Cohesion Policy and Social Aspects in the Non-reimbursable Allocation for Low-carbon Economy

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Abstract

To reach the necessary cohesion for the member states at socio-economic level, the EU sets substantial budgets in motion to implement its policies. This study proposes an analysis of how European funds were used for the construction of the Cohesion Policy in the segment of transition to low-carbon economy within the South-East Region of Romania, with a focus on the social side. The study case reveals challenges in implementing non-reimbursable financing for programming period 2014-2020/2023. The source of data are the official reports of the ministries with the role of management authority and that are updated up to this moment. The results of this study emphasize the importance of the Cohesion Policy financing for reaching the energy transition targets, but also the need to use a part of this fund for supporting social aspects so that people can more easily overcome the financial barriers on the way to green transition.

Key words: energy transition, energy efficiency, cohesion policy, European funding, sustainable development
J.E.L. classification: B26, D60, E60, F15, F36, Q56

1. Introduction

This article aims to underline the European funding contribution in Romania to the Cohesion Policy construction for transition to low-carbon economy. Thus, the paper refers to the financing allocated for energy transition through the structural funds in the programming period 2014-2020, until December 2023. We conducted a study about non-reimbursable funds for the thematic objective 4 (OT4) in South-East (SE) Region of Romania between 2014-2020, the former programming period, which ended on 31.12.2023. We also proposed a focus on calls involving support on the social side. The working hypothesis was that there is a balance between the amounts capitalized for OT 4 from EU funds in the SE Region by comparison with other development regions of the country. As sources of data, we used the officially reported information regarding the implementation of the projects on the resort ministry's site, where we selected OT 4 – "Supporting the transition to a low carbon economy" - objective of the Cohesion Policy.

2. Literature review

Decision-makers all over Europe are facing the difficulty to strengthen budgetary support for the energy transition, along with specific patterns of the process in each country (Grigorescu, A. et al, 2023, p. 6). (Gkonis et al., 2020, p.83) underline that the implementation of balanced energy efficiency policies must be based on realistic estimations of costs, paying attention to social and economic particularities of each state. From the perspective of sustainable development objectives, public-private partnerships are essential given the complexity of the energy transition and the challenges that new technologies bring (Shahbaz et al., 2020, p.74; Kirikkaleli, D. et al, 2021, p. 590; Gheorghiu, G. et al, 2020, p. 116). Investments in development of projects for the financing of renewable energy are challenging worldwide the very high level of total expenses, which creates a negative impact on the process of switching to low-carbon energy (Panait, M. et al, 2022, p.112; Martí-Ballester, 2022, p.1163).

Within 2014-2020 financial programming period, the Cohesion Policy (CP) was an extremely important source of investment for the EU member states, especially in the context of rising economic difficulties (Aivaz, K. A. et al, 2022, p. 338; Comes, C. A. et al, 2018, p. 238) and an important element supporting the consumption habits of the population (Aivaz, K. A. et al, 2024, p.13; Zaharia, A et al, 2019, p. 4147; Dănila, A. et al, 2023, p. 1003; Bostan, I. et al, 2019, p. 466). Interventions for energy efficiency are structural measures addressing the energy poverty on a long-term (Gouveia, J.P. et al, 2019, p. 188; Boemi, S.-N. et al, 2019, p. 243;), and it will positively impact EU states' needs for energy imports (Iancu, I. A. et al, 2023, p. 17; Polimeni, J.M et al, 2022, p.21).

3. Research methodology

Data used in this study were extracted from MySMIS 2014 (MIPE, 2023). We used the "Open Data database" for projects contracted under Operational Programs, published by the Government of Romania (MIPE, 2024). Data are reported for the period 2014-2023, considering the fact that the programming period 2014-2023 was closed on 31.12.2023.

Further, we selected the 6 counties that belong to SE Region and we aggregated the information. In the database, the term "operation" means "financed project".

The limits of our paper are, on the one hand, the period of time for which the analysis was carried out (2014-2020/23), on the other hand, the administrative area of the projects (counties of Brăila, Buzău, Constanța, Galați, Tulcea, Vrancea).

4. Findings

In Romania, the main programs that financed OT4 of the Cohesion Policy, dedicated to transition towards low-carbon economy, were POIM and POR.

Table no. 1. Number of projects by field codes within OT 4 in South-East Region

Field code	No. projects
001 Generic productive investments in SMEs	8
010 RES: solar energy	23
011 RES: biomass	1
012 Other RES (hydroelectric, geothermal, marine) and integration of RES (storage, gas production infrastructures and hydrogen)	1
013 Public infrastructures renovation to increase EE, demonstration projects and support measures	79
014 Renovation of the existing housing stock in order to increase EE, demonstration projects and support measures	30
015 Low and medium voltage intelligent power distribution systems (including smart grids and ICT systems)	16
Multi-thematic (roads, air quality, cycle paths, etc.)	30

068 EE and demonstration projects in SMEs and support measures	10
069 Supporting ecological production processes and efficient use of resources in SMEs	1
070 Promoting EE in large enterprises	1
090 Cycle paths, ecological transport	11
116 Efficiency, quality, access to higher and equivalent education to increase skill levels and participation, especially for vulnerable categories	4
Total	215

Source: authors, based on MySMIS 2014 Open Data, 2024

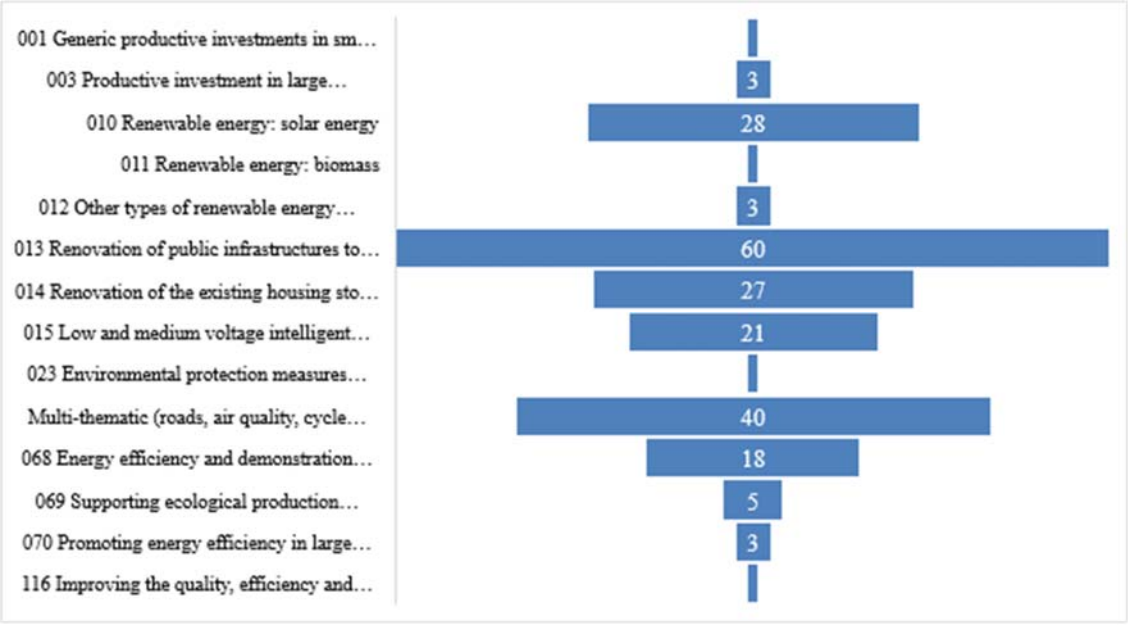
The analyzed data show that, in the South East Romania, during 2014-2020/2023 programming period for the financing objective dedicated to "low-carbon economy", most projects (over 36%) were contracted for energy efficiency of public buildings. These allocations have supported renovation for buildings of the public education infrastructure (including nurseries, schools, high schools, kindergartens), but also the headquarters of public (central and local) authorities infrastructure.

A significant category of projects in the analyzed development region (19%) was represented by multi-thematic financing including air quality, cycle paths, development of ecological routes, intelligent transport etc.

Approx. 11% of the projects contracted on OT 4 in the SE Region aimed at developing capacities for renewable energies; thus, alongside the projects that addressed solar energy, biomass, 1 project also financed facilities for hydropower and gas and hydrogen infrastructure.

As for SMEs, 4.2% of the projects were contracted by this category of beneficiaries in this analyzed region. 7,5% of projects at the regional level aimed at the development of intelligent electricity distribution systems, including smart grids and ICT systems.

Figure no. 1 The comparative situation of the submitted projects for OT 4 on each of the thematic details



Source: authors, based on MySMIS 2014 Open Data, 2024

We observe that, of the total number of projects on OT 4 in SE Region, over 55% of them targeted financing for energy efficiency (EE). The projects addressed public infrastructure and renovation of housing blocks (mainly in the urban environment), also EE in SMEs and large enterprises.

If we look from the social perspective, an important number of projects come to support the protection of the vulnerable consumer. About 16% of the contracts refer to the renovation of the population's housing stock, which impacts the achievement of a more affordable energy cost level for the final consumer, as well as investments in in the area of education for sustainability for disadvantaged categories.

In the following, we have extracted and analyzed the data related to the contracted value of the projects financed. In order emphasize the real implemented financial investments, we chose the statistics of spent values and not those of the contracted values. From the total of these eligible expenses, the adjacent column quantifies the financial contribution from the EU budget. The values are expressed in millions of lei and have been approximated by rounding.

Table no. 2. The value of projects financed for OT 4 in the South-East Region of Romania through non-reimbursable funds, 2014-2020

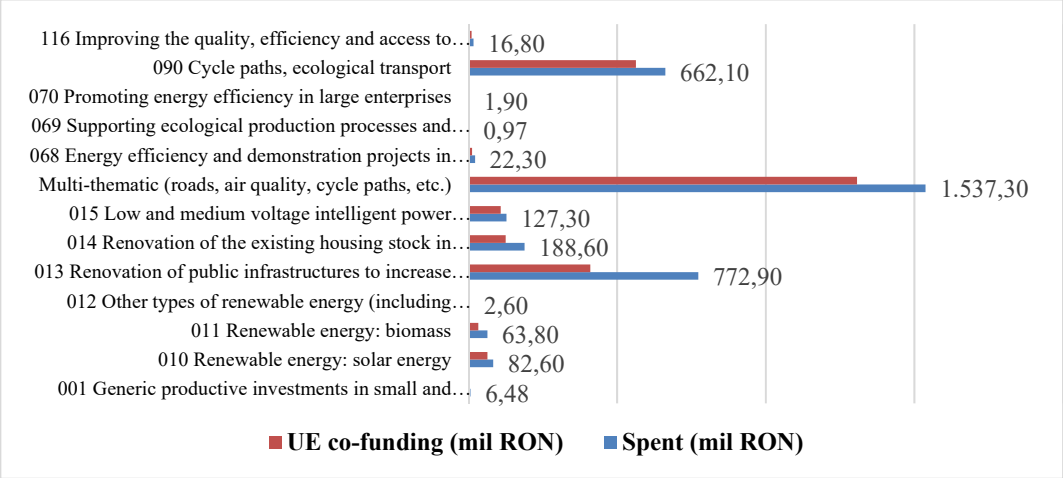
Field code	Spent (mil RON)	UE co-funding (mil RON)
001 Generic productive investments in SMEs	6,48	4,24
010 RES: solar energy	82,60	63,40
011 RES: biomass	63,80	32,60
012 Other RES (hydroelectric, geothermal, marine) and integration of RES (storage, gas production infrastructures and hydrogen)	2,60	2,20
013 Public infrastructures renovation to increase EE, demonstration projects and support measures	772,90	409,70
014 Renovation of the existing housing stock in order to increase EE, demonstration projects and support measures	188,60	124,60
015 Low and medium voltage intelligent power distribution systems (including smart grids and ICT systems)	127,30	108,10
Multi-thematic (roads, air quality, cycle paths, etc.)	1.537,30	1.306,70
068 EE and demonstration projects in SMEs and support measures	22,30	11,90
069 Supporting ecological production processes and efficient use of resources in SMEs	0,97	0,82
070 Promoting EE in large enterprises	1,90	0,67
090 Cycle paths, ecological transport	662,10	562,80
116 Efficiency, quality, access to higher and equivalent education to increase skill levels and participation, especially for vulnerable categories	16,80	10,50
Total	3.485,65	2.638,23

Source: authors, based on MySMIS 2014 Open Data, 2024

The statistical analysis of the financial data show, however, a significantly different perspective than the one we obtained when previously considered the number of projects. By far, the largest investments for OT 4 were made on multi-thematic objectives for the SE Region (air quality, planning of bicycle paths, development of ecological routes etc.). So, 19% of the total number of projects on OT 4 add up to over 63% of the total funds spent.

For more than 55% of the total number of projects addressed energy efficiency, the amounts spent represent approx. 28,3% of the total value on OT 4 in the studied region. The projects for the development of facilities for RES (solar, biomass, hydroenergy and hydrogen) summed up 11% of the total number of projects and the value of the expenses totaled 4,28%. Less than 0,5% of the expenditure value was carried out through projects whose beneficiaries were SMEs.

Figure no. 2 Comparative situation of projects values financed in OT 4 for the SE Region of Romania, 2014-2020

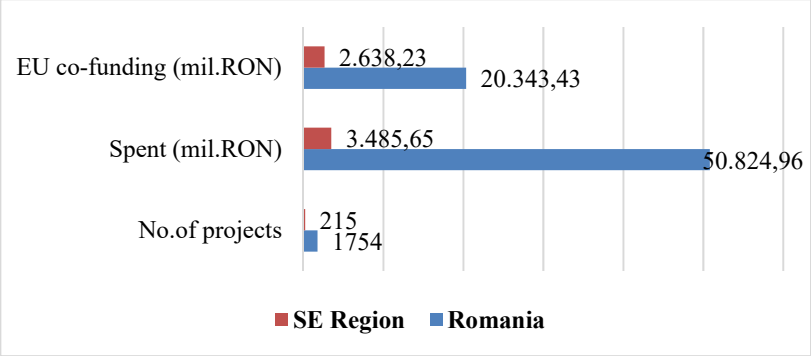


Source: authors, based on MySMIS 2014 Open Data, 2024

Regarding the projects that directly support the difficulties of the energy transition period from the perspective of high costs for the final consumer, they totaled for the analyzed development region a percentage of about 6% of the allocated amounts (energy efficiency of the housing stock and investments in education for sustainability).

In the next stage of our study, we quantified the number of projects and the amount of expenses incurred for their implementation at the level of the SE Region by reporting to similar values at the country level, in Romania.

Figure no. 3 Comparative situation of the number and value of projects financed in OT 4 - in Romania and the SE Region, 2014-2020



Source: authors, based on MySMIS 2014 Open Data, 2024

The statistical data show that the rate of projects implemented to achieve OT 4 in the SE Region was 12,26% compared to total for the country, and the amount of expenses incurred amounts to approx. 7% of the national total on this target. The amount of EU co-financing attracted to the SE Region was approx. 13% of the total per country on the transition objective to the low-carbon economy.

On the other hand, a positive aspect that deserves to be pointed out is that the projects implemented for OT 4 in the SE Region managed to capitalize on EU co-financing 76% of the value of eligible expenses, while, at the national level, the co-financing was capitalized in a percentage of just over 40%.

5. Conclusions

The research carried out confirms the hypothesis of a proportional use, at the SE Region level vs. national level, of the European co-funding that was available in the 2014-2020 programming period for the thematic objective for "low-carbon economy". The disproportion seems to come rather from the area of expenses incurred from the national budget vs. EU-cofunding, which is more balanced at the level of the SE Region than at the national level, where it appears much more pronounced.

These disproportions show the challenges that beneficiaries and management authorities had to face in the previous contracting period. They have come either from the area of financial corrections or from the area of overcontracting - a strategic decision taken by many Member States towards the end of the 2014-2020/2023 period in order to obtain the greatest possible absorption of the allocated non-refundable funds. The possibility for Romania to extend the programming period by another 3 years in order to increase the degree of absorption of the EU funds through the Cohesion Policy (n+3 rule) represented an opportunity also for the South-East Region to complete part of the projects that reached maturity at the end of the initial period, but also the capitalization of funds still available by resuming some calls in the period 2020-2023.

From the social perspective, a significant number of projects come to support the protection of the vulnerable consumer. Thus, the contracts for the renovating the population's housing stock positively impacts the achievement of a more affordable energy cost level for the final consumer, and the investments in the education for sustainability aimed to help disadvantaged categories. As well as at the national level, projects with much higher values were implemented in urban areas compared to rural areas, a fact that explained in terms of the use of energy resources in urban agglomerations.

As an important conclusion of our analysis, we believe that the previous programming exercise it is an experience that the management authorities and local authorities from SE Region of Romania should have in attention for the 2021-2027 programming period, especially for the management of overcontracting processes, so as to increase the chances of a better absorption of non-refundable funds in Romania, in the planned time.

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