated NECP identifies several European Union funding sources, including the National Recovery and Resilience Plan (NRRP)[6], the Modernisation Fund[7], revenues from the European Union ETS, and private investment, but their timelines and conditionality introduce practical constraints. The fixed implementation deadline of the NRRP in 2026 compresses the window for delivering investments that are central to affordability, electricity system readiness, and emissions reductions by 2030. Recent implementation experience indicates that access to funding is increasingly contingent on administrative capacity and milestone delivery, rather than on formal commitments alone. As a result, financing acts not only as an enabler, but also as a factor that amplifies delivery risks where coordination and sequencing remain weak.

Public preferences: support and limitations

Survey evidence points to broad public support for climate and energy policies, while attitudes remain cautious. Most respondents recognise climate change as a human-driven problem and support climate action at national level, especially when it is linked to energy independence and security.

At the same time, affordability dominates public concerns. Many households worry about electricity and heating costs, as well as dependence on imported energy and raw materials. These concerns outweigh environmental issues such as air quality, suggesting that economic and security considerations shape attitudes more strongly than climate impacts alone.

Results from the discrete choice experiment reinforce this picture[8]. Respondents are willing to accept modest costs to reduce dependence on gas and oil imports. By contrast, willingness to pay for climate impact reductions is limited. This reflects cost sensitivity rather than rejection of climate goals.

Preferences are shaped by how costs and benefits are distributed. There is limited support for schemes that concentrate costs on narrow groups or that target benefits very selectively. Respondents tend to prefer more broadly shared costs and benefits, which they associate with fairness and stability. The main social constraint on the transition is therefore not opposition to decarbonisation, but sensitivity to costs, fairness, and policy predictability.

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[6] Romanian Government / Fonduri-EaSI, Planul Național de Redresare și Reziliență

[7] European Union, Modernisation Fund

[8] EPG, 2025, Securing Romania's Energy and Climate Future: Policy Choices, Risk Exposure, and Public Support

Policy priorities

From targets to delivery within the NECP horizon (to 2030)

Within this financing landscape, the key challenge is no longer the formal availability of funds, but their alignment with delivery capacity over time. The mismatch between the NECP's objectives to 2030 and the time profile of available funding, especially instruments with fixed deadlines, means that implementation outcomes depend on how effectively investments are prioritised, sequenced, and executed under tight institutional and temporal constraints.

The NRRP, financed through the European Union Recovery and Resilience Facility (RRF), has a fixed implementation deadline of 31 August 2026[9]. This compresses the period available for delivering measures that are central to NECP outcomes, particularly in building renovation, electricity networks, digitalisation, and clean energy deployment. Under these conditions, implementation outcomes are shaped less by the nominal scale of funding and more by the ability to prioritise, sequence, and execute investments within tight administrative and temporal constraints.

In this context, implementation dynamics favour approaches that move beyond isolated projects. Where investments are structured around system-level needs, such as reducing exposure to price volatility, enabling cost-effective electrification, and stabilising social impacts, the risk of fragmented delivery and uneven outcomes declines. Where project selection remains disconnected from system constraints, implementation risks are amplified despite the availability of funding.

2025–2027: Delivery capacity and affordability stabilisation

In the period immediately following formal adoption, a key risk is the gap between planning ambition and delivery capacity. Without early coordination, implementation may become fragmented across institutions and funding cycles, weakening investment sequencing and limiting spillover effects across sectors. Permitting and procurement often advance at different speeds, while grid upgrades, storage, renovation programmes, and renewable projects are not always synchronised. This reduces funding effectiveness, slows absorption, and increases uncertainty for private investors.

Affordability pressures are closely linked to these delivery dynamics. Evidence from the NECP review and ECSRI analysis indicates that revenues from the European Union Emissions Trading System have not been integrated into a stable investment framework, with allocations often driven by short-term pressures rather than a consistent strategy to address structural affordability and system risks. As a result, crisis measures have played a larger role in stabilising prices, while structural investments that reduce exposure to future shocks have progressed more slowly. Where emissions trading revenues are channelled into energy

[9] European Commission, Recovery and Resilience Facility

efficiency, clean heating, and grid upgrades, reliance on ad hoc compensation declines and policy predictability improves.

The remaining implementation window of the NRRP further reinforces these constraints. With a fixed deadline in 2026, delays in mobilisation reduce the scope for investments delivering durable benefits before 2030. Demand-side measures, particularly building renovation in multi-apartment blocks, district heating areas, and rural energy-poverty hotspots, offer strong potential to lower energy costs, ease pressure on electricity networks, and improve social outcomes within the available timeframe, especially when combined with heat pumps and rooftop photovoltaics.

2026–2030: System readiness and social legitimacy

The period leading up to 2030 coincides with the implementation of EU climate policy instruments, most notably the extension of carbon pricing to buildings and road transport through ETS2, whose entry into force has been postponed by one year in recent EU decisions. By introducing a carbon price on heating and transport fuels, ETS2 will make transition costs more visible at household level and increase the importance of social and distributional impacts, particularly in contexts of high energy poverty and strong sensitivity to energy prices.

The Social Climate Fund (SCF), operating from 2026 to 2032, is intended to mitigate these pressures, but its effectiveness will depend on whether national measures prioritise structural reductions in energy and transport costs rather than relying mainly on income compensation.[10] Investments in building performance, clean heating, and low-carbon mobility can reduce household exposure to future price shocks, while delays or fragmented implementation would allow distributional pressures to persist.

Preparing for post-2030 risks through decisions taken before 2030

Although the NECP formally ends in 2030, the decisions taken during its implementation will shape Romania's energy and climate trajectory well beyond this horizon. Key risk drivers such as critical raw materials, circular economy performance, and climate adaptation, remain only partially integrated into the current framework, despite their growing importance for long-term energy security.

Investment choices made before 2030 carry significant lock-in effects. Decisions on electricity networks, storage, renewable technologies, and electric mobility will determine Romania's exposure to supply chain risks, material price volatility, and waste constraints. At the same time, limited integration of climate adaptation into infrastructure planning increases the likelihood that new assets become vulnerable to extreme weather over their lifetime.

Beyond 2030, the post-2027 EU Multiannual Financial Framework will shape the conditions for scaling infrastructure and resilience investments in the early 2030s. Early choices on technology pathways, regulation, and investment priorities will therefore influence whether

[10] EPG, 2025, ETS2 in Romania: Turning Climate Policy into Economic Opportunity

Romania enters the next funding cycle aligned with long-term energy security and competitiveness objectives, or burdened by costly adjustments.

Under Regulation (EU) 2018/1999, Member States must revise their NECPs regularly, with a comprehensive update foreseen for 2028–2029. The current NECP thus forms the baseline for the next planning cycle. Anticipating post-2030 risks today can reduce future adjustment costs, strengthen policy continuity, and enhance credibility.

Taken together, these dynamics suggest that Romania's long-term energy and climate security will depend not only on meeting 2030 targets, but on whether current NECP implementation prepares the ground for the next planning cycle and the policy and funding environment beyond 2030. Embedding considerations related to resource efficiency, circularity, and climate resilience into present investment decisions can therefore reduce future vulnerabilities and support continuity across successive NECP revisions.

Conclusions

Romania's updated NECP provides a clearer and more coherent framework for the energy transition, with better-defined targets and stronger alignment with European Union objectives. However, the main risks now lie less in ambition and more in implementation. Romania's risk profile has evolved: exposure to external supply shocks has declined, while vulnerabilities related to affordability, electricity system readiness, climate impacts, and material dependencies have become more prominent and interconnected.

Affordability remains the most binding structural constraint. Crisis measures cushioned short-term price shocks but did not fundamentally reduce energy poverty or long-term exposure to volatility. At the same time, tight EU funding timelines, particularly under the NRRP shift the focus from financial allocation to administrative capacity, coordination, and sequencing. Delays risk narrowing the window for investments that can deliver durable benefits by 2030 and shape Romania's position in the next planning cycle. Public support for decarbonisation remains conditional on fairness, cost control, and visible benefits, making social legitimacy a central factor in policy continuity.

Against this background, several recommendations emerge:

- **Shift the focus from targets to delivery capacity**. Strengthen inter-institutional coordination, streamline permitting and procurement, and improve monitoring of investment pipelines to ensure that NECP objectives translate into measurable outcomes.
- **Use early funding windows to reduce structural risks**. Prioritise investments, especially under the NRRP, that lower long-term exposure to price volatility and system stress, notably in building renovation, clean heating, and electricity networks.
- **Treat affordability as a structural policy objective**. Use EU ETS revenues more consistently for energy efficiency, clean heating, and grid upgrades to reduce reliance on crisis measures and improve predictability.
- **Rebalance electricity policy toward system readiness**. With generation adequacy less pressing, greater emphasis should be placed on networks, flexibility, storage, demand response, digitalisation, and resilience to extreme weather.
- **Prepare early for the social impacts of extended emissions trading**. As emissions trading expands to buildings and transport, investment-led approaches that reduce household exposure to energy and mobility costs will be more sustainable than compensation alone.
- **Limit post-2030 lock-in risks through current choices**. Integrating resource efficiency, circularity, and climate resilience into present investment decisions can reduce long-term vulnerabilities and strengthen continuity into the next NECP cycle.

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