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Redesigning Security of Supply:
The Potential of Emerging Technologies for a Sustainable
Energy Transition



MINISTRY OF ENERGY

National Recovery and Resilience Plan Component 6 - Energy

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NRRP Energy Component in brief

Based on:

- the 5 intervention dimensions of the National Energy and Climate (ENCP) Plan
- the objectives of Romania's Energy Strategy 2020-2030, with a view to 2050

Aims at:

- ➔ Adopting a holistic approach to the linking of energy, economy, environment and climate change, in close correlation with Romania's economic reality, so as not to affect the macroeconomic and social balance at territorial/regional and national level;
- ➔ Restructuring the market and governance framework in terms of accessibility, competitiveness and performance of operators and energy consumers;
- ➔ Contribution to energy poverty reduction.

The energy sector is the largest source (66 %) of greenhouse gas (GHG) emissions in Romania.

In its National Energy and Climate Plan (NECP) Romania estimates approximately EUR 22,6 billion of investment needs in the energy sector over 2021-2030 to achieve the NECP 2030 policy objectives.

5
investments
5 reforms



1,6 bn €



- accelerate the decarbonisation of the energy sector by phasing-out lignite and coal fired-power plants by 2032
- facilitate the deployment of renewables and alternative energy sources, such as green hydrogen.
- increase the flexibility of the electricity grid digitalise the energy sector
- reduce the energy intensity of industry
- improve the corporate governance of state-owned enterprises in the energy sector.

WHY PPPs are so important for the energy sector?

- more political cooperation for better energy policies, and energy investments
- know how sharing for the emerging technologies
- transferring green technology may improve clean energy production capacity
- research and development investments are crucial to increase clean energy production, and it provides new, better production methods for adequately utilizing natural resources.
- the risk sharing between the public and private investments can lead to a boost in the capital accumulation in the clean energy sector.

Reform 1. Electricity market reform, replacement of coal in the energy mix and support for a legislative and regulatory framework for private investment in renewable electricity production

- The first reform element aims to phase-out coal and lignite-fired power plants by 2032. A cumulative 3 780MW of coal and lignite-fired installed electricity production capacity shall be decommissioned by 31 December 2025.
- The second reform element aims to facilitate and accelerate the deployment of renewables in the Romanian energy mix. In addition to transposing Union legislation, the new Energy law shall:
 - i) introduce Contracts for Difference (CfD) as the main support mechanism for investments in renewables power production;
 - ii) allow direct negotiation of Power Purchase Agreements (PPAs) by all energy producers;
 - iii) simplify the licensing and authorisation procedures for renewables investments, setting out shorter and mandatory administrative response times and implementing accountability procedures for unnecessary delays;
 - iv) introduce a specific support framework for offshore renewables investments in currently under-exploited regions; and
 - v) implement Demand Side Response in the balancing market to reduce consumption at peak hours and increase the participation of industrial consumers in the energy market.

Status:

GEO 143/2021 transposes into national law the provisions of Directive (EU) 2019/944 concerning common rules for the internal market in electricity

GEO 163/2022 creates the legal framework to simplify licensing and authorisation procedures for renewable energy investments by establishing shorter administrative response times

On October 6th, the draft law on measures necessary for the exploitation of offshore wind energy 06 was submitted for interministerial approval

Investment 1. New capacities for electricity generation from renewable sources

- The investment shall consist in grants for the construction of the selected installations, with the objective of installing 950MW of renewables power production capacity

Status: 190 projects (out of over 700 submitted) with an additional installed capacity of 1210 MW have been evaluated and submitted for pre-contracting; aprox 70 financing contracts have been signed with a total capacity of 510 MW.

Reform 4. Developing a favorable legislative and regulatory framework for future technologies, in particular hydrogen and storage solutions

- The reform shall develop a National Hydrogen Strategy and a Strategy Action Plan, setting the timetable for the implementation of the measures in the Strategy.
- The reform shall remove any legislative and administrative obstacles for the development of the renewable hydrogen technology and contribute to the achievement of the future national and European targets for the production, storage, transport and use of renewable hydrogen by 2030.
- By way of regulation, hydrogen-ready appliances (such as boilers) and equipment shall be mandatory as of 1 January 2026 for all new installations.

Status: By 28 June 2023 the draft National Hydrogen Strategy and the related Action Plan were available on the Ministry of Energy website.

By GEO 143/2021 new hydrogen-related notions were introduced such as "access to LNG/hydrogen terminal", "commercial operation of hydrogen terminal" "operator of hydrogen terminal", "hydrogen terminal", ANRE's powers were introduced regarding the issuance of authorisations for hydrogen production facilities and the issuance of licences for the commercial operation of hydrogen production facilities,

By ANRE Order no. 63/2023 was issued regarding the approval of the Rules necessary for the adoption of the Hydrogen Code

The legislative proposal on the integration of hydrogen from renewable and low-carbon sources in the industry and transport sector was drafted

Investment 2: green hydrogen production capacities and/or its use for electricity storage

- The objective of the investment is the installation of green hydrogen production capacities of at least 55 MW in electrolysers, producing at least 10 000 tonnes of hydrogen from renewable sources by 31 December 2025.

Status: 19 projects under evaluation, totalling 193 MW/H₂out

Investment 3: Development of flexible and highly efficient gas fired electricity and heat generation

- The investment shall lead to the installation of at least 300 MW electricity production capacity of future-proof, flexible and high-efficient gas-fired Combined Heat and Power enabled for the use of renewable and low-carbon gases.

Status: 4 financing contracts have been signed (with the Municipality of Constanta, Chimcomplex, the Municipality of Arad and Craiova II), generating an installed capacity of 842 MW (486.2 MW electric and 355.8 MW thermal), well above the assumed target of 300 MW.

Investment 4. Industrial chain of production and/or assembly and/or recycling of batteries, cells and photovoltaic panels (including auxiliary equipment), as well as new electricity storage capacities

- The first sub-investment in the battery value chain (manufacturing, assembly, and recycling) shall achieve a total battery manufacturing and assembly yearly capacity of at least 2GW
- The second sub-investment in the value chain of photovoltaic cells and panels (manufacturing, assembly, and recycling) shall achieve a total yearly capacity of at least 200MW of photovoltaic cells and panels
- The objective of the third sub-investment is to install a total electricity storage capacity of at least 240MW (or 480MWh)

Status: the calls will be soon relaunched

Investment 5. Ensuring energy efficiency in the industrial sector.

- The objective of the investment is to increase the energy efficiency of the industry, such as reducing energy consumption, developing systems to digitise energy consumption metering, and increasing energy and heat self-consumption.
- The investment shall achieve at least a 30 % reduction in direct and indirect GHG emissions compared to ex-ante emissions for at least 30 projects, to be monitored through an IT platform for centralising and analysing national energy consumption.

Status: a 3rd call will be soon launched