

Coal phase-out by 2030: An unreachable goal?

An analysis of Romania's National Energy and Climate Plan



For more information

Alexandru Mustață
Campaign Coordinator, Bankwatch
Romania

alexandru.mustata@bankwatch.org
+40 726 770 808

Contents

- Executive Summary.....3
- European Commission recommendations.....3
- Public consultation.....4
- The future of coal5
- The end of Rovinari 600?.....6
- Dependent on natural gas?8
- Just transition8
- Reduction of greenhouse gas emissions9
- Renewable energy10
- Energy efficiency14
- Financing sources14

CEE Bankwatch Network’s mission is to prevent environmentally and socially harmful impacts of international development finance, and to promote alternative solutions and public participation.

Learn more: bankwatch.org



Executive Summary

On 31 January, the Ministry of Economy published the final version of the National Energy and Climate Plan (NECP)¹, a fundamental document that will define Romania's ambitions in the field for the next decade. Although the targets for 2030 for renewable energy and energy efficiency are higher than those in the 2018 NECP version, they remain below the recommendations of the European Commission. The document is unambitious because it ignores Romania's enormous potential for green economy transition and the recently created funding opportunities for sustainable development, such as the European Green Deal.

All EU Member States are responsible for preparing this Plan under the new EU Governance Regulation of the Energy Union, part of the "Clean Energy for All Europeans" Package. The document should address the five interdependent dimensions of the Energy Union: energy security, solidarity and trust; a fully integrated internal energy market; energy efficiency; climate action and decarbonisation of the economy; and research, innovation and competitiveness. The NECP is a ten-year strategy, regarding the 2021-2030 period, with intermediate targets and a common reporting system for all the countries.

None of Romania's main goals are ambitious, if we look at the country's potential or at the recommendations of the European Commission. Romania expects a 43.9% decrease in greenhouse gas emissions by 2030 compared to 2005, a 30.7% share of renewable energy in gross final consumption, and a reduction of final energy consumption of 40.4%. The measures proposed to achieve these objectives are also questionable, primarily because it is not clear how each of them will contribute to the targets. The necessary financial resources are also not specifically identified and no new funds for NECP implementation are proposed – instead, only existing financial instruments are listed.

Romania remains one of the last seven EU member states that have not set a date for coal phase-out. The installed capacity in 2030 is estimated at almost 2 GW, although this method of electricity production is no longer profitable. One area of the plan which could be considered progress when compared to the previous version of the NECP is the exclusion of a plan to build a new unit at the Rovinari power plant, a project proposed in 2012 and postponed indefinitely because a cost-effective solution for all stakeholders could not be identified. Because this unit is not included in the proposed investments in NECP, we can expect that the project will no longer be implemented.

Some of the proposed measures to reach the targets are redundant because the proposed solution is to simply abide by the laws already in force. The most significant example is the implementation of the best available techniques (BATs) in the industrial sector. This obligation already exists according to law 278/2013, but is not respected: Romania has received infringement cases on this subject since 2017 due to the operation of coal-fired power plants without integrated environmental permits².

European Commission recommendations

According to the Governance Regulation of the Energy Union and Climate Action provisions, after the Member States submit their drafts on National Energy and Climate Plans (NECP) to the European Commission, the Commission assesses the plans and provides specific recommendations at least six months before the deadline for the final plan's presentation.

These recommendations can consider: the level of ambition of the objectives and contributions to reach the targets of the Energy Union collectively, especially those of the European Union regarding the renewable energy sources and energy efficiency for 2030, but also the level of interconnectivity of the electricity networks to which the Member State is aiming for 2030; the policies and measures regarding the established objectives at the National and European level, as well as those with cross-border relevance; and the consistency and interaction between the actual measures and policies and those planned in the NECP applied on one or multiple

¹http://economie.gov.ro/images/transparenta-decisionala/ANUNT%20PNIESC%202020/PNIESC%20revizuit_31%2001%202020.pdf

² <https://bankwatch.ro/pentru-al-treilea-an-la-rand-comisia-europeana-solicita-romaniei-sa-opreasca-marii-poluatori/>

dimensions in the Energy Union³. Romania submitted its National Energy and Climate Plan at the end of December 2018, and the Commission's recommendations were published in June 2019⁴.

Regarding the NECP draft, the European Commission elaborated ten specific recommendations, targeting, in general, the low level of ambition of the policies and measures included in the document. Specifically, the European Commission recommended Romania to:

1. Increase the share of renewables in the final gross energy consumption by establishing a target of at least 34%, and to implement measures to facilitate the development of prosumers and renewable energy communities and simplify the licensing and authorization procedures.
2. Substantially increase the level of ambition for the 2030 energy efficiency targets and establish clear measures to reach these targets.
3. Detail support measures to achieve energy security targets through the diversification of energy sources and the increase of energy independence.
4. Develop more ambitious targets for an integrated electricity market, especially by adopting measures for the development of liquid markets and competitive wholesale and retail energy markets.
5. Establish clear objectives and financing sources for research, innovation and competitiveness within the Energy Union.
6. Increase regional cooperation with neighbouring Member States and within regional cooperation frameworks, including the infrastructure for natural gas and electricity, renewable energy, energy efficiency and research, innovation and competitiveness, taking into account the common challenges and objectives agreed.
7. Cover an investment analysis to accomplish the set targets within NECP.
8. List all energy subsidies, especially those granted to fossil fuels, as well as the actions and plans established for their phasing out.
9. Cover an analysis of interactions with air quality policies and atmospheric emissions.
10. Integrate actions to assure a just and equitable transition that take into account the social and workforce impact, highlighting the financial sources and their usage for energy transition.

Public consultation

The first version of the NECP was published at the end of November 2018 and only 10 days were allocated for public consultation. For the second version, published on 31 January, initially there were also only 10 days allocated, but meanwhile the Ministry of Economy announced the extension of the consultation period until the end of February.

By providing only this short period of time for the consultation of a 165-page document, Romanian authorities breached the Aarhus Convention, which was transposed into Romanian legislation by Law 86/2000⁵. The Convention mentions that States "shall make appropriate practical and/or other provisions for the public to participate during the preparation of plans and programmes relating to the environment, within a transparent and fair framework, having provided the necessary information to the public", that "the public participation procedures shall include reasonable time-frames for the different phases, allowing sufficient time for informing the public [...] and for the public to prepare and participate effectively during the environmental decision-making" and that "[e]ach Party shall provide for early public participation, when all options are open and effective public participation can take place".

Neither the Governance Regulation of the Energy Union was complied with, the document mentioning that "Member States should therefore ensure that the public is given early and effective opportunities to participate in and to be consulted on the preparation of the integrated national energy and climate plans". Article 10 of the

³ Art. 9 (2) from the [Governance Regulation of the Energy Union](#)

⁴ [https://eur-lex.europa.eu/legal-content/RO/TXT/HTML/?uri=CELEX:32019H0903\(23\)&from=EN](https://eur-lex.europa.eu/legal-content/RO/TXT/HTML/?uri=CELEX:32019H0903(23)&from=EN)

⁵ <http://legislatie.just.ro/Public/DetaliuDocument/22438>

same Regulation specifies that “each Member State shall ensure that the public is given early and effective opportunities to participate in the preparation of the draft integrated national energy and climate plan”⁶.

The future of coal

The National Energy and Climate Plan does not consider significant proposals to achieve the energy transition, which is obvious from the fact that it does not establish a date for coal phase-out. Meanwhile, Greece and Hungary joined the group of states with such policies in place, deciding to shut down their last units by 2028 and 2030, respectively. Thus, Romania remains one of the last seven EU Member States that have not set a date to give up lignite and hard coal⁷. On the contrary, the measures from the first version explicitly proposed “to continue the exploitation and sustainable use of all types of primary energy resources of the country” and “maintaining a diversified and flexible park of electricity production capacities according to Romania's energy mix” (p. 13).

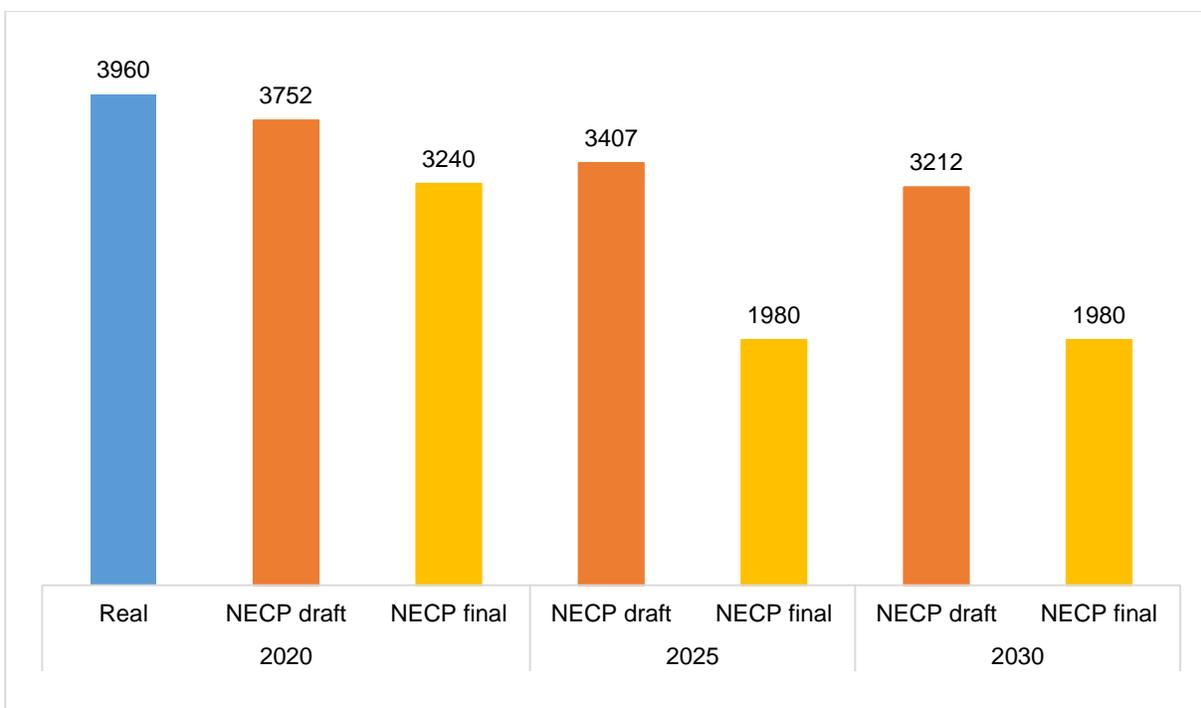
The estimated installed capacity of coal units for 2020 was of 3,752 MW in the first version, a seemingly random number, considering that on October 1, 2018 the installed power under the Romanian Energy Regulatory Authority (ANRE) licenses was 5,915 MW, and the net installed power was 4,144 MW. At the time, no unit closure was announced by the Ministry of Energy or operators, so the document provided more questions than answers.

The data in the final NECP also did not correlate with real data. The document shows the installed capacity of coal at 3,240 MW, while Transelectrica (the Romanian Transmission and System Operator) indicates a net power of 3,960 MW and an installed power of 4,590 MW⁸. Whereas the 2018 version anticipated 3,407 MW of coal in 2025 and 3,212 MW in 2030, the more recent version anticipates a reduction of coal power to 1,980 MW in 2025 and no change until 2030, despite the fact that in this period many units will exceed their economic operating period, the costs of ETS allowances for greenhouse gas emissions will increase, and the emission limits will become even stricter once the new Best Available Techniques (BAT) come into force. Given these elements, as well as the potential of renewable energy in Romania and its decrease in costs over time, plus the increased expected costs of mining in Romania from the obsolete machinery, expropriations for the expansion of the mines or reductions of its impact on the environment, Romania should aim to give up coal burning for electricity by 2030.

⁶ [https://eur-lex.europa.eu/legal-content/RO/TXT/HTML/?uri=CELEX:52016PC0759R\(01\)&from=EN](https://eur-lex.europa.eu/legal-content/RO/TXT/HTML/?uri=CELEX:52016PC0759R(01)&from=EN)

⁷ These seven countries are Bulgaria, Croatia, Romania, Poland, Spain, Slovenia and the Czech Republic. <https://beyond-coal.eu/wp-content/uploads/2020/02/Overview-of-national-coal-phase-out-announcements-Europe-Beyond-Coal-202001.pdf>

⁸ <http://transelectrica.ro/web/tel/productie>



Installed coal capacity, MW

The coal energy infrastructure in Romania is outdated – the average age of the power plants is 42. Coal-fired power stations have an economic life span of about 40 years, so by 2030 all Romanian units will be obsolete. There are no plans for significant upgrades, since operators face major economic problems. Moreover, the rising price of ETS allowances, for which Romanian operators are already taking loans to pay, makes it even more difficult to imagine the economic operation of these power plants in the future.

In addition, most power plants benefit from derogation through the National Transition Plan for emissions of polluting substances (SO₂, NO_x, particles), which will expire on 30 June 2020. Very few units have been modernized and it is unclear how the rest will work without violating the law on industrial emissions. If many power plants are still operating illegally, the operators will have to face a new challenge in 2021, when the new BATs will be applied, which will impose stricter emission standards.

The end of Rovinari 600?

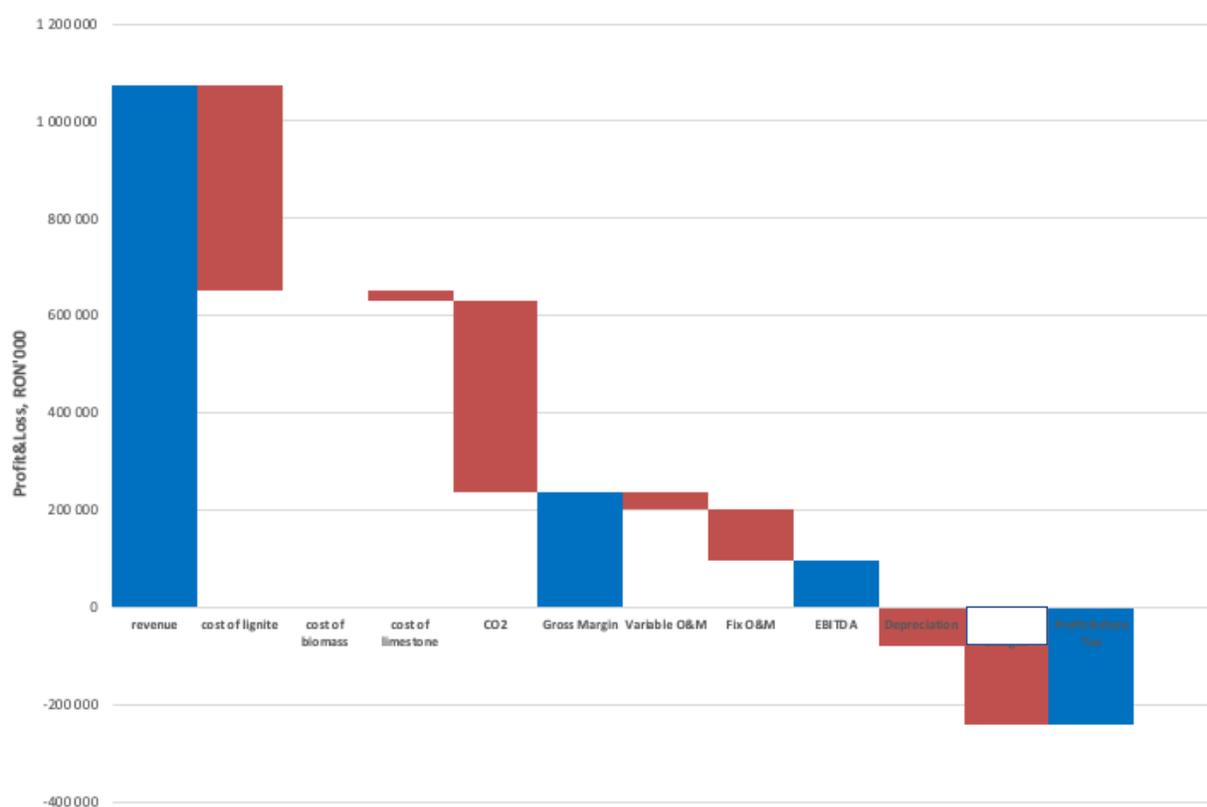
One area of the final version of the plan can be considered progress when compared to the one in 2018: the authors of the plan mention on page 52 that following consultations and negotiations with the European Commission, it was decided to *"remove references to the construction of new coal capacities"*. The planned Rovinari unit is also not mentioned in the investment list on pages 129-130. Thus, we can expect that the 600 MW lignite unit in Rovinari will no longer be implemented.

The first memorandum of understanding for building this unit was signed in 2012 between Romania and China and a feasibility study was developed in the following period. This established the construction of a 600 MW unit, involving a total investment of USD 850 million, which would have operated at supercritical parameters while respecting the pollution standards valid at the time (which in the meantime became stricter). The unit's design did not include a carbon capture and storage system, but could be upgraded to include one if this technology reached commercial scale.

Although the Romanian and Chinese parties have signed multiple memorandums committing to cooperate in the field, the last documents referring to the details of this project are from 2015, when the Extraordinary

General Meeting of Oltenia Energy Complex Shareholders approved the Shareholders Agreement and the Articles of Association of the Implementation Company⁹. These have not been signed yet by the Chinese side, which has conditioned their acceptance on finalizing the negotiations on the coal supply contract. The guarantee of the investment by the Romanian state is illegal because it would represent a form of state aid for the coal industry, so Huadian Corp, the Chinese energy production company, tried to reduce the lignite costs in order to increase the attractiveness of the investment. New negotiations took place in 2016 and 2018, but without success¹⁰. In 2019, the negotiations were resumed with a series of meetings at the beginning of the year in February¹¹ and March¹², but in July 2019 the OEC shareholders refused to set up a Commission to continue the negotiations¹³.

A modelling study conducted by international consultants for Bankwatch Romania in 2019 showed that if this unit would have been built, it would have never been profitable¹⁴. 82% of the income from the operation of this unit would have been spent on covering the costs of lignite, greenhouse gas emissions allowances (using a conservative estimate of an allowance cost of EUR 21) and the limestone used to reduce sulphur dioxide emissions.



Estimated costs and income of Rovinari 600 in the first year of operation

⁹ <http://ceoltenia.ro/documente/AGEA/Anexa%205%20%20la%20AGEA-19.10.2015.pdf>

¹⁰ https://media.hotnews.ro/media_server1/document-2019-06-6-23188596-0-raportul-administratorilor.pdf, p. 8-9.

¹¹ <https://www.focus-energetic.ro/emotie-pana-la-lacrimi-s-au-intors-chinezii-la-rovinari-55811.html>

¹² https://www.ceoltenia.ro/o-noua-runda-de-negocieri-pentru-construirea-grupului-nou-de-600-mw-la-termocentrala-rovinari/?parent_page=142

¹³ <https://e-nergia.ro/grupul-nou-pe-carbune-facut-cu-chinezii-la-rovinari-se-amana-din-nou-inainte-se-inceapa/>

¹⁴ <http://faracarbune.ro/wp-content/uploads/2019/03/C%C4%83rbune-%C3%AEn-PNIESC.pdf>, p. 7-12.

Dependent on natural gas?

In the same section of the NECP where the annulment of new coal units is mentioned, there is also a reference to "the inclusion of natural gas as a transition fuel to a decarbonised energy industry". There are a number of arguments accepted by the scientific community as to why natural gas cannot be considered a transitional fuel – among them, that investments in renewable energy or energy efficiency are more profitable¹⁵ or that the infrastructure for natural gas transport and storage is constantly losing methane, a greenhouse gas with a 23 times higher impact than carbon dioxide¹⁶.

The most relevant argument for Romania, a country that intends to develop significantly in the coming years in order to achieve cohesion with the west, is probably the economic one. The Romanian energy system will need fossil fuels for a few more years because it has been managed badly, and immediate solutions for its security do not exist today. Romania thus needs to start investments that have not begun in the last two decades. Given the cost of storage, energy efficiency and reduced interconnections or untapped renewable potential, natural gas power plants will continue to operate in the near future despite the high costs.

However, putting natural gas at the centre of the energy system and building almost 3 new GW by 2030 is risky. Considering the high cost of production, given primarily by the fuel, but also by the value of the initial investment, these power plants are often stopped when electricity produced from cheaper sources is available. Units are therefore profitable only if they can operate for at least 30 years. But the European Union is committed to achieving carbon neutrality by 2050, so most of these units should be closed by then. Thus, Romania risks investing important resources in gas energy production, only to realize 20 years later that it has to rethink its energy system again.

Just transition

Just transition is a development model that consists of public policies designed at the grassroots to create the conditions for fair incomes and a decent life for all workers and communities affected by decreasing industrial activity and pollution reduction measures. The importance of a just transition is underlined in the preamble of the Paris Agreement, which notes that all measures to combat and reduce the impact of climate change must take into account the workers dismissed and the regions with high carbon emissions.

The need for a just transition became the centre of discussions on climate change in recent times. The Polish Presidency of the UN Climate Change Conference COP proposed in 2018 the Just Transition Declaration, a document that recognizes the importance of the concept, but does not include enough measures. In the same year, the Platform for Coal Regions in Transition began meeting in the European Union. This group started with four regions and today has reached 18 regions in eight Member States. This European Commission initiative provides technical assistance to regions where the economy is dependent on the coal industry. One of the Platform's proposals is the Just Transition Fund, which in January 2020 became the European Commission's official proposal for the Just Transition Mechanism, which will consist of a EUR 7.5 billion fund from the 2021-2027 European budget, a dedicated InvestEU scheme and a lending facility for the public sector created by the European Investment Bank.

Jiu Valley is the only region in Romania that has been a member of the Platform since 2018, but the involvement of the region increased significantly in 2019, once the mayors from the Valley understood the opportunities offered by initiative. They worked closely with Bankwatch and Greenpeace Romania, the two environmental organizations that prepared the visit of the European Commission in Jiu Valley¹⁷ and facilitated the signing of a Memorandum of collaboration for the implementation of a just transition between the six mayors, which took place at the Commission's headquarters in Brussels in July 2019¹⁸. The implementation of this Memorandum

¹⁵ <https://www.greenamerica.org/fight-dirty-energy/amazon-build-cleaner-cloud/natural-gas-transition-fuel-myth>

¹⁶ <https://www.nytimes.com/interactive/2019/12/12/climate/texas-methane-super-emitters.html>

¹⁷ <https://bankwatch.ro/implementarea-unei-tranzitii-juste-planificata-la-petrosani/>

¹⁸ <https://bankwatch.ro/primarii-din-valea-jiului-au-semnat-la-sediul-comisiei-europene-memorandumul-pentru-tranzitie/>

started shortly thereafter, the mayors applying successfully for their region to receive dedicated technical assistance through the START Program of the Platform.

Despite the relevance of the just transition for the climate change and energy sectors, the concept appears only twice in the NECP: once on pages 142-143, as a measure to combat energy poverty, and once on pages 213-214, as a part of the social impact assessment. There is also a list of possible investments proposed, but they are very general, not based on any kind of strategy, and there is no significant correlation between them. There are also mentioned a number of non-coal counties that base their economy on carbon intensive industries, but there is no strategy or intention to reduce greenhouse gas emissions in these counties. Access to the Just Transition Fund is conditioned by the creation of a local strategy that is consistent with the goal of climate neutrality by 2050 – so only towns in Jiu Valley are eligible at this time.

The need for a just transition is (at least) as great in Gorj County. Oltenia Energy Complex is one of the biggest energy producers in Romania, with Turceni and Rovinari units (Gorj county) and Işalnița and Craiova units (Dolj county). In the NECP, the decarbonisation plan for Oltenia Energy Complex is mentioned three times (p.15, 74 and 119), but it is not public yet. This is another reason why the current public consultation on the NECP is superficial – an important part of its projections are based on a document that is not publicly available.

Oltenia Energy Complex is one of the few companies active in the energy system, if not the only one, which proposes investments consistent with the energy transition. OEC's intention to install 300 MW of solar panels is a measure for diversifying the company's portfolio, which shows an understanding of decarbonisation needs. Moreover, their location on degraded land is a welcomed measure, solving two problems: identifying a solution for the use of degraded land and carrying out construction to reduce the pollution currently produced by slag and ash deposits¹⁹.

The construction of photovoltaic parks by the Oltenia Energy Complex is also positive because it represents an opportunity to retain the skilled workforce in the company. OEC has 50 years of experience in energy production in Romania and the necessary experience to implement new successful projects. Although the level of unionized workforce in the renewable industry is quite low, over 90% of OEC employees are union members, which is an added benefit of this project.

Regardless of the source of these investments, the funds raised for the solar energy project should not be used to artificially extend the lifetime of coal units that are already unprofitable, and the revenues from renewable energy should be used to expand this type of sustainable investment. The OEC strategy also proposes a series of investments in natural gas, which are subject to the risks described in the previous section.

Reduction of greenhouse gas emissions

The first version of the Plan estimated a 43.9% reduction in emissions from the sectors that are part of the greenhouse gas emission allowance trading scheme - EU ETS and a reduction of only 2% for those outside the scheme. This objective, although it exceeds the target set at the European level, was not connected with a set of specific measures to highlight how it would be achieved. The lack of specific measures to reach these targets was also highlighted in the European Commission Recommendations published in June 2018.

The final version of NECP maintains the same values regarding the reduction of greenhouse gas emissions (GHGs), justifying it by the lack of advanced versions of documents and reports in the field of greenhouse gas emissions. However, these strategic documents should be developed based on the goals set to reduce GHG emissions in line with the European vision for decarbonisation by 2050, and not vice versa.

¹⁹ <https://bankwatch.ro/praful-cenusa-si-ajutorul-de-stat/>

The policies and measures that will be implemented to achieve the greenhouse gas emission targets are now listed in a more detailed way and ordered according to their interaction with other objectives of the Plan, lacking a concrete implementation timetable. Mainly, the following are considered:

- *Promoting investments in new capacities for low-carbon electricity production:* in this case, it is desired to replace important coal-based capacities with new, lower emission natural gas power plants (provided as a "transition fuel"), renewable energy and nuclear energy. National authorities' awareness of the fact that the existing capacities of electricity production are outdated and are major factors for the greenhouse gases emissions is appreciated, but they must also consider that financing new natural gas projects from EU public funds²⁰ will no longer be possible starting from 2022. Also, taking into account the general tendency to give up fossil fuels, new investments in natural gas capacity are likely to turn into unrecoverable assets, a financially problematic situation.
- *Using incomes from the EU-ETS mechanism and Structural Funds from the new Multiannual Financial Framework 2021-2027 for projects in renewable energy sources and energy efficiency at the national and international level.*
- *Implementing the Best Available Techniques (BAT) in order to reduce greenhouse gas emissions and increase energy efficiency in industrial processes:* the mention of this measure is redundant and does not complete other state interventions, given that BAT implementation is mandatory as of June 2021.
- *Applying more restrictive conditions for the activities of companies in the energy sector:* this measure is well welcomed, given the long time in which most of the coal-based capacities for electricity production operated without complying with the environmental legislation in this domain and without consistent emissions assessment and monitoring. In addition, the sanctions applicable to operators who violate environmental legislation were already supposed to be proportionate, effective and dissuasive, according to directives in force for more than a decade; thus mentioning this measure is also redundant.

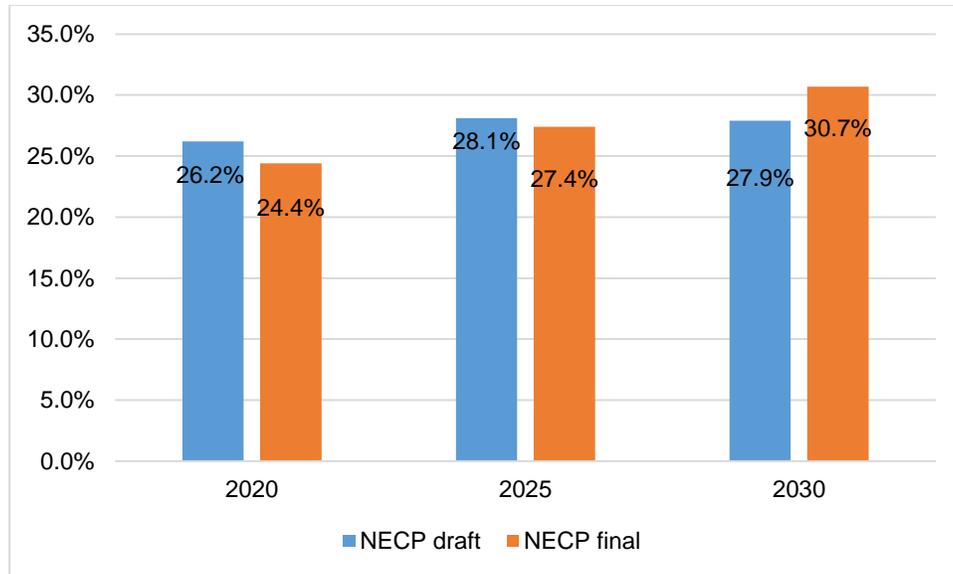
Renewable energy

According to forecasts in the first NECP version, the share of energy produced from renewable sources in gross final energy consumption for 2030 was set at 27.9%. This is well below the European target of 32% and far below the potential of Romania, considering that in 2016 the share of renewable energy reached 25%, and is expected to increase in 2020 to 26.2%.

Following the publication of the first version of the NECP, the European Commission recommended that authorities increase the share of energy produced from renewable sources in gross final consumption to a level of at least 34%, but also to increase the level of ambition regarding the share of energy from renewable sources in the heating and cooling sector and to establish appropriate measures to reach the RES target in the transportation sector.

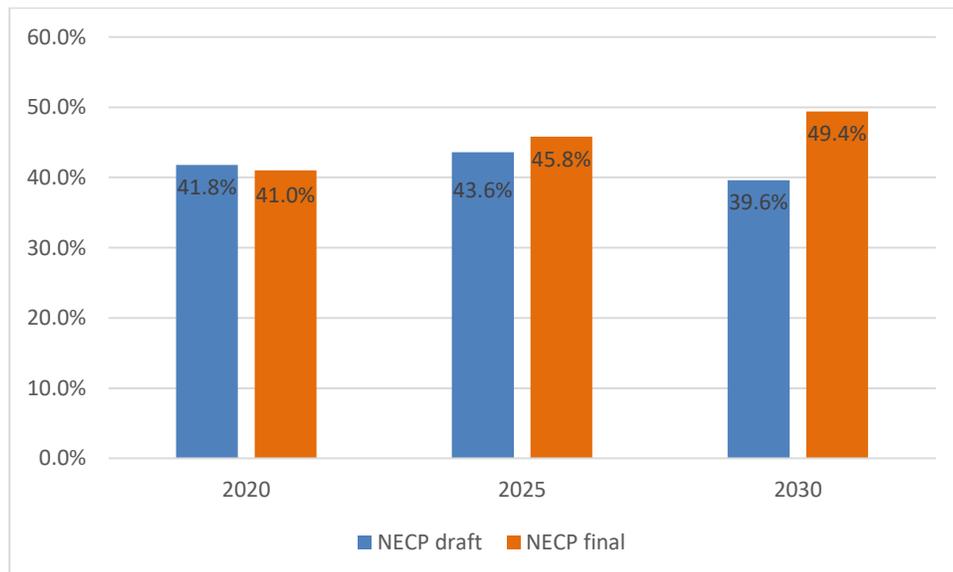
The projections in the final version of the NECP indicate a global share of energy produced from renewable sources of 30.7% by 2030.

²⁰ The European Investment Bank, the main financier of the European Union's policy, will no longer finance projects aiming to produce and use fossil fuels, including natural gas from the end of 2021. <https://www.eib.org/en/press/all/2019-313-eu-bank-launches-ambitious-new-climate-strategy-and-energy-lending-policy>

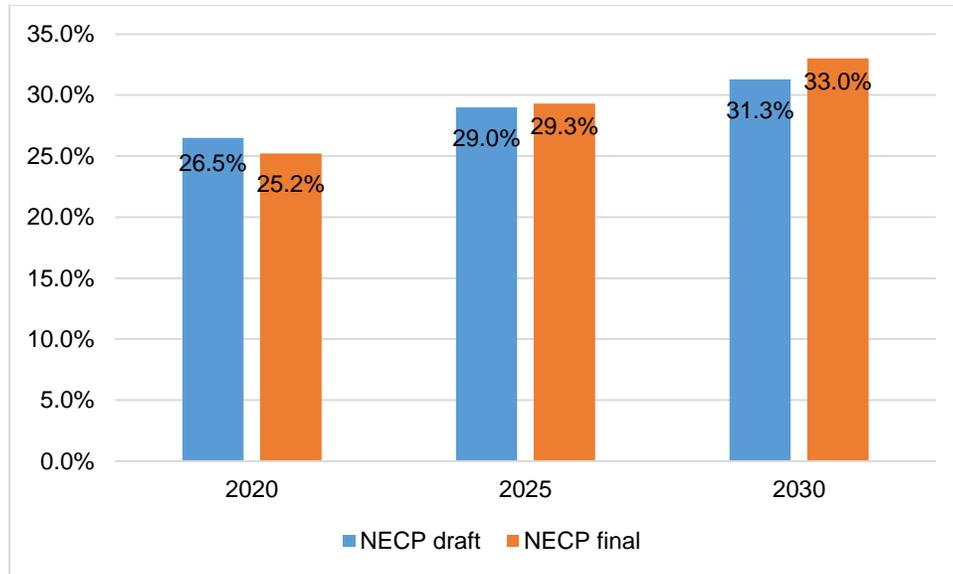


RES share in gross final energy consumption

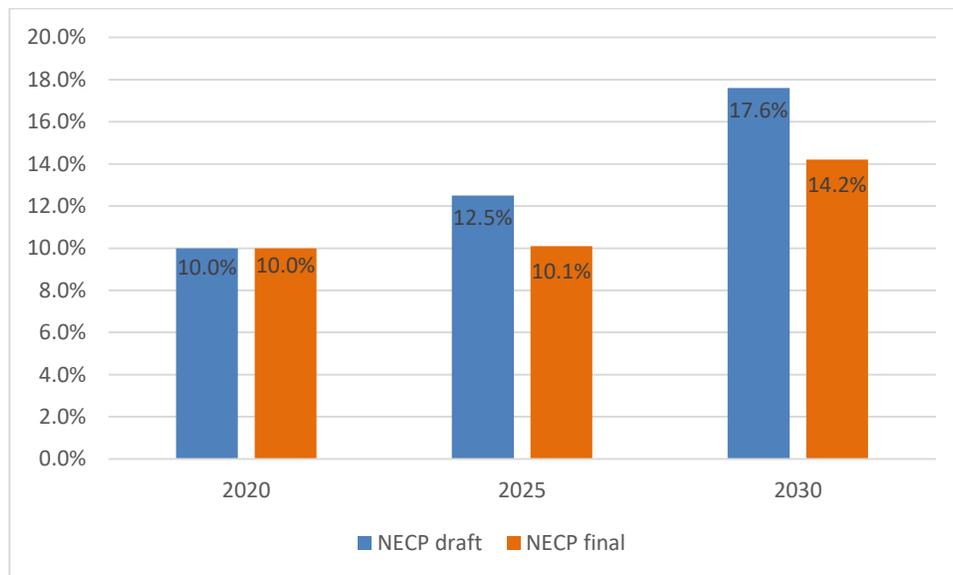
Furthermore, the share of energy from renewable sources in the gross final consumption of electricity was revised upwards, reaching values of 41% in 2020, 45.8% in 2025 and 49.4% in 2030. The same is the case in the heating and cooling sector, where the share of energy from renewable sources will reach 25.2% in 2020, 29.3% in 2025 and 33% in 2030. In the latter case, the hypotheses calculated took into account the availability of biomass sources (firewood and agricultural waste), but also the introduction of heat pumps and the installation of rooftop solar panels as ways of integrating renewable energy sources in the heating and cooling sector. In the transportation sector, the share of energy from renewable sources decreases in 2030 to a level of 14.2% compared to the forecasts of the NECP draft of 17.6% in 2030.



RES share in the gross final consumption of electricity



RES share in the gross final energy consumption - heating and cooling sector



RES share in the gross final energy consumption - transportation sector

In addition, the final version of the NECP estimates an increase in wind capacity up to 5,255 MW and photovoltaic up to 5,054 MW, an improvement compared to the previous version which mentioned 4,300 MW of wind and 3,100 MW of photovoltaic capacities – only a fraction of Romania's potential.

Regarding the gross final consumption of energy, the NECP forecasts a sharp increase up until 2025, followed by a decrease due to the energy efficiency measures implemented by then. Even under these conditions of energy efficiency, the heating and cooling sector will represent approximately 50% of gross final energy consumption.

The policies and measures provided by the NECP regarding the promotion of the use of energy from renewable sources will prioritize increasing the share of renewable energy in the electricity and transport sector.

Thus, with regard to the transportation sector, it is envisaged to promote electromobility by developing a plan for the implementation of public charging networks and the actual installation of charging stations for electric vehicles. At the moment, Romania is at the bottom of the European ranking regarding the number of charging stations for electric vehicles: in 2018 it had installed a total of 125, representing 0.1% of the total charging stations in the European Union²¹.

For the electricity production sector, it is proposed that future infrastructure development should increase the production capacity of energy from renewable sources by developing market mechanisms that encourage producers to increase the share of renewable energy. Specifically, in addition to promoting investments in new capacities to produce electricity from renewable sources (wind, solar) and implementing energy efficiency measures, the following are considered:

- Encouraging the development of energy storage capacities produced from renewable sources.
- Implementing demand response measures and digitization of the Romanian energy system through the development of smart meters and networks. The Romanian Energy Regulatory Authority has set a timetable for the implementation of intelligent electricity measurement systems²², and by 2028 a percentage between 24% and 70% of the final consumers of each electricity distributor will need to have installed such meters. The new implementation calendar replaces another plan adopted by ANRE in 2017²³, which established the installation of smart meters in two stages: by the end of 2020, 30% of domestic energy consumers had to have such equipment installed; and by 2026, smart meters would have been available to all consumers. Despite these plans, by 2018 only 4.8% of the Romanian consumers benefited from such equipment.
- Developing a support mechanism such as *Contracts for Difference (CFD)*, which will provide support in achieving the RES targets by ensuring and providing stability to the producers' incomes: unfortunately, there is no specific deadline for implementing this support mechanism, although in 2019, an initiative to amend the legislation to allow the use of Contracts for Difference was submitted to public consultation by the Ministry of Energy²⁴. However, among the potential beneficiary projects of this instrument are those who propose the construction of new nuclear units or of capacities for electricity production based on fossil fuels equipped with carbon capture/usage equipment. These extremely expensive technologies should not be eligible. Instead, Romania should rely on efficient technologies that can support the energy transition.
- Allowing the conclusion of *long-term electricity sale contracts with final customers (Power Purchase Agreement)* outside centralized markets: such contracts can be concluded between the project developers / producers of electricity from renewable sources and the final consumers. This tool will allow the consumer to negotiate their contract directly with the energy producer, and will offer the developers/producers the certainty of investment recovery. For this case there is also no date or implementation calendar.

Regarding prosumers, the final version of the Plan foresees that the development of new capacities of energy production from renewable sources will be also possible by encouraging prosumers, domestic, industrial and agricultural, and integrating them into the electro-energetic system.

The NECP does not identify a solution to the current deadlock in the attempt to increase the number of prosumers in Romania, submitting, instead, a general recommendation to the authorities responsible to lift the development barriers in this area. The current program to stimulate prosumers growth by financing the installation of rooftop photovoltaic systems, carried out by the Environment Fund Administration, has failed to

²¹ https://www.acea.be/uploads/publications/ACEA_progress_report_2019.pdf#page=15

²² <https://www.anre.ro/download.php?f=hggEiq%3D%3D&t=vdeyui7dlcecrLbbvY%3D>

²³ <https://www.anre.ro/energie-electrica/legislatie/documente-de-discutie-ee/smart-metering1395831128/proiect-de-ordin-privind-implementarea-la-nivel-national-a-sistemelor-de-masurare-inteligenta-a-energiei-electrice-si-stabilirea-calendarului-de-implementare-faza-a-ii-a>

²⁴ <http://energie.gov.ro/wp-content/uploads/2019/03/CONSULTARE-PUBLIC%C4%82-CfD-15.03.2019.pdf>

increase the number of those who produce and consume electricity at the consumption location. The failure of this program was due to multiple factors:

- multiples delays in the validation timeframe of the fitters enrolled in the program;
- lack of supplementary documents that were submitted by the beneficiaries and the response of national authorities to this decision; and
- indefinite suspension of the program due to an on-going investigation by AFM, which suspected fraud regarding the unjustified number of applications submitted by fitters in one of the regions where the program is implemented.

Energy efficiency

In the initial version of the NECP, the primary energy consumption was estimated at a level of 36.7 Mtep in 2030, compared to a level of 30.3 Mtep in 2020, and based on this forecast, the energy savings were calculated at a level of 37.5% in 2030. Regarding the final energy consumption, the NECP project mentions only an increase of 18% in the period 2021-2030, without giving further details about the calculation of this value.

Following the recommendations of the European Commission that the final NECP substantially increase its ambition level regarding the reduction of energy consumption, in the final version of the Plan the primary energy consumption is revised to a level of 32.3 Mtep, and the final energy consumption is set at a level of 25.7 Mtep. This should result in energy savings of 41.5% for the primary consumption for 2030 and 40.4% for the final consumption.

To achieve these energy savings, the policies and measures in the final version of the Plan are grouped by the sector in which they will be implemented. Thus, with regard to the residential sector, the NECP refers to the Long-Term Renovation Strategy project (under development). Until now, the investments in energy efficiency for the residential sector were financed through the Thermal Rehabilitation Programs carried out by the Ministry Regional Development and Public Administration, as well as through the Regional Operational Program or loans contracted from the European Investment Bank. The works carried out through these programs were often of doubtful quality, and frequently after the final reception, the authorities did not issue a certificate of energy performance indicating the specificity of the annual energy consumption for heating²⁵. Thus, there is no effective monitoring of the improvements made for energy efficiency through these investments.

As a funding source for these measures to improve energy efficiency, the creation of the National Energy Efficiency Fund is still desired. This will be financed through private funds, structural funds, funds obtained through the mechanisms of the greenhouse gas emissions tax and through contributions from the state budget. There is no exact information in the NECP about the volume of this fund or about the steps and timetable for its establishment.

Financing sources

As part of the final version of NECP, the investment volume needed to implement the policies and measures proposed to achieve the objectives is estimated at EUR 22.6 billion for the period 2021-2030, while the initial version of the Plan estimated a value of EUR 22 billion.

The financing sources identified to cover these investment needs, other than those from the state budget, are:

- **The European Regional Development Fund (ERDF)** and the **Cohesion Fund (CF)**, which receive a total allocation of EUR 273 billion under the new Multiannual Financial Framework 2021-2027, and out of

²⁵ <https://bankwatch.org/blog/taking-the-chill-off-romania-s-residential-buildings>

this amount, Romania will be allocated EUR 17.3 billion through ERDF and EUR 4.49 billion through CF.

- **The InvestEU program**, which has a guarantee of EUR 38 billion from the European Union Budget and aims to attract additional investments worth more than EUR 650 billion throughout the Union between 2021-2027.
- **The Just Transition Fund**, with financial resources estimated at EUR 7.5 billion, out of which Romania's allocation will be EUR 750 million.
- **The Modernisation Fund**, with resources obtained by bidding 2% of the total greenhouse gas emissions certificates for the period 2021-2030. Romania will be allocated a share of 11.98% of the resources of this Fund to finance investments in projects to modernize energy systems and to improve energy efficiency.
- **Loans from the European Investment Bank** that will focus on financing projects for energy efficiency, decarbonising energy supply, supporting the development of innovative technologies and new types of energy infrastructure, but also projects on energy infrastructure security. From 2022, the lending policy of the European Investment Bank will no longer allow the financing of projects based on fossil fuels, including natural gas.