

The link between the use of renewable energy sources and the development of smart villages in the Romanian LEADER rural space

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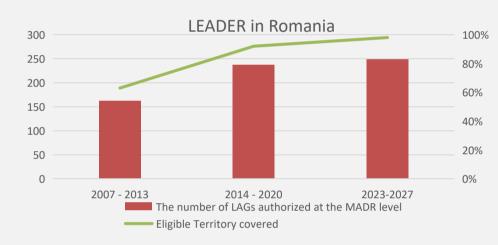
Introduction

"Rural development funding can play a role in achieving EU and national renewable energy targets, but rural areas should also benefit when support for this type of energy comes from rural development funds" (https://www.eca.europa.eu/en/news/NEWS1803_01 - Declaration of Samo Jereb, member of the European Court of Auditors responsible for the report).

In Romania, rural communities are constantly dynamic, an aspect encouraged by the contribution brought by the rural development programs implemented at the level of Romania in the period 2007-2013, 2014-2020, respectively post 2020.

One of the instruments of the European Union that encourages innovation and the identification of new opportunities at the local level is the LEADER measure, which targets areas such as: energy efficiency, promotion of energy from renewable sources, digitization, heritage, vulnerable communities, etc.

Within LEADER, the main actor in innovation and mediator of the local community is the Local Action Group (GAL), a non-governmental organization, authorized at the level of the Ministry of Agriculture and Rural Development.



The National Rural Development Program (NRDP)	The number of LAGs authorized at the MADR level	Eligible Territory covered
2007 - 2013	163	63%
2014 - 2020	237	92%
2023-2027	249	98%

Figure 1 - The evolution of the LEADER measure and the LAGs in Romania, data processed by the authors

The LEADER instrument contributes to the fulfillment of transversal objectives: innovation, environment and climate. Through the measures of local interest financed by LEADER 2014-2020, actions to mitigate climate change were also taken into account by promoting innovative solutions that meet the needs identified in this regard in the Local Development Strategies.

Through LEADER, investments aimed at the efficiency of energy and water consumption are encouraged, the creation and development of non-agricultural activities regarding the identification and use of energy from renewable sources, the promotion of the use of heat sources based on biomass, the creation and development of systems for the production and distribution of biogas at the community level, thus contributing to the development of local competitiveness, basic services and a local economy with low carbon emissions (The Romanian National Rural Development Program, version 17, page 713-714).

Investments through LEADER stimulate the quality of life and raising the standard of living in rural areas. The desire to stimulate the local economy and rural businesses led to the emergence and development of the smart village concept, a concept that was born in Romania through the 2023-2027 Strategic Plan within the LEADER intervention. Thus, the Smart Village will involve the realization of projects that seek to capitalize on the knowledge belonging to members of local communities and identify solutions through the use of technology and innovation to reduce depopulation and improve the quality of local services in the field of health and citizen safety, the transition to a circular economy, with low carbon emissions or social/administrative/educational digitization etc." (Romanian Strategic Plan, DR-36 LEADER/CLLD, page 1043).

In the presentation, we propose, starting from the statistical data of the Agency for the Financing of Rural Investments and of the Ministry of Agriculture and Rural Development, to analyze various indicators related to the sources of financing and their evolution, which can thus contribute to the development of smart villages.

Methodology

In the context of climate change, climate and environmental policies, the significant evolution of EU legislation on the promotion of renewable sources, the paper proposes an analysis of the link between the use of renewable energy sources, innovative and smart action for rural communities, as identified in the projects financed under the LEADER measure 2014-2020 and the continuous development of the rural space, which paves the way for the emergence of smart villages.

The following research methods and techniques were used to carry out the research: identification and collection of specific data, their analysis, synthesis, interpretation. Information is presented in graphical and tabular form. The information analyzed and used in the paper was taken from representative materials from the websites of the authorities with a role in the development, management, implementation and control of rural development programs in Romania, namely: the Management Authority for the National Rural Development Program, within the Agriculture and Rural Development Ministry; Agency for the Financing of Rural Investments.

Results

Through this presentation, we will highlight examples of projects implemented by LAGs for the development of local communities, projects that lead to the development of new services and improve areas such as health, social services, local energy production, etc.

The analysis started from the priorities identified at the Union level in the matter of rural development with impact on environmental protection and the development of renewable energy - priority 5C) Facilitating the supply and use of renewable energy sources, by-products, waste, residues and other raw materials non-food, for the purpose of the bioeconomy.

The types of projects that were financed in the LEADER rural area, their number and the amount financed in this field of intervention, can be viewed in Table.1.

LAGs	Field of intervention	Number of projects	Projects value (EURO)
4	5C	6	159,894.68

Table 1. The number and value of financed and contracted project Source: MADR monitoring, data processed by the authors



Other projects financed through LEADER that respond to another priority of the European Union, on another priority, 6 B Encouraging local development in rural areas, which in turn contributes to the use of renewable energy sources in rural areas.

The financed projects pursued the following types of investments, according to Fig. 3

Results

Figure 3 - Type of financed projects -6B, data processed by the authors

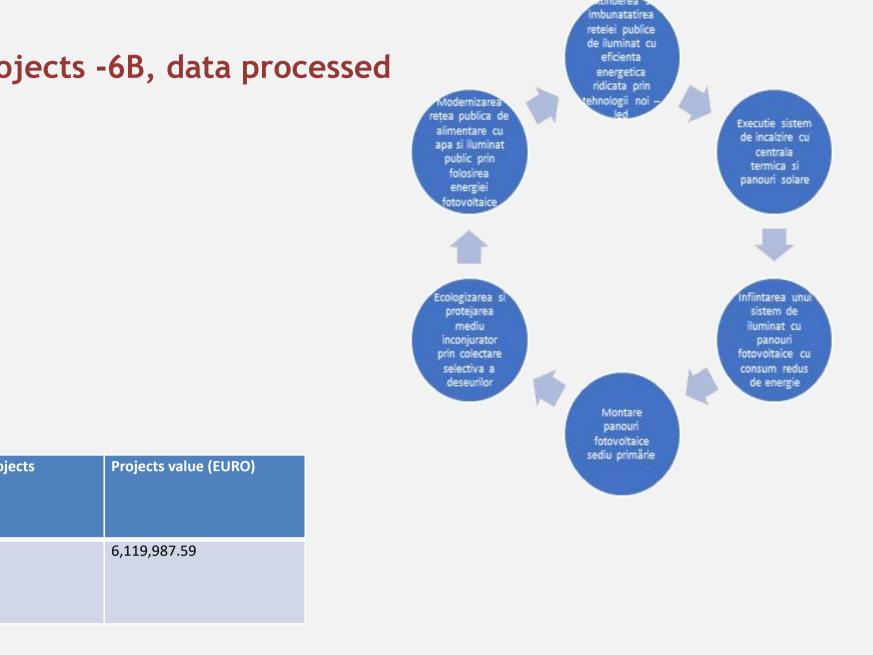


Table 2. The number and value of financed and contracted project Source: MADR monitoring, data processed by the authors

Main conclusions

According to the Report published in 2018 by the European Court of Auditors (https://www.eca.europa.eu/en/news/NEWS1803_01), the European Union should make more efforts to make better use of the link between its policies on renewable energy sources and rural development. Through the same report, it was found that in the period 2014-2020, Romania and Bulgaria significantly or exclusively supported energy projects from renewable sources for self-consumption (in the agricultural holding or in the enterprise, without energy sale). On the other hand, the Romanian authorities allocated a very low budget for the 5C intervention area, as they considered that investments in energy from renewable sources for self-consumption have only a secondary contribution to the 5C intervention area. These projects were rather placed in intervention areas 2A, 3A, 6A or 6B.

The present analysis relating to the period 2014 - 2020 shows that a number of 135 projects in the field of renewable energy were financed through the RNPD, projects containing investments in energy from renewable sources had a direct contribution to intervention area 5C, but also 6B, as we presented in Table 1 and Table 2.

For the 2023-2027 programming period, we want the number of previously indicated projects to double, and the projects that finance innovative smart village solutions and ideas with an impact on the promotion of energy from renewable sources to obviously contribute to increasing the quality of life of the community in the space rural, in which we exemplify: projects regarding the implementation of renewable energy, such as solar or wind energy, to provide electricity in rural areas. Energy efficiency solutions such as LED lighting systems and thermal insulation of buildings can also be implemented.

