

The digitisation of energy services is important in the context of the energy transition, which is to reduce the use of fossil fuels and the widespread adoption of renewable energy. Digitisation will change the way electricity is produced, transmitted and distributed, integrated, stored and consumed. Through the use of digital processes and technologies, it is possible to properly integrate into the national system the growing production of clean, renewable energy, decentralised production and consumption of electricity (prosumers), streamline electric mobility, adapt transmission and distribution networks or increased energy efficiency in buildings.

The Romanian energy sector is now at a crossroad, where it has to manage the effects of non-financing of transmission and distribution networks, the generation park or energy efficiency. In this sense, the acceleration of the digitisation process is a sine qua non condition for Romania to reach its environmental objectives in 2030 and 2050.

Measures taken so far and future plans in Romania:

Adoption of SCADA systems for transport and distribution;

At the end of 2020, 15% of Romanians had smart meters; by 2028 their percentage should increase to 33-70% of consumers, depending on the distribution area;

The EFA Green House photovoltaic program – although a good initiative for prosumers, was significantly delayed – less than 20% of projects actually received funding, until July 1, 2021;

2,4 million flats built before 1985 need renovation and modernization – the Renovation Strategy proposes a budget of 5 billion euros by 2030

Demand side response is not regulated and there is no experience for the application of the concept;

There is no legislation in place for energy communities.

All these actions must and can be intensified so that the results in the flexibility of the electricity network are visible. Beyond the positive impact generated in the field of environmental protection, the adoption of digital solutions comes with many economic and social benefits. The production, installation or maintenance of this equipment and services translates into a large number of jobs and generates income.

Recommendations:

This report provides a series of recommendations to increase the digitalisation of the national energy system, of which the most important are:

Public and private governance

Position the digitisation process as a main segment in the various strategic documents underlying the development of the national energy system.

Develop and improve digital channels and platforms that electricity suppliers and distributors use in relation to customers

Simplify the connection processes to the electrical grid for consumers and prosumers, a joint effort of ANRE and network operators.

Electrical networks

Accelerate the process of installing smart meters to unlock the many benefits they bring
Increase the adequacy of electricity transmission and distribution networks, by developing large electricity storage capacities and integrating them through digital tools and platforms.

Transport

Continue subsidising the adoption of electric cars. In addition, creating dedicated programs for commercial fleets is essential for achieving the decarbonisation targets.

Finance charging stations, especially in small and medium-sized municipalities.

Develop legislation dedicated to vehicle-to-grid (V2G) solutions – the option for electric vehicle users to inject electricity into the grid, when the system needs it, and to be remunerated for the service provided.

Prosumers and energy communities

Continue current efforts to develop an improved remuneration system for prosumers.

Prioritise subsidies for vulnerable consumers. In this case, an increase in subsidies, from 90% of the required amount to 100% (thus avoiding the situation where the consumer has to co-finance the prosumer system) is necessary.

Encourage battery systems; develop clear regulations for the uptake of electricity from batteries (by suppliers), as well as by subsidizing them.

Develop similar subsidy programs for off-grid consumers (domestic or industrial).

Streamline the granting of subsidies, as well as the entire bureaucratic process for approving the status of prosumer.

Demand side response

Develop legislation dedicated to the efficient operation of the demand response consumption mechanism.

The proper functioning of this mechanism depends on the existence of a critical mass of smart meters installed in the network.

Energy efficiency

Solve legislative bottlenecks for the application of energy performance contracts.

Decarbonise heating, through intelligent integration of renewable energy solutions.

Increase the degree of renovation of public buildings and blocks of flats and implement digital tools and services for automatic monitoring, analysis, control and adjustment of heat and electricity consumption.

Develop subsidy programs for the transition to smart and energy efficient equipment (lighting, sensors, appliances, etc.).

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